TITLE 45
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY

SERIES 34
EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

§45-34-1. General.

1.1. Scope. -- This rule establishes and adopts a program of national emission standards for hazardous air pollutants and other regulatory requirements promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Parts 61, 63 and section 112 of the federal Clean Air Act, as amended. This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a), or one or more of the substances listed as hazardous air pollutants in section 112(b) of the CAA. The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

1.2. Authority. -- W.Va. Code §22-5-4.

1.3. Filing Date. -- ~~June 16, 2016~~.

1.4. Effective Date. -- ~~July 1, 2016~~.

1.5. Incorporation by Reference. -- Federal Counterpart Regulation. The Secretary has determined that a federal counterpart regulation exists, and in accordance with the Secretary's recommendation, with limited exception, this rule incorporates by reference 40 CFR Parts 61, 63 and 65, to the extent referenced in 40 CFR Parts 61 and 63, effective ~~June 1, 2015~~ June 1, 2016.

~~1.6. Former Rules. -- This legislative rule amends 45CSR34 - "Emission Standards for Hazardous Air Pollutants" which was filed April 6, 2015, and became effective June 1, 2015.~~

§45-34-2. Definitions.

2.1. "Administrator" means the Administrator of the United States Environmental Protection Agency or his or her authorized representative.

2.2. "Clean Air Act" ("CAA") means the federal Clean Air Act, found at 42 U.S.C. §7401 et seq., as amended.

2.3. "Hazardous air pollutant" means any air pollutant listed pursuant to 40 CFR §61.01(a) or section 112(b) of the CAA.

2.4. "Secretary" means the Secretary of the Department of Environmental Protection or other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§22-1-6 or 22-1-8.

2.5. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in 40 CFR Parts 61 and 63. Words and phrases not defined therein shall have the meaning given to them in federal Clean Air Act.

§45-34-3. Requirements.

3.1. No person may construct, reconstruct, modify, or operate, or cause to be constructed, reconstructed, modified, or operated any source subject to the provisions of 40 CFR Parts 61 and 63 which results or will result in a violation of this rule.

3.2. No person may construct or reconstruct any major source of hazardous air pollutants, unless the Secretary determines that the maximum achievable control technology emission limitation under 40 CFR Part 63 and this rule for new sources will be met.

3.3. The Secretary shall determine and apply case-by-case maximum achievable control technology standards to existing sources categorized by the Administrator pursuant to section 112(c)(1) of the CAA for which the Administrator has not promulgated emission standards in accordance with sections 112(d) and 112(e) of the CAA.

3.4. Prior to constructing, reconstructing or modifying any facility subject to this rule, the owner or operator shall obtain a permit in accordance with the applicable requirements of 45CSR13, 45CSR14, 45CSR19, 45CSR30 and this rule.

§45-34-4. Adoption of Standards.

4.1. The Secretary hereby adopts and incorporates by reference the provisions of 40 CFR Parts 61, 63 and 65, to the extent referenced in 40 CFR Parts 61 and 63, including any reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 61, 63 and 65, effective ~~June 1, 2015~~ June 1, 2016, for the purposes of implementing a program for emission standards for hazardous air pollutants, except as follows:

4.1.a. 40 CFR §§61.16 and 63.15 are amended to provide that information shall be available to the public in accordance with W.Va. Code §§22-5-1 et seq., 29B-1-1 et seq., and 45CSR31;

4.1.b. Subpart E of 40 CFR Part 63 and any provision related to section 112(r) of the CAA, notwithstanding any requirements of 45CSR30 shall be excluded;

4.1.c. Subparts DDDDDD, LLLLLL, OOOOOO, PPPPPP, QQQQQQ, TTTTTT, WWWWW, ZZZZZ, HHHHHH, BBBBBB, CCCCCC, WWWWWW, XXXXXX, YYYYYY, ZZZZZZ, AAAAAAA, BBBBBBB, CCCCCCC, and DDDDDDD of 40 CFR Part 63 shall be excluded; and

4.1.d. Subparts B, H, I, K, Q, R, T, and W; Methods 111, 114, 115 and Appendix D and E of 40 CFR Part 61 shall be excluded.

§45-34-5. Secretary.

5.1. Any and all references in 40 CFR Parts 63 and 65 to the “Administrator” are amended to be the “Secretary” except as follows:

5.1.a. where the federal regulations specifically provide that the Administrator shall retain authority and not transfer authority to the Secretary;

5.1.b. where provisions occur which refer to:

5.1.b.1. alternate means of emission limitations;

5.1.b.2. alternate control technologies;

5.1.b.3. innovative technology waivers;

5.1.b.4. alternate test methods;

5.1.b.5. alternate monitoring methods;

5.1.b.6. waivers/adjustments to recordkeeping and reporting;

5.1.b.7. emissions averaging; or

5.1.b.8. applicability determinations; or

5.1.c. where the context of the regulation clearly requires otherwise.

§45-34-6. Permits.

6.1. Nothing contained in this rule shall be construed or inferred to mean that permit requirements in accordance with applicable rules shall in any way be limited or inapplicable.

§45-34-7. Inconsistency Between Rules.

7.1. In the event of any inconsistency between this rule and any other rule of the ~~West Virginia Department of Environmental Protection~~ Division of Air Quality, the inconsistency shall be resolved by the determination of the Secretary and the determination shall be based upon the application of the more stringent provision, term, condition, method or rule.

Federal Register Notices provided below include:

80 Fed. Reg. 76152, December 7, 2015

75 Fed. Reg. 12988, March 18, 2010

74 Fed. Reg. 63236, December 2, 2009

80 Fed. Reg. 72790, November 20, 2015

80 Fed. Reg. 65470, October 26, 2015

80 Fed. Reg. 75817, December 4, 2015

81 Fed. Reg. 20172, April 6, 2016

80 Fed. Reg. 75178, December 1, 2015

80 Fed. Reg. 50386, August 19, 2015

80 Fed. Reg. 54728, September 11, 2015

80 Fed. Reg. 44772, July 27, 2015

80 Fed. Reg. 62390, October 15, 2015

80 Fed. Reg. 56700, September 18, 2015

80 Fed. Reg. 37366, June 30, 2015

80 Fed. Reg. 36247, June 24, 2015

80 Fed. Reg. 45280, July 29, 2015

Federal Register

Wednesday,
December 2, 2009

Part III

Environmental Protection Agency

40 CFR Part 63

National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2009–0027; FRL–8983–6]

RIN 2060–AO94

National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is promulgating national emissions standards for the control of emissions of hazardous air pollutants (HAP) from the asphalt processing and asphalt roofing manufacturing area source category. These final emissions standards for new and existing sources are based upon EPA's final determination as to what constitutes the generally available control technology or management practices (GACT) for the source category.

DATES: This final rule is effective on December 2, 2009.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2009–0027. All documents in the docket are listed in the Federal Docket Management System index at *http://www.regulations.gov*. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the EPA Public Reading Room under the heading ''Area Source National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asphalt Processing and Asphalt Roofing Manufacturing.'' The Public Reading Room is located at EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC and is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Warren Johnson, Outreach and Information Division, Office of Air Quality Planning and Standards (MC–C404–05), Environmental Protection Agency, Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–5124; *fax number:* (919) 541–0242; *e-mail address: johnson.warren@epa.gov.*

SUPPLEMENTARY INFORMATION: *Outline.* The information in this preamble is organized as follows:

I. General Information

A. Does This Action Apply to Me?

The regulated categories and entities potentially affected by the final standards include:

Category	NAICS code[1]	Examples of regulated entities
Petroleum Refineries	324110	Area source facilities that refine asphalt.
Asphalt Shingle and Coating Materials Manufacturing	324122	Area source facilities that manufacture asphalt roofing materials.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility would be regulated by this action, you should examine the applicability criteria in 40 CFR 63.11559 of subpart AAAAAAA (NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing). If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA Regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. Where Can I Get a Copy of This Document?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this final action will be posted on the TTN's policy and guidance page for newly final or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/.* The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final rule is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by February 1, 2010. Under section 307(b)(2) of the CAA, the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for EPA to convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

II. Background Information for This Final Rule

Section 112(d) of the Clean Air Act (CAA) requires EPA to establish national emission standards for hazardous air pollutants (NESHAP) for both major and area sources of HAP that are listed for regulation under CAA section 112(c). A major source emits or has the potential to emit 10 tons per year (tpy) or more of any single HAP or 25 tpy or more of any combination of HAP. An area source is a stationary source that is not a major source.

Section 112(k)(3)(B) of the CAA calls for EPA to identify at least 30 HAP which, as the result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. The EPA implemented this provision in 1999 in the Integrated Urban Air Toxics Strategy (64 FR 38715, July 19, 1999). Specifically, in the Strategy, EPA identified 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the ''30 urban HAP.'' Section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. A primary goal of the Strategy is to achieve a 75 percent reduction in cancer incidence attributable to HAP emitted from stationary sources.

Under CAA section 112(d)(5), we may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices (GACT) by such sources to reduce emissions of hazardous air pollutants.'' Additional information on GACT is found in the Senate report on the legislation (Senate Report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that have a number of small businesses. Determining what constitutes GACT initially involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices employed by those sources are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

We are promulgating these national emission standards in response to a court-ordered deadline that requires EPA to issue standards for certain source categories listed pursuant to section 112(c)(3) and (k) by November 16, 2009 (*Sierra Club* v. *Johnson,* no. 01–1537, D.D.C., March 2006). An additional rulemaking will be published in a separate **Federal Register** notice for the remaining source category due in November 2009.

III. Summary of Major Changes Since Proposal

The final rule contains several revisions and clarifications to the proposed rule made in response to public comments. We explain the reasons for the following changes in detail in the summary of comments and responses (section V of this preamble):

- Revised the emission limits for asphalt roofing manufacturing lines using emissions data supplied by the industry;
- Revised the initial compliance requirements to specify that compliance tests must be conducted while manufacturing the product with the greatest polycyclic aromatic hydrocarbons (PAH) and particulate matter (PM) emissions and to allow facilities to use process knowledge to demonstrate initial compliance for saturator-only lines;
- Revised the initial compliance requirements to clarify procedures for using previously-conducted emission tests to demonstrate compliance;
- Revised the equations for calculating asphalt charging rate and clarified the procedures for determining production rate;
- Revised the continuous compliance requirements to allow for monitoring of parameter ranges (instead of maintaining the parameter below a maximum value) and use of equipment manufacturer specifications when establishing parameter values, and to remove the option to use a continuous emissions monitor (CEMS);
- Revised the continuous compliance requirements to allow facilities to monitor the indicator light of electrostatic precipitators (ESPs) as an option to monitoring voltage;
- Defined PM as the material collected using EPA Method 5A; and
- Added definitions for ''built-up roof operation'' and ''hot-mix asphalt operation'' and clarified the definition of ''saturator'' with regard to impregnation vats.

IV. Summary of Final Standards

A. Do the Final Standards Apply to My Source?

The final subpart AAAAAAA standards apply to each existing and new area source facility that processes asphalt and/or manufactures roofing products using saturation and/or coating processes that apply asphalt to a substrate. The standards do not apply to research or laboratory facilities, as defined in section 112(c)(7) of the CAA.

B. When Must I Comply With the Final Standards?

All existing area source facilities subject to this final rule are required to comply with the rule requirements no later than December 2, 2010. New sources are required to comply with the rule requirements by December 2, 2009 or upon startup of the facility, whichever is later.

Because the majority of existing sources in this category are already well-controlled, we believe that one year is a reasonable amount of time to allow existing sources to conduct compliance testing and prepare compliance demonstrations showing compliance with the final rule.

C. What Are the Final Standards?

As discussed in section II.C of this preamble, the two production operations for which this category was listed are: (1) Asphalt processing (refining) operations; and (2) roofing product manufacturing operations.

For asphalt processing, the final standards require the owner or operator to limit PAH emissions to 0.003 lb/ton of asphalt charged to the asphalt refining (blowing still) operation. Alternatively, owners or operators may comply with a PM emissions limit of 1.2 lb/ton of asphalt charged to the asphalt refining operation. The alternative PM limit ensures reductions in emissions of PAH that are at least equivalent to those achieved through compliance with the PAH emission limit. The final standards for new refining operations are the same as for existing sources.

For asphalt roofing product manufacturing operations, we examined the process operations and other factors and determined that it was appropriate to establish subcategories that reflect the unique emission characteristic profiles of the different process types (equipment configurations). We developed three subcategories based upon the various process types used in the industry: (1) Production lines that use a coater only, (2) production lines that use a saturator only, and (3) production lines that use both saturators and coaters.

For existing coater-only production lines, the final standards require the owner or operator to limit PAH emissions from all coating mixers and coaters to 0.0002 lb/ton of product manufactured. Alternatively, owners or operators may choose to comply with a PM emission limit of 0.06 lb/ton of product manufactured. The alternative PM limit ensures reductions in emissions of PAH that are at least equivalent to those achieved through compliance with the GACT-based PAH emission limit.

For existing saturator-only production lines, the final standards require the owner or operator to limit PAH emissions from all saturators (and wet loopers) to 0.0007 lb/ton of product manufactured. Alternatively, for saturator-only production lines, owners or operators can comply with a PM emissions limit of 0.30 lb/ton of product manufactured. The alternative PM limit ensures reductions in emissions of PAH that are at least equivalent to those achieved through compliance with the GACT-based PAH emission limit.

For existing combined saturator and coater production lines, the final standards require the owner or operator to limit PAH emissions from all saturators, wet loopers, coating mixers, and coaters to 0.0009 lb/ton of product manufactured. The final standards for combined saturator and coater production lines alternatively allow owners or operators to comply with a PM emissions limit of 0.36 lb/ton of product manufactured. The alternative PM limit ensures reductions in emissions of PAH that are at least equivalent to those achieved through compliance with the GACT-based PAH emission limit.

The final standards for new roofing product manufacturing operations for all subcategories are the same as those for existing sources.

D. What Are the Initial and Continuous Compliance Requirements?

The final standards require an initial compliance assessment of the process emissions or control device outlet concentration to demonstrate initial compliance with the applicable standard, and to establish monitoring parameter values (*e.g.,* temperature, pressure drop) for the process or control device that will be monitored to demonstrate continuous compliance. For PM control devices used on asphalt roofing lines, the final rule allows owners or operators to establish monitoring parameter operating ranges based upon equipment manufacturer guarantees.

For existing sources, the final standards require owners or operators to conduct the initial compliance assessment by May 31, 2011. Owners or operators of new sources are required to conduct the initial compliance assessment by June 1, 2010 or within 180 days after startup, whichever is later.

For existing and new blowing stills and asphalt roofing manufacturing lines, the final standards require owners or operators to demonstrate initial compliance by conducting emission tests or by using the results from an emission test conducted in the past five years that meets the specified criteria in the final rule. Specifically, owners or operators can use the results of the previously-conducted test only if the emission measurements were made using the test methods specified in Table 3 of the final rule. *See* 40 CFR 63.11562(d). Additionally, the owner or operator must be able to demonstrate that no process changes have been made since the date of the previous test, or that the results of the emissions test reliably demonstrate compliance despite any process changes. *Id.* For existing and new asphalt processing and asphalt roofing manufacturing lines that do not require a control device to comply with the emission limits, the final rule allows owners or operators to use process knowledge and engineering calculations, instead of compliance test results, to demonstrate initial compliance. For example, an owner or operator could use a mass-balance approach (*e.g.,* based upon asphalt throughput, asphalt content of the product manufactured) to demonstrate that the emission limits would not be exceeded.

Continuous compliance with the final emission limits is demonstrated by monitoring parameters and process conditions established during the initial compliance assessment. The final standards require owners and operators to demonstrate continuous compliance based upon a 3-hour averaging period. If a thermal oxidizer is used to comply with the emission limits, the final standards require that the 3-hour average combustion zone temperature of each affected thermal oxidizer be maintained at or above the operating limit established during the initial compliance assessment. For PM control devices, the final standards require that the average 3-hour pressure drop and inlet gas temperature values be maintained within the range of established values. As an alternative to monitoring temperature and pressure drop, the final rule allows owners or operators to use a leak detection system for a filtration-based PM control device. If an ESP is used as the PM control device, the final standards require that the 3-hour average ESP voltage be maintained at or above the operating value established during the initial compliance test. As an alternative to monitoring the ESP voltage, the final rule allows owners or operators to monitor the device's indicator and warning lights on the device that signify when the ESP must be cleaned. For other types of control devices, the final standards allow the owner or operator to establish approved monitoring parameters and to maintain the value of those parameters within the operating values established during the initial compliance assessment. In cases where add-on control devices are not needed to comply with the final standards, owners or operators are required to establish a range of operating values for process parameters based upon written equipment manufacturer specifications, verify that the equipment is operating within that range during the initial compliance assessment, and maintain the 3-hour average of those parameters within the established values. During periods of startup and shutdown, the final standards require owners and operators to demonstrate compliance over a 24-hour averaging period. As is explained below, the final rule does not establish separate standards for malfunctions and the 3-hour averaging period applies during such events. Thus, consistent with *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), the emission standards of this rule apply at all times.

E. What Are the Notification, Recordkeeping, and Reporting Requirements?

Affected new and existing sources are required to comply with certain requirements set forth in the General Provisions (40 CFR part 63, subpart A), as identified in Table 5 of this final rule. The General Provisions include specific requirements for notifications, recordkeeping, and reporting. Among other requirements, each facility is required to submit an initial notification that complies with the requirements in 40 CFR 63.9(b) of the General Provisions within 120 days of the effective date of the final rule and a notification of compliance status that complies with the requirements in 40 CFR 63.9(h) within 60 days after completion of the compliance assessment. Facilities are also required to submit semi-annual compliance summary reports.

F. What Are the Title V Permitting Requirements?

This final rule exempts the asphalt processing and asphalt roofing manufacturing area source category from title V permitting requirements unless the affected source is otherwise required by law to obtain a title V permit. For example, sources that have title V permits because they are major sources under the criteria pollutant program would maintain those permits.

V. Summary of Comments and Responses

We received a total of six comment letters from industry trade associations, an environmental advocacy group, State/local regulatory agency groups, and a control device equipment vendor on the proposed rule during the comment period. One commenter, an industry trade association, expressed support for the following provisions in the proposal package:

- The roofing line subcategory designations;
- The definition of the affected source for asphalt processing and asphalt roofing manufacturing operations;
- The PAH and PM GACT emission standards for new and existing sources;
- The definitions of ''asphalt flux,'' ''asphalt processing operation,'' and ''blowing still;''
- The use of PM emissions as a surrogate for PAH emissions;
- The use of certain previously-conducted emission tests to demonstrate initial compliance with the emission limitations; and
- The exemption from title V permitting requirements.

We acknowledge the commenter's support for these provisions. Sections V.A. through V.H. contain summaries of the remaining comments that we received and our responses to those comments.

A. Source Category Listing

Comment. One commenter asserted that the Agency used inaccurate PAH emissions data for 1990 to list asphalt processing and asphalt roofing manufacturing area sources under CAA section 112(c)(3). The commenter asserted that urban area source PAH emissions in the industry in that baseline year were significantly lower than EPA's estimates and provided a copy of a report previously submitted to the Agency that the commenter contended supports that assertion. The commenter's report concludes that, by combining asphalt roofing manufacturing and asphalt processing into a single source category and using the outdated data, the EPA's PAH emissions estimate for the two categories is overstated by nearly two orders of magnitude. Based upon this information, the commenter stated that EPA should not be issuing GACT standards for asphalt processing and asphalt roofing manufacturing area sources under CAA section 112(c)(3).

Response. We listed the asphalt processing and asphalt roofing manufacturing source category under CAA section 112(c)(3) in one of a series of amendments (November 22, 2002, 67 FR 70427) to the original source category list included in the 1999 Integrated Urban Air Toxics Strategy. As explained in more detail below, we included this source category on the section 112(c)(3) area source category list based upon emissions data for the 1990 baseline year. The asphalt processing and asphalt roofing manufacturing source category was listed for its contributions toward meeting the requirement that we list sufficient categories and subcategories of area sources to ensure that area sources representing 90 percent of area source emissions of PAH are subject to regulation under CAA section 112.

While Congress required EPA to list sufficient categories or subcategories of area sources to ensure that areas sources representing 90 percent of the area source emissions of the 30 Urban HAP are subject to regulation under section 112 of the Clean Air Act, it left it to EPA's discretion to determine which categories and subcategories of sources to include on the list. As explained in the Integrated Urban Air Toxics Strategy, EPA based its listing decisions on the baseline National Toxics Inventory (NTI) that the Agency compiled for purposes of implementing its air toxics program after the 1990 CAA Amendments (64 FR 38706, 38711, n.10). The baseline NTI reflected HAP emissions from asphalt processing and asphalt roofing manufacturing area sources in 1990. EPA listed the asphalt processing and asphalt roofing area source category on the basis of that emissions data. EPA continues to believe that it was reasonable to rely on that data and that it acted appropriately in including the asphalt processing and asphalt roofing area source category on the list on the basis of that data.

There is nothing in the comments that persuades EPA that the asphalt processing and asphalt roofing manufacturing area source category should not be included in the source category list. The report submitted along with the comments clearly reflects the Commenter's preference that a different source category, asphalt concrete manufacturing, be included on the list instead of asphalt processing and asphalt roofing manufacturing and that the inclusion of that source category would have also resulted in a cumulative percentage contribution in excess of 90 percent. This, however, misses the point. As stated above, Congress left it to EPA's discretion to determine which categories and subcategories to include on the list. Congress did not require EPA to establish a rank order of such categories and subcategories and then move from the highest ranking source category or subcategory to lower ranking categories or subcategories until a cumulative total of 90 percent was reached. Thus, as long as EPA had some basis for including a particular category or subcategory of area sources on the list, which is the case here, it can choose to include that category or subcategory even if there are other potential source categories or subcategories that arguably may contribute more to cumulative emissions.

In this particular instance, EPA questions the accuracy of the emission factors used in the report submitted by the commenter. Specifically, the emissions factors in the commenter's report are based primarily on emissions data from 1998 and 1999 (with some reliance on 1994 data). The report takes these emission factors that are based on post-1990 data and applies them to 1990 production rates. As the commenter points out in its comments, PAH emissions in the asphalt processing and asphalt roofing manufacturing industry have declined since 1990. As a result, emission factors developed using emissions data from years after 1990 are likely to underestimate actual emissions in 1990.

Moreover, even if EPA were to accept, for argument's sake, the revised emissions estimates set forth in the report submitted by the commenter, it would, for the reasons described below, continue to believe that the asphalt processing and asphalt roofing manufacturing category belongs on the 112(c)(3) source category list. First, EPA believes that it is most appropriate to consider asphalt processing and asphalt roofing manufacturing as a single source category rather than two separate source categories, as the commenter contends, because a single facility often includes both types of operations. Indeed, 90 percent of the facilities affected by the final rule conduct both asphalt processing and asphalt roofing manufacturing operations at the same site. We also believe that asphalt processing and asphalt roofing manufacturing operations are closely linked, regardless of co-location, because the purpose of blow stills at asphalt processing operations is to prepare asphalt flux, obtained from refineries, for use in manufacturing roofing products (*e.g.,* shingles, roll roofing). Second, while the commenter contends that asphalt concrete manufacturing should be included on the list instead of asphalt processing and asphalt roofing manufacturing, the fact is that, on a per facility basis, the asphalt processing and asphalt roofing manufacturing sources are larger PAH emissions sources than the asphalt concrete industry sources. As a result, EPA's regulation of the 75 sources in the asphalt processing and asphalt roofing manufacturing area source category is far more cost efficient and far more feasible from an implementation perspective than regulating the 3600 facilities engaged in asphalt concrete manufacturing. Finally, as explained above, Congress afforded EPA discretion in selecting the source categories to regulate to meet the 90 percent requirement in section 112(c)(3) and (k)(3)(B). Without the asphalt processing and asphalt roofing manufacturing source category, we will not meet this requirement. In conclusion, Congress required EPA to list sufficient categories and subcategories of sources of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 urban HAP are subject to regulation under CAA section 112. EPA has discretion to identify the categories and subcategories on the list and properly included asphalt processing and asphalt roofing manufacturing on the list. Nothing in the comments contradicts this.

B. GACT Limits

Comment. One commenter noted that EPA stated in the proposal notice that ''[w]e believe that all asphalt processing and asphalt roofing manufacturing facilities will be able to meet the proposed standards using existing controls * * *'' and that ''* * * no additional air pollution control devices would be required.'' The commenter was concerned that such proposals are merely paperwork exercises and are not responsive to Congress' intent in establishing the area source program under the Clean Air Act which the commenter believed should result in reductions in emissions from area sources of hazardous air pollution. Moreover, the commenter recommended that, ''* * * in this rule and in future area source proposals, EPA incorporate provisions that will provide additional public health protection from the adverse effects of emissions of hazardous air pollutants from area sources.''

Response. The commenter does not challenge any aspect of EPA's proposed GACT determination for this area source category. Instead, the commenter makes a blanket assertion that EPA is not acting consistently with the purposes of the area source provisions in the CAA (*i.e.,* sections 112(c)(3) and 112(k)(3)(B)), because it is not requiring emission reductions beyond the level that is currently being achieved from this well-controlled source category. In support of this assertion, the commenter compares the requirements in the proposed rule to the area source category's current emission and control status. Such a comparison is flawed.

Congress promulgated the relevant CAA area source provisions in 1990 in light of the level of area source HAP emissions at that time. Congress directed EPA to identify not less than 30 HAP which, as a result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas, and to list sufficient area source categories to ensure that sources representing 90 percent of the 30 HAP listed are subject to regulation. As explained in the Integrated Urban Air Toxics Strategy, EPA based its listing decisions on the baseline National Toxics Inventory (NTI) that the Agency compiled for purposes of implementing its air toxics program after the 1990 CAA Amendments (64 FR 38706, 38711, n.10). The baseline NTI reflected HAP emissions from asphalt processing and asphalt roofing manufacturing area sources in 1990. Thus, contrary to the commenter's suggestion, the relevant emission level for comparison is the emission level reflected in our baseline NTI, not the current emission level.

Furthermore, in promulgating the area source provisions in the CAA, Congress did not require EPA to issue area source standards that must achieve a specific level of emission reduction. Rather, Congress authorized EPA to issue standards under section 112(d)(5) for area sources that reflect GACT for the source category. As Congress itself recognized, to qualify as being generally available, a GACT-based standard would most likely be based upon an existing control technology or management practice: ''[A]n equipment standard would require neighborhood dry cleaning establishments to employ the commercially available systems associated with the lowest *measured* emissions * * * S. Rep. 101–128, at 171–172 (emphasis added). Thus, it is both reasonable and consistent with Congressional intent that the GACT-based standards being finalized today codify the use of the existing effective PAH control approach being used by sources in the category. For all of these reasons, this final rule is consistent with sections 112(c)(3), 112(k)(3)(B), and 112(d)(5).

Comment. One commenter asserted that, although section 112(d)(5) does authorize EPA to issue GACT standards in lieu of MACT standards, the Agency's decision to do so is subject to familiar administrative law requirements. The commenter maintained that to be non-arbitrary, the decision must—at a minimum—be supported by a rational explanation. The commenter stated that EPA has provided no explanation whatsoever for its apparent decision to issue GACT standards pursuant to CAA section 112(d)(5), instead of MACT standards pursuant to section 112(d)(2) and (3) and, for this reason alone, its decision is arbitrary and capricious.

The commenter also claimed that the proposed standards are based solely on cost and are thus unlawful and arbitrary. The commenter asserted that CAA section 112(d)(5) does not direct EPA to set standards based on what is cost effective; rather, according to the commenter EPA must establish GACT based on the ''methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts.'' The commenter stated that because cost effectiveness is not relevant under CAA section 112(d)(5), the reliance on cost effectiveness as the sole determining factor in establishing GACT renders the proposed standards unlawful.

Response. As the commenter acknowledged, in section 112(d)(5), Congress gave EPA explicit authority to issue alternative emission standards for area sources. Specifically, section 112(d)(5), which is titled ''Alternative standard for area sources,'' provides:

> With respect only to categories and subcategories of area sources listed pursuant to subsection (c) of this section, the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants. *See* CAA section 112(d)(5).

There are two critical aspects to section 112(d)(5). First, section 112(d)(5) applies only to those categories and subcategories of area sources listed pursuant to section 112(c). The commenter does not dispute that EPA listed the asphalt processing and asphalt roofing manufacturing area source category pursuant to section 112(c). Second, section 112(d)(5) provides that for area sources listed pursuant to section 112(c)(3), EPA ''may, in lieu of'' the authorities provided in section 112(d)(2) and 112(f), elect to promulgate standards pursuant to section 112(d)(5).

Section 112(d)(2) provides that emission standards established under that provision ''require the maximum degree of reduction in emissions'' of HAP (also known as maximum available control technology (MACT)). Section 112(d)(3), in turn, defines what constitutes the ''maximum degree of reduction in emissions'' for new and existing sources. *See* section 112(d)(3). Webster's dictionary defines the phrase ''in lieu of'' to mean ''in the place of'' or ''instead of.'' *See* Webster's II New Riverside University (1994). Thus, section 112(d)(5) authorizes EPA to promulgate standards under section 112(d)(5) that provide for the use of GACT, instead of issuing MACT standards pursuant to section 112(d)(2) and (d)(3). The statute does not set any condition precedent for issuing standards under section 112(d)(5) other than that the area source category or subcategory at issue must be one that EPA listed pursuant to section 112(c), which is the case here.

The commenter argues that EPA must provide a rationale for issuing GACT standards under section 112(d)(5), instead of MACT standards. The commenter is incorrect. Had Congress intended that EPA first conduct a MACT analysis for each area source category, Congress would have stated so expressly in section 112(d)(5). Congress did not require EPA to conduct any MACT analysis, floor analysis or beyond-the-floor analysis before the Agency could issue a section 112(d)(5) standard. Rather, Congress authorized EPA to issue GACT standards for area source categories listed under section 112(c), and that is precisely what EPA has done in this rulemaking.

Although EPA need not justify its exercise of discretion in choosing to issue a GACT standard for an area source listed pursuant to section 112(c)(3), EPA still must have a reasoned basis for the GACT determination for the particular area source category. The legislative history supporting section 112(d)(5) provides that GACT is to encompass:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

See Senate Report on the 1990 Amendments to the Act (S. Rep. No. 101–228, 101st Cong. 1st session. 171–172). The discussion in the Senate report clearly provides that EPA may consider costs in determining what constitutes GACT for the area source category.

Congress plainly recognized that area sources differ from major sources, which is why Congress allowed EPA to consider costs in setting GACT standards for area sources under section 112(d)(5), but did not allow that consideration in setting MACT floors for major sources pursuant to section 112(d)(3). This important dichotomy between section 112(d)(3) and section 112(d)(5) provides further evidence that Congress sought to do precisely what the title of section 112(d)(5) states—provide EPA the authority to issue ''[a]lternative standards for area sources.''

Notwithstanding the commenter's claim, EPA properly issued standards for the area source category at issue here under section 112(d)(5) and in doing so provided a reasoned basis for its selection of GACT for this area source category. As explained in the proposed rule and below, EPA evaluated the control technologies and management practices that reduce PAH emissions at asphalt processing and asphalt roofing manufacturing facilities. In its evaluation, EPA used information from an industry survey, discussed options for controlling PAH emissions with the industry trade associations, and reviewed operating permits to identify the emission controls and management practices that are currently used to control PM and PAH emissions.

In our evaluation, we determined that all blow stills used to process asphalt are currently controlled using thermal oxidation. We also found that the majority of roofing manufacturing lines were controlled using some type of PM control device (*e.g.,* fiber-bed filters). Additionally, we determined that, due to market-driven process changes, the majority of roofing manufacturing facilities no longer use organic felt as the substrate for roofing materials. This process change significantly reduced the amount of asphalt used to manufacture a given quantity of roofing products.

EPA disagrees with the commenter's assertions that EPA based its GACT determination solely on its estimate of cost effectiveness and that cost effectiveness is not relevant in determining what constitutes GACT. The Agency's consideration of cost effectiveness in establishing GACT and the Agency's views on what is a cost-effective requirement under section 112(d)(5) are relevant. The U.S. Court of Appeals for the DC Circuit has stated that cost effectiveness is a reasonable measure of cost as long as the statute does not mandate a specific method of determining cost. *See Husqvarna AB* v.

EPA, 254 F.3d 195, 201 (DC Cir. 2001) (finding EPA's decision to consider costs on a per-ton-of-emissions removed basis is reasonable because CAA section 213 did not mandate a specific method of cost analysis). Further, we did not base our GACT determination solely on our estimate of cost effectiveness. Rather, we first carefully evaluated the methods, practices and techniques that are commercially available and appropriate for application by sources in the asphalt processing and asphalt roofing manufacturing area source category. Only then did we consider costs and economic impacts to determine what constitutes GACT for the source category. In doing so, we determined that, because sources in the asphalt processing and asphalt roofing manufacturing area source category currently have relatively low emissions of PAH based upon the use of existing controls, requiring additional controls would result in very high costs for only a modest incremental improvement in control. Finally, we believe the consideration of costs and economic impacts is especially important for determining GACT for the asphalt processing and asphalt roofing manufacturing area source category because of the number of existing sources that would need to retrofit controls on asphalt roofing manufacturing operations if the existing controls on those operations were determined inadequate.

Even though we are not required to provide a specific rationale for why we chose to establish GACT-based standards, rather than MACT-based standards, EPA did in fact provide a rationale for doing so in the proposed rule. In the proposal, we explained that the facilities in the asphalt processing and asphalt roofing manufacturing area source category are already well controlled for PAH, the urban HAP for which the source category was listed pursuant to section 112(c)(3). *See* 74 FR 32826–32828. Consideration of costs and economic impacts is especially important when an area source category is comprised of sources that are already well-controlled. In such circumstances, a MACT floor determination, where costs cannot be considered, could result in very high costs for only a modest incremental improvement in control efficiency for sources in the area source category. EPA concluded that this would be the case were it to establish MACT-based emission standards for the asphalt processing and asphalt roofing manufacturing area source category.

Comment. One commenter stated that EPA did not provide an explanation for its decision to narrowly focus the proposed rule on just PAH emissions. The commenter went on to make the following points. The commenter noted that in the 2003 NESHAP for the asphalt processing and asphalt roofing manufacturing major source category, the EPA stated that the major source category emits a variety of HAP. The commenter added that the preamble to the 2003 major source NESHAP (68 FR 22976, 22976 (Apr. 29, 2003)) stated that approximately 98 percent of emissions from the processing of asphalt and the manufacture of asphalt roofing consist of formaldehyde, hexane, hydrochloric acid (HCl), phenol and toluene. A combination of several different organic HAP comprise the remaining two percent of the total HAP emissions. The commenter said that in 2003, the EPA found that exposure to these HAP could result in both ''chronic health disorders (*e.g.,* irritation of the lung, skin, and mucous membranes, effects on the central nervous system, and damage to the blood and liver) and acute health disorders (*e.g.,* respiratory irritation and central nervous system effects such as drowsiness, headache, and nausea).'' *Id.* The commenter also noted that EPA classified two of the HAP (formaldehyde and polycyclic organic matter (POM)) as probable human carcinogens.

The commenter stated that Section 112(d) requires that emission standards be developed for each HAP listed in section 112(b). Assuming arguendo that the Agency does not have to set separate standards for each HAP when issuing standards under section 112(d)(5), the commenter stated that the Agency still has an obligation to address all the HAP that a category emits when it sets GACT standards. Thus, the commenter asserted that EPA had an obligation to address the HAP emitted by asphalt processing and asphalt roofing manufacturing sources beyond PAH, especially in light of the fact that PAH is such a limited component of the HAP emitted by the source category. Further, the commenter added that the Agency's failure to even consider non-PAH HAP and to explain its failure to address these HAP is arbitrary and capricious.

The commenter also noted that EPA failed to address all sources of HAP emissions in the asphalt processing and asphalt roofing manufacturing source category. The commenter pointed out that EPA noted in the 2003 major source NESHAP that, in addition to the blowing stills and roofing manufacturing operations addressed in the proposed rule, asphalt storage and process tanks, asphalt loading racks, sealant applicators, and adhesive applicators are also sources of HAP emissions. The commenter stated that the Agency's failure to acknowledge these emission sources and consider commercially available technology for reducing emissions from these sources was unlawful.

Response. Section 112(k)(3)(B) of the CAA requires EPA to identify at least 30 HAP emitted from area sources that pose the greatest threat to public health in the largest number of urban areas (the ''Urban HAP'') and identify the area source categories emitting such pollutants that are or will be listed pursuant to section 112(c)(3). Section 112(c)(3), in relevant part, provides:

> The Administrator shall * * *, pursuant to subsection (k)(3)(B) of this section, list, based on actual or estimated aggregate emissions of a listed pollutant or pollutants, sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section.

Thus, section 112(c)(3) requires EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 Urban HAP are subject to regulation. Section 112(d)(1) requires the Administrator to promulgate regulations establishing emissions standards for each area source category of HAP listed for regulation pursuant to section 112(c).

EPA identified the 30 Urban HAP that posed the greatest threat to public health in the Integrated Urban Air Toxics Strategy (Strategy). In the Strategy and subsequent **Federal Register** notices, EPA listed the area source categories necessary to meet the 90 percent requirement in section 112(c)(3) and (k)(3)(B), and one of those categories was the Asphalt Processing and Asphalt Roofing Manufacturing area source category.

We have interpreted sections 112(c)(3) and 112(k)(3)(B) together to require EPA to regulate only those Urban HAP emissions for which an area source category is listed pursuant to section 112(c)(3), not all urban HAP or all section 112(b) HAP emitted from a listed area source category. As stated above, section 112(k)(3)(B) addresses the strategy to control HAP from area sources in urban areas and the focus of the strategy as it relates to control of area sources is on the 30 HAP that pose the greatest threat to public health in the largest number of urban areas. Section 112(c)(3) specifically references section 112(k)(3)(B) as the basis for selecting area sources for listing to satisfy the Agency's responsibility for regulating urban HAP emissions from area sources.

Under these provisions, area sources categories are listed because they emit one or more of the 30 listed Urban HAP and the Agency has identified the category as one that is necessary to satisfy the requirement to subject area sources representing 90 percent of the area source emissions of the 30 Urban HAP to regulation.

EPA listed the Asphalt Processing and Asphalt Roofing Manufacturing area source category pursuant to sections 112(c)(3) and 112(k)(3)(B), based on the category's emissions of PAH, which is an urban HAP. Thus, consistent with the requirements of sections 112(c)(3) and 112(k)(3)(B), we must regulate the PAH emissions from the Asphalt Processing and Asphalt Roofing Manufacturing area source category, as these are the urban HAP emissions for which the category was listed to meet the 90 percent requirement in sections 112(c)(3) and (k)(3)(B). *See* 112(c)(3) (EPA must ''ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants * * * are subject to regulation.''). We recognize that the source category emits other section 112(b) HAP, including other urban HAP; however, as stated above, sections 112(c)(3) and 112(k)(3)(B) do not require the Agency to regulate the area source category for any HAP other than those for which the category was listed. As to the other urban HAP emitted from this category, we have identified other area source categories that emit these urban HAP and subjecting those area source categories to regulation will satisfy the requirement to subject to regulation area sources that account for 90 percent of the area source emissions of those urban HAP.

While the Agency is not required to regulate all section 112(b) HAP from area sources listed pursuant to section 112(c)(3) and 112(k)(3)(B), section 112 of the CAA does not preclude EPA from regulating other HAP from these area sources at our discretion and in appropriate circumstances. Section 112(d)(5) states that for area sources listed pursuant to section 112(c), the Administrator may, in lieu of section 112(d)(2) ''MACT'' standards, promulgate standards or requirements ''applicable to sources'' which provide for the use of GACT or management practices ''to reduce emissions of hazardous air pollutants.'' This provision does not limit EPA's authority to regulate only those urban HAP emissions for which the category is needed to achieve the 90 percent requirement in sections 112(k)(3)(B) and 112(c)(3). In fact, in two other area source rules, in addition to regulating the urban HAP that were necessary to satisfy the 90 percent requirement in sections 112(k)(3)(B) and 112(c)(3), we regulated additional section 112(b) HAP. Specifically, in the chemical manufacturing area source rule and the paint and allied products area source rule, although not required, we exercised our discretion to regulate other section 112(b) HAP beyond the urban HAP for which the categories were listed under section 112(c)(3) and (k)(3)(B), including non-urban section 112(b) HAP. The chemical manufacturing area source rule and the paints and allied products area source rule both involve specific circumstances which EPA believes justify regulating organic and metal section 112(b) HAP in addition to the specific urban HAP needed to meet the 90 percent requirement in section 112(c)(3) and (k)(3)(B), which served as the basis for the listing of the categories. In the chemical manufacturing area source rule, which establishes standards for 9 area source categories, we regulated such HAP because the emission standards designed to control the urban HAP for which the categories were listed were equally effective at removing other urban and non-urban metal and organic HAP, and demonstrating compliance for total HAP was less burdensome than demonstrating compliance for speciated HAP for those sources required to install add-on controls. In the paint and allied products area source rule, we included emission standards for HAP beyond the urban HAP for which the category was listed because the emission standards designed to control those urban HAP would also control other urban and non-urban metal and organic HAP.

As noted above, the asphalt processing and asphalt roofing manufacturing area source category was listed solely due to emissions of PAH. By contrast, both the chemical manufacturing and the paint and allied products area source categories were listed for multiple urban HAP (*i.e.,* 1,3-butadiene; methylene chloride; 1,3-dichloropropene; hexachlorobenzene; acetaldehyde; hydrazine; chloroform; quinoline; ethylene dichloride; and HAP metal compounds (arsenic, cadmium, chromium, lead, manganese, and nickel) for chemical manufacturing, and benzene, methylene chloride, and compounds of cadmium, chromium, lead, and nickel for paint and allied products). For sources in these area source categories, it was reasonable to develop emission limits for non-urban HAP in part because the cost of estimating compliance for each urban HAP for which the categories were listed was overly burdensome. However, this same rationale is not appropriate in this rule because EPA listed the asphalt processing and asphalt roofing manufacturing source category based on the emissions of a single HAP (PAH). The co-control scenario also plays out differently in the context of the asphalt processing and asphalt roofing manufacturing area source category. Specifically, where an add-on control device like those used by facilities complying with the major source NESHAP (*e.g.,* a thermal oxidizer or a fiber-bed filter) is needed to comply with the final standards for the asphalt processing and asphalt roofing manufacturing area source category, the control device will achieve co-control of certain HAP other than PAH. For example, a thermal oxidizer will effectively control total HAP, total hydrocarbon (THC) and PM emissions and a fiber-bed filter will effectively control PM emissions. An emission limit based on the use of a thermal oxidizer (*e.g.,* a limit on total HAP or total THC) would, however, necessitate all emissions from regulated operations being routed to a thermal oxidizer or similar control device. At present, based on the available information, facilities only use thermal oxidizers to control emissions from asphalt processing operations. Thermal oxidizers are not currently used to control emissions from asphalt roofing manufacturing operations. As a result, such limits would require facilities to retrofit to route emissions from asphalt roofing manufacturing operations to a thermal oxidizer or similar control device. Such retrofits would increase the cost of complying with the standards to a level that is unacceptable for a GACT-based standard. We estimate that 29 existing facilities currently have a thermal oxidizer and the remaining 46 would need to install new controls. Even when assuming a best case scenario, whereby facilities would only need to install new ductwork to route emissions to an existing thermal oxidizer, we estimate that such facilities would have an estimated initial capital cost of $58,000 and annual maintenance costs adding up to $11,000. We believe that these estimates are unrealistically low, however, because the existing thermal oxidizers would also require supplemental fuel, and, in many cases, an upgrade of the control unit, in order to handle the increased emissions loading. We estimate that it would cost an average facility in excess of $1 million to install new thermal oxidation controls, with annual costs of just over

$910,000 per year per facility for fuel and maintenance. In actuality, though, the costs could be much greater depending on the configuration of the facility.

These cost concerns are further exacerbated by the fact that the benefits arising from co-control will be realized without EPA establishing specific emission limits for the co-controlled HAP. We therefore believe that we have appropriately exercised our discretion in regulating only the PAH emissions from the asphalt processing and asphalt roofing manufacturing area source category.

The commenter further asserts that we failed to regulate all sources of HAP emissions. For the reasons described above, this rule establishes emissions standards for PAH only. To the extent the commenter is asserting that we failed to address all sources of PAH emissions, we disagree. We are required to regulate only those sources of PAH emissions that formed the basis of our listing decision. EPA based the listing of the asphalt processing and asphalt roofing manufacturing area source category solely on emissions from asphalt blowing (processing) and saturation of felt (using saturators, wet loopers, and coaters). Based on our review of the record supporting the listing decision, the record does not include emissions from asphalt loading racks, asphalt storage tanks, adhesive storage tanks, adhesive applicators, sealant storage tanks or sealant applicators. As a result, we did not establish PAH emission limits for those sources, as these emission sources were not part of the listed source category.

Comment. One commenter stated that a significant problem with the proposal is that it would establish GACT standards that are actually more stringent—and significantly so—than the MACT standards for the industry. The commenter stated that they know of no other GACT standards that are more stringent than the corresponding MACT standards for the same industry. The commenter asserted that it makes no sense to have smaller area sources subject to more stringent standards than larger major sources. The commenter added that the very term ''maximum achievable control technology'' on its face indicates that the CAA section 112(d)(2) standards should be more stringent—they are the ''maximum achievable'' standards in contrast to the CAA section 112(d)(5) standards that are merely ''generally available.''

The commenter stated that for MACT, CAA section 112(d)(3) provides minimum levels of stringency, also known as the MACT ''floor'' levels. Thus, according to the commenter, the MACT standard for existing sources must be at least as stringent as the performance achieved by the average of the best performing 12 percent of sources in the category. The commenter stated that for new sources, the standard must be at least as stringent as that achieved by the best controlled similar source. In the subpart LLLLL asphalt processing and asphalt roofing manufacturing MACT rulemaking, the commenter noted that EPA concluded only six years ago that the average of the best performing 12 percent (*i.e.,* the 94th percentile of performance) was equivalent to the subpart UU NSPS limits. 66 FR 58617–20 (Nov. 21, 2001) (subpart LLLLL MACT proposal). The commenter stated that there have not been changes in the industry since publication of the final MACT standards in 2003 that would be expected to have rendered the assumptions for the MACT standards invalid. Thus, the commenter asserted that there is no basis for determining that any standards more stringent than the NSPS or MACT standards are ''generally available.''

The commenter stated that ''The legislative history is replete with support for the proposition that GACT standards are to be less stringent than MACT standards. The Senate Report for the 1990 CAA Amendments states that ''[t]he Administrator may require area sources to install MACT, but also has the option to impose less stringent emissions limitations reflecting generally available control technology.'' Senate Report 101–228, in Congressional Research Service, A Legislative History of the Clean Air Act Amendments of 1990 (''A Legislative History'') 8338, 8490 (emphasis added). *See also* floor statement of Sen. Moynahan (''Clearly, this [GACT] requirement is less demanding than the maximum achievable control technology required for major point sources'') (April 3, 1990 Senate floor debate on S. 1630, in A Legislative History 6946, 7083); House Energy and Commerce Committee Markup of H.R. 3030 (The Waxman amendment requires EPA to regulate 90 percent of the area source emissions of each hazardous air pollutant. EPA may elect to establish controls based on ''generally available control technology'' in lieu of the more stringent controls based on ''maximum achievable control technology'' that would apply to major sources.'' (Apr. 12, 1990 Clean Air Facts description of committee markup, in A Legislative History 2446, 2561).

Another commenter added that the preamble did not contain any explanation for EPA's decision to impose more stringent requirements on smaller, lower-emitting facilities than on major sources. The commenter also cited rationale in Senate Report 101–228 that indicates the Congress intended GACT standards for area sources to be less stringent than MACT standards for major sources. The commenter also noted that EPA has taken the position that GACT is a less stringent standard in the preamble to the area source rulemaking for perchloroethylene dry cleaning facilities (58 FR 49354, 49356).

Response. As described in detail below, we disagree with the commenters' basic premise that a GACT-based standard will always be less stringent than a previously-promulgated MACT-based standard, particularly in circumstances such as those here where the relevant MACT-based standard is more than 6 years old. Further, in this particular instance, the major source MACT-based NESHAP and the area source GACT-based standards are not directly comparable because they regulate different pollutants and different collections of process equipment. The MACT standards regulate total HAP with no speciation. The MACT also covers additional process equipment (*i.e.,* asphalt, adhesive, and sealant storage tanks, and adhesive and sealant applicators) that are not covered under the GACT-based standards.

In assessing what constitutes GACT for the asphalt processing and asphalt roofing manufacturing area source category, we evaluated the control technologies and management practices that reduce PAH emissions at the asphalt processing and asphalt roofing manufacturing facilities that compose the source category. In our evaluation, we used information from an industry survey, discussed options for controlling PAH emissions with the industry trade association, and reviewed operating permits to identify the emission controls and management practices that are currently used to control PM and PAH emissions. In our evaluation, we determined that all of the blow stills used by facilities in the source category to process asphalt are currently controlled using thermal oxidation. We also found that the majority of roofing manufacturing lines was controlled using some type of PM control devices (*e.g.,* fiber-bed filters). Additionally, we determined that due to market-driven process changes, the majority of roofing manufacturing facilities no longer use organic felt as the substrate for roofing materials. The process change of no longer using organic felt as a substrate has significantly reduced the amount of asphalt used to manufacture a given quantity of roofing products. For all of these reasons, it is understandable that the GACT standard for this category is different than the MACT standard. After considering all of this information, we then considered costs and economic impacts in order to determine what actually constitutes GACT for the asphalt processing and asphalt roofing manufacturing area source category.

While MACT-based standards for a given source category would most likely be more stringent than GACT-based standards for the same sources if the standards were developed at the same point in time, that is not the case here. Here, the GACT standards are based upon more recent process equipment, control device, and emissions data that were analyzed to support development of these standards, specifically. In contrast, the MACT standards were based upon data collected in 1995. Additionally, the GACT-based standards focus on the HAP (PAH) and processes (blowing stills and saturators, wet loopers, coaters, and coating mixers) for which this area source category was listed. The MACT-based standards were developed using a floor analysis for total HAP over a wider span of process equipment. Under such circumstances, the previously established MACT standard cannot reasonably be considered dispositive of the question of what constitutes GACT. Rather, as with any GACT determination, in determining what constitutes GACT for the asphalt processing and asphalt roofing manufacturing area source category, we first carefully evaluated the methods, practices and techniques that are commercially available and appropriate for application by sources in the asphalt processing and asphalt roofing manufacturing area source category. We then considered costs and economic impacts to determine what constitutes GACT. The GACT-based standards in this final rule reflect the Agency's determination, based on this evaluation, of GACT for the asphalt processing and asphalt roofing manufacturing area source category.

Comment. One commenter did not believe that the proposed standards represent a GACT level of control because EPA used unrepresentative data, did not account for variability in establishing the emission limits, and determined the emission limits using the average.

In developing the proposed GACT standards, the commenter noted that EPA used data from only one source in each source category. The commenter also stated that not only is the data too sparse, but it is not representative of GACT because the data were collected to support a MACT rulemaking (*i.e.,* the data were collected at the best-controlled sources in the industry). The commenter submitted PM emissions data from member companies for coater-only lines, saturator-only lines, and lines containing coaters and saturators. The commenter noted that there are numerous subpart UU NSPS compliance tests available documenting PM emissions from industry sources. The commenter added that, because the PM data have been collected to demonstrate compliance with air permits and the subpart UU NSPS, the data would meet the quality assurance and quality control standards required by State air pollution control agencies.

The commenter stated that the standards should consider the variability in emissions due to: operational distinctions between different facilities or units (*i.e.,* roofing lines); between-test variability (*i.e.,* variability in measurements made at the same facility or unit at different times); and within-test variability (*i.e.,* measurement variations in individual test runs).

The commenter stated that EPA and the courts have recognized the importance of using representative data and accounting for such variability between facilities, processes, and test results. In *Sierra Club* v. *EPA,* 167 F.3d 658, 665 (DC Cir. 1999), the U.S. Court of Appeals for the DC Circuit stated in a MACT case (under CAA section 129): ''It is reasonable to suppose that if an emissions standard is as stringent as 'the emissions control that is achieved in practice' by a particular unit, then that particular unit will not violate the standard. This only results if 'achieved in practice' is interpreted to mean 'achieved under the worst foreseeable circumstances.' ''

The commenter stated that, in approving EPA's decision to account for variability in a CAA section 112 case by not setting the standards based upon the lowest emission limits, the court correctly pointed out that ''even the best performing sources occasionally have spikes.'' *Mossville Environmental Action Now* v. *EPA,* 372 F.3d 1232, 1242 (DC Cir. 2004). Similarly, the commenter noted that, under the technology-based NSPS, the DC Circuit's decisions ''evince a concern that variables be accounted for, that the representativeness of test conditions by [sic] ascertained, that the validity of tests be assured and the statistical significance of results determined.'' *National Lime Ass'n* v. *EPA,* 627 F.2d 416, 452–53 (DC Cir. 1980). *See also Portland Cement Ass'n* v. *Ruckelshaus,* 486 F.2d 375, 396 (DC Cir. 1973), cert. denied, 417 U.S. 921 (1974) (remanding NSPS in part due to ''the lack of any indication of statistical reliability'' in test results used to set standards).

Moreover, the commenter asserted that a single test almost by definition cannot be representative of conditions found throughout an industry. The commenter said that the DC Circuit has held under CAA section 111, ''a uniform standard must be capable of being met under most adverse conditions which can reasonably be expected to recur * * *'' National Lime Ass'n, 627 F.2d at 431 n.46. *See also* Portland Cement Ass'n, 486 F.2d at 396 (noting industry point that ''a single test offered a weak basis'' for inferring that plants could meet the standards). Without accounting for variation among different emissions tests, the commenter stated that it cannot be determined with a significant degree of statistical confidence that even a single unit will not be able to meet the standard over a reasonable period of time, when one can expect adverse conditions to be present.

The commenter noted that the courts have recognized this same basic principle in reviewing technology-based effluent standards under the Clean Water Act. As the Fifth Circuit stressed in reviewing ''best practicable technology'' or ''BPT'' standards under Clean Water Act section 304(b)(1):

> The same plant using the same treatment method to remove the same toxic does not always achieve the same result. Tests conducted one day may show a different concentration of the same toxic than are shown by the same test on the next day. This variability may be due to the inherent inaccuracy of analytical testing, *i.e.,* ''analytical variability,'' or to routine fluctuations in a plant's treatment performance.

Chemical Manufacturers Ass'n v. *EPA,* 870 F.2d 177, 228 (5th Cir. 1989). The commenter said that the Fifth Circuit upheld the standards because EPA expressly stated that they should be achievable ''at all times apart from instances of upsets,'' and because the Clean Water Act contains an ''upset defense.'' *Id.* at 230. *See also American Petroleum Institute* v. *EPA,* 540 F.2d 1023, 1035–36 (10th Cir. 1976) (''Even in the best treatment systems, changes occur in ability to treat wastes * * * [V]ariability factors present[] a practical effort to accommodate for variations in plant operations''); *FMC Corp.* v. *Train,* 539 F.2d 973, 985 (4th Cir. 1976) (variability factors account for ''the fact that even in the best treatment systems changes continually occur in the treatability of wastes''). *See also* 47 FR 24534, 24546 (1982) (in setting general pH effluent limitation under the Clean Water Act, EPA pointed out that it ''traditionally has recognized that it must take variability into account in establishing effluent limitations, and in recognition that 100 percent compliance is theoretically impossible, the Agency has generally set daily effluent limitations which would be met approximately 99 percent of the time'').

The commenter noted that EPA pointed out in its brief in the *Sierra Club* v. *EPA MACT* case under CAA section 129 (discussed above), that simply trying to set a technology-based emission standard by considering a very limited dataset ''ignores the critical distinction between an emission level that is 'observed' on a particular occasion versus an emission level the Administrator determines is 'achieved in practice' through performance because it is capable of being met continuously under the range of operating conditions that can reasonably be expected.'' EPA brief at 35. Limited test results—the ''observed'' emissions levels—bear no relationship at all to what a variety of differently configured plants (or even a single unit) can achieve on a continuous basis. This is because each test produces a very limited sample of data. It does not provide a full enumeration of the available data for the unit's performance over a long period of time. *See* Natrella, Environmental Statistics, supra, chapter 1.

The commenter stated that EPA inappropriately ignored basic statistical principles for environmental standard-setting. The commenter said that in any normally distributed set of data, 50 percent of the data points will be higher than the mean. Even assuming that the data were representative, a standard that 50 percent of sources do not meet would lead to a level of control more stringent than that generally available.

The commenter stated that the use of the average uncontrolled emissions derived from a single test at a saturator/wet looper and a single test at a coater/coating mixer at one facility (the Tamko Frederick, MD facility) is inappropriate for setting standards. The commenter further stated that even assuming this is actually a median data point, 50 percent of the emission sources will have emissions higher than this source.

The commenter noted that a paper published in a peer-reviewed journal showed that the emissions from uncontrolled coaters are variable (the standard deviation was 169 percent of the mean). The commenter stated that if the assumption is made that the data are distributed according to the t-Density function, this means that more than 33 percent of sources would be expected to have uncontrolled emissions of greater than 0.83 pounds/ton of product. To meet the 0.03 pound PM/ton of product standard, the commenter said that the cleanest of these sources (at 0.83 lbs/ton) would have to have unvarying emissions, and continuous control efficiencies of greater than 96 percent efficiency.

The commenter also stated that EPA has inappropriately used average values in converting the emissions data to pounds of PM emitted per ton of product manufactured and in assessing the removal performance of high-efficiency air filter (HEAF) in calculating the proposed standards.

The commenter suggested that a valid and reasonable approach to calculate representative emissions for such a small data set is to add two standard deviations to the mean (x) of the 3 stack testing runs. Assuming data are normally distributed, the commenter said that approximately 97.8 percent of sources in a normally distributed population would fall below this x + 2 standard deviations envelope.

The commenter stated that because of EPA's flawed analysis, the proposed PAH and PM GACT emission standards for asphalt roofing manufacturing are too stringent and that EPA's assertion that the GACT standards can be met is incorrect.

Response. We agree with the commenter that, as a general matter, it is desirable to have as robust a data set as possible when establishing emission limits. We also note, however, that EPA must often work with the data it has even though we might prefer to have additional data. We had a reasonable set of data upon which to base the proposed rule and it is within our discretion to determine whether it is appropriate to seek additional data before proposing to take a particular action. *See, Natural Resources Defense Council* v. *EPA,* 529 F.3d 1077 (D.C. Cir. 2008) (Recognizing that it is within EPA's discretion to determine when it is appropriate to rely on existing data rather than exercising its authority under section 114 of the Clean Air Act to obtain additional or new data.) In addition to actually having sufficient data upon which to base the proposed rule, we faced time constraints that precluded obtaining even more data due to the fact that we were trying to meet a court-ordered deadline for issuing the proposed rule. Finally, the rulemaking process itself is one of the primary ways in which EPA obtains relevant information.

We agree with the commenter that additional roofing line emissions data would be helpful in establishing the GACT-based limits for this area source category. We also agree that variability in emissions is one of several important factors that need to be considered in establishing the GACT limits and that we had a less than desirable amount of data with which to consider statistical variability at proposal. The additional data provided with the industry comments, in combination with the data EPA relied on in developing the proposed rule, provides a robust data set for use in assessing both the actual performance of sources and the variability in that performance with the result that the final emission limits will be more statistically sound than those contained in the proposed rule. Consequently, the final GACT-based limits have been revised to take into account the additional data submitted by the commenter for asphalt roofing lines. Additionally, we considered the standard deviation of the data in establishing the revised emission limits. We are adding one standard deviation to the average of the data to account for variability. We considered adding two standard deviations to the average but we did not believe this approach was representative of GACT because the resulting emission limits were above the limits that most facilities already achieve. For the combined coater/saturator roofing lines, we are establishing the emission limits as the sum of the emissions limits for the coater-only and saturator-only lines. We used this approach for the combined coater/saturator roofing lines because the emissions are additive (*i.e.,* the process units are in series).

The revised GACT limits for new and existing coater-only production lines are 0.0002 lb PAH/ton of product manufactured (or 0.06 lb PM/ton of product manufactured). For new and existing saturator-only production lines, the revised GACT limit is 0.0007 lb PAH/ton of product manufactured (or 0.30 lb PM/ton of product manufactured). For new and existing combined saturator and coater production lines, the revised GACT limit is 0.0009 lb PAH/ton of product manufactured (or 0.36 lb PM/ton of product manufactured).

C. Initial Compliance Requirements

Comment. One commenter contended that EPA proposed a very short compliance deadline for existing sources—only one year from issuance of the final rule. *See* section 63.11560(a). The commenter noted that the proposed one-year compliance deadline is premised upon EPA's assumption that sources will not have to install or modify air pollution control equipment to meet the standards. The commenter stated that this assertion is not true; however, as shown by the subpart UU NSPS test data in a report submitted by the commenter, a number of facilities have been operating above the proposed PM standards in the GACT proposal. Thus, according to the commenter, contrary to the proposal's justification, if the final standards are anywhere near the level of the proposed standards, the commenter stated that a number of facilities will need to make significant improvements to and/or reconstruct existing PM control equipment or install new equipment altogether to meet the proposed GACT limits.

The commenter stated that NSPS subpart UU and MACT Method 5A testing data show that 20—50 percent of the potential GACT regulated sources surveyed by EME Solutions would be in non-compliance with the proposed GACT limits. Given that these sources will have to perform engineering testing(s) to assess compliance status, analyze results, design/develop solutions to the reason(s) for potential noncompliance, fabricate and install the solutions, and then perform compliance testing; eighteen months is much too short a time period.

The commenter noted that the proposal also recognizes that there are uncontrolled sources in the industry. For example, many coating mixers are not currently controlled. Even if a facility has existing PM control equipment, the commenter contended that it will be necessary to install ducting to vent the currently-uncontrolled affected sources to the controls.

The commenter also noted that many States require a construction permit to make modification to emissions control technology already in place. The permitting alone can take 9 months or longer.

In addition, the commenter stated that the subpart LLLLL MACT standards provided a 3-year compliance date for existing sources, even though they were less stringent than the proposed GACT standards. The commenter said that there is no logical rationale for having a three-year compliance date for the MACT standards yet only a one-year compliance date for more stringent GACT standards. The commenter stated that for all these reasons, the final rule should provide that a facility has three years from the date of issuance of that rule to comply with the GACT standards.

For all these reasons, the commenter believed that a three-year compliance deadline is appropriate, and that the proposed section 63.11560(a) should be amended by substituting the term ''three years'' where ''one year'' is currently found in the bracketed language.

Response. We disagree with both the commenter's basic premise that existing sources will need three years to comply with the final standards and the assumptions underlying that premise. The commenter assumes that either new control devices will need to be installed, or existing controls upgraded, to comply with the PAH or PM emission limits. We believe that this assumption is incorrect. In this final rule, we revised the emission limits based on our assessment of additional data and to account for variability. As a result, we believe that no new add-on controls will be needed to comply with the final GACT standards. Consequently, we believe that the proposed compliance deadline of one year is adequate. If an owner or operator believes that additional time beyond the one year compliance period is needed to install controls, the owner or operator can request a compliance extension from the Administrator (or a State with an approved title V permit program), as authorized by CAA section 112(i)(3)(B) and specified in section 63.6(i)(4)(i)of the NESHAP General Provisions.

Comment. One commenter noted that the deadline for conducting performance tests for existing sources stated in the proposal preamble was incorrect because it said that the performance test must be conducted within 180 days after publication of the final rule in the **Federal Register**, rather than 180 days after the compliance date as specified in the regulatory text. The commenter said that the preamble to the final rule should clarify that the preamble to the proposal was in error because the rule language specifies that existing facilities must demonstrate initial compliance within 180 calendar days after the compliance date.

The commenter also noted that EPA uses multiple terms for the same requirement (*i.e.,* ''performance testing,'' ''compliance testing''). The commenter asserted that the use of multiple terms for the same requirement can cause confusion when interpreting the regulatory requirements. The commenter recommended that EPA refer to this testing as ''compliance testing'' throughout the final GACT rule.

Response. We agree with the commenter and have corrected the inconsistencies in the final rule.

Comment. One commenter stated that either one or both of the asphalt density calculations have been improperly derived. The commenter said that either the calculations in English units or in metric units are inaccurate; as they do not give the same answer after the unit conversions are made. The commenter requested that EPA revise these equations as appropriate.

Response. We agree with the commenter and we have corrected the English-unit values for the constants K_1 and K_2 in the asphalt density equations of the final rule.

Comment. One commenter believed that the requirement in the proposed rule (section 63.11562(h)(1)) to conduct the compliance tests under conditions that represent normal operation and not during periods of startup, shutdown, or malfunction is overly broad. The commenter stated that there can be a significant range of ''normal operation,'' and the requirement as stated can lead to confusion among regulators and the regulated community.

The commenter added that some asphalt roofing manufacturing facilities would find it impossible to meet the proposed requirement to manufacture a certain product during compliance testing because they do not manufacture such products. The commenter noted that the proposal also differs from the approach taken in the subpart LLLLL MACT rule. The commenter suggested that the final rule require that the test be performed while manufacturing the roofing product that is expected to result in the greatest amount of HAP emissions.

Response. We agree with the commenter's suggestion that compliance tests be performed while manufacturing the roofing product that is expected to result in the greatest amount of PAH emissions. As a result, the final rule specifies that initial and subsequent compliance tests must be conducted while manufacturing the product that has the highest PAH and PM emissions. We have also eliminated the requirement that compliance tests be conducted under conditions that represent normal operation and not during periods of startup, shutdown or malfunction. We believe that this change addresses both aspects of the comment. Requiring that the compliance test be conducted while manufacturing the product that has the highest PAH and PM emissions eliminates the need to specifically reference normal operating conditions. We are appropriately requiring compliance testing during those periods when the facility is manufacturing the product that has the highest PAH and PM emissions.

Comment. One commenter stated that it would be helpful if EPA explained how the production rate is determined. The commenter questioned if the production rate was based on actual daily production, monthly production, the daily average of monthly production or some other calculation. The commenter also questioned how the production rate would be determined in plants that run continuously, so that production spans more than one calendar day.

Response. The production rate to be used in determining compliance with the asphalt roofing manufacturing emission limits is the production rate at which the roofing line was operating during the compliance test. If a facility is demonstrating initial compliance with the emission limits using the average of three 1-hour emission tests, the production rate used for the compliance demonstration would be the average rate over the 3-hour period (in terms of pounds of product manufactured). The final rule clarifies that the production rate used for determining compliance must be the average production rate utilized during the compliance test.

Comment. One commenter supported EPA's decision to set the PM standards based upon filterable PM emissions, as is clear from the choice of Method 5A to measure PM emissions. The commenter noted that the data upon which the standards were based were of filterable PM emissions, so it would be inappropriate to include condensable particulate for compliance purposes. The commenter asserted that doing so would be inconsistent with the basis of the standards.

The commenter believed that the preamble to the final rule should make it clear that in measuring PM emissions, the rule contemplates only filterable PM (the ''front half''), and that it would be inappropriate to also require measurement of condensable PM (the ''back half''). The commenter also recommended adding a definition for PM to section 63.11566. The commenter said that the definition should state that ''Particulate matter (PM) means the filterable particulate matter as measured using the front half of Method 5A.'' Should States require that the front half and back half meet these stringent standards, this would result in a regulation far stricter than that mandated by the CAA. The commenter stated that facilities might be required to install thermal oxidizers to comply, a decision that would result in increased emissions of greenhouse gases to reduce already low emissions of PAH.

Response. The data upon which the alternative PM emission limits are based were collected using EPA Method 5A of Appendix A of 40 CFR 60 (Determination of Particulate Matter Emissions from the Asphalt Processing and Asphalt Roofing Industry). Using Method 5A, PM in vent gas samples taken from the source is collected on a glass fiber filter maintained at a temperature of 42 ± 10 °C (108 ± 18 °F). The PM mass, which includes any material that condenses at or above the filtration temperature, is determined gravimetrically after the removal of uncombined water. Consequently, we agree with the commenter that it would be inappropriate to establish emission limits that include contributions from PM that is captured in the sampling train downstream of the Method 5A filter since we do not have data that reflect those contributions. Therefore, for purposes of this final rule, we are defining PM to include any material determined gravimetrically using EPA Method 5A—Determination of Particulate Matter Emissions From the Asphalt Processing And Asphalt Roofing Industry (40 CFR 60, Appendix A).

Comment. One commenter noted that the proposal allows the use of the results of performance testing conducted during the past five years to show compliance and indicates that a source must be able to demonstrate that ''the results of the performance test, with or without adjustments, reliably demonstrate compliance despite any process changes.'' The commenter requested further explanation of this provision, because it is likely that most process adjustments would trigger a re-test.

Another commenter stated that the rule should specify that only emission increases resulting from a process change that is above a de minimis level would prevent a previous test from being used.

Response. We clarified the final rule preamble by removing the term ''with or without adjustment'' because that language was unclear. While we agree that there are many types of process changes that could increase PAH and PM emissions such that the previously-conducted test would not be valid, we believe that some changes would not invalidate the results of the previously-conducted test.

We included the option to use existing tests to provide flexibility to the affected facilities. We intend that it is the responsibility of the owner or operator to demonstrate that the process adjustment or change did not invalidate the results of the previously-conducted test. Consequently, we are not including de minimis emissions levels in the final rule.

Comment. One commenter noted that some facilities have conducted required PM compliance testing under various state-managed air permit programs. The commenter said that, in some cases, the methodologies used in these tests are somewhat different than Method 5A. However, the commenter noted that in all cases the methods are approved by a State agency prior to use and typically are carefully evaluated by state experts. The commenter asserted that preventing a facility from using a legitimate, accepted test previously used to establish compliance will result in unnecessary costs and potential conflicts with existing, state-issued, air permit terms and conditions. The commenter asserted that in this scenario requiring the prior test to conform exactly to Method 5A does not provide any additional benefit to the environment, and it merely adds cost, uncertainty and confusion.

Response. We disagree with the commenter that the final rule should provide a blanket allowance for the use of state-approved test methods in lieu of EPA Method 5A. The final rule, through reference to the NESHAP General Provisions, allows owners or operators to petition the Administrator to use alternative test methods and procedures. The EPA retains the authority to approve alternative test methods based on site-specific information. This mechanism can be used to obtain approval to use the results of a previously conducted test, as well as to obtain approval to use an alternative test method in the future.

Comment. One commenter supported EPA's decision to allow facilities to use ''process knowledge and engineering calculations'' in lieu of a performance test to demonstrate initial compliance at a roofing line that does not include a saturator. The commenter noted that companies often have the necessary information and data to show that they will be in compliance with the emission standards if they operate their plants in such a way as to meet specified parameters. However, the commenter questioned why the option was limited to roofing lines that do not include a saturator. The commenter noted that the proposal offers no explanation for this limitation. The commenter asserted that the same principles apply to roofing lines with saturators and asphalt processing operations.

Response. In the proposal, we limited the option to use process knowledge and engineering calculations because we believed that a coater-only line was the only equipment configuration that could potentially demonstrate compliance without using an add-on control device. However, we agree with the commenter that the technical basis for allowing the option does not preclude application of the option to lines containing saturators. Therefore, the final rule does not limit to coater-only lines the use of process knowledge and engineering calculations, in lieu of an emissions test, to demonstrate initial compliance. However, we are clarifying that the option is applicable only to roofing lines that do not need a control device to comply with the GACT limits.

D. Continuous Compliance Requirements

Comment. Two commenters stated that the pressure drop monitoring requirement for control devices in the final rule should specify that the pressure drop must be maintained in the range established during the initial compliance test, rather than below a maximum limit. The commenters noted that if the filter develops a tear or it is removed after the initial test, the pressure drop would decrease. In this scenario, the commenters said that the filter removal or tear would not cause a violation of the operating limit but the air pollution control device would not be operating properly. A third commenter noted that filters become more efficient and remove more particulates as their differential pressure increases.

Another commenter stated that as long as the ability of the blower to move air is not impeded (*i.e.,* as long as the operating limit of the technology is not exceeded), increased pressure drop actually improves PM removal efficiency. The commenter said that the key to PM filtration technology is not the pressure drop but the velocity of air moving through the capture and control system. The commenter said that pressure drop is actually a surrogate for air flow measurement. The commenter stated that the design maximum pressure drop is based on the ability of the blower providing air flow for capture of the emissions at the source (the air flow captures the PM emissions and transports the PM to the filtration). The commenter noted that the proposed approach of maintaining the pressure drop below a maximum level is contrary to the way filtration-based PM control technology used in asphalt roofing lines works.

Response. We agree with the commenters that requiring that the pressure drop be maintained within a predetermined range and monitored to ensure that this is the case is a better indicator of control system performance than requiring the pressure drop be maintained below a maximum level. The final rule, therefore, specifies that the pressure drop and temperature must be maintained within the range established by the initial compliance assessment.

Comment. One commenter recommended that the pressure drop temperature compliance parameters be based upon the specifications of the manufacturer of the filtration technology. The commenter said that many years of Method 5A compliance testing has demonstrated that as long as the inlet emissions stream does not exceed the manufacturer's temperature and pressure drop limits, and the control technology is operated as specified by the manufacturer, the technology will remove the PM from the stream as guaranteed. The commenter stated that many States have recognized the validity of this approach to deliver compliance with PM emissions limits by requiring that, in both construction and operating permits, emissions sources operate control technologies as per manufacturing requirements. The commenter said that language in the permit either incorporates or references the manufacturer's written operating requirements as compliance parameters.

The commenter stated that limiting the allowable pressure drop to levels below manufacturer's guaranteed performance limits will force facilities to replace and dispose of expensive filtration media well before the end of its guaranteed performance which would result in the increased generation and disposal of solid wastes, with no net increase in reduction of PM and PAH emissions. Also, the commenter said that if the compliance test did not occur late in the expected life of the filter media, the pressure drop measured will be low because the pressure drop is lower for new filtration media than for old filtration media.

The commenter added that the inlet temperature to the filtration technology is dominated by ambient conditions (*e.g.,* when outside temperatures are high, the inlet temperatures of emissions stream to the filtration technology will be high). Thus, the commenter said that if a facility cannot time the compliance test to occur during the hottest time of the year, the source will surely experience higher inlet temperatures during high temperature time periods. The commenter stated that member companies have already experienced this problem in operating under the subpart LLLLL asphalt processing and asphalt roofing manufacturing MACT. The commenter noted that facilities in the industry have received notices of violations for inlet temperatures that exceeded those measured during the performance test, then re-tested at the elevated temperature. The commenter said that these re-tests showed that they still did not exceed the MACT PM emission limits. The commenter also provided a graphical figure that shows a consistent correlation between temperature and emissions does not exist.

The commenter recommended that facilities be allowed two options for establishing and monitoring pressure drop and temperature in the final rule. Under the commenter's first option, the parameters would be based upon manufacturer's specifications. The source would conduct an initial compliance test. The PM emissions from the control device would need to be shown to be below the final GACT limits. As long as the pressure drop was below the manufacturer's requirements, the source would be considered to be in compliance with the pressure drop compliance parameter. Under the commenter's second option, the parameter values would be established as under the proposal, but a measurement that did not exceed that value by a certain percent would not be considered to be a deviation (the commenter suggested 30 percent for pressure drop and 10 percent for temperature). The commenter stated that EPA has allowed a similar buffer over parameters measured during the performance test in existing MACT standards, including Subpart N for Chromium Electroplating, at section 63.343, allowing a buffer on differential pressure, and Subpart NNN for Wool Fiberglass, at section 63.1382, allowing production rate to exceed 20 percent above the tested rate for up to 10 percent of the operating time in a semiannual period.

Another commenter, a control device equipment vendor, asserted that filters will perform adequately when operated within the design and pressure limits imposed by the manufacturer. The commenter added that filtration equipment will operate adequately at temperatures within the limits specified by the equipment manufacturer.

Response. We agree with the commenters that equipment manufacturer specifications for filter media performance are appropriate for use in establishing monitoring parameter ranges, particularly considering the difficulty in conducting emission tests that capture the performance of the control device at the high and low end of its operating range. Consequently, we are adopting the commenter's first option in that the final rule allows owners or operators to use equipment manufacturer performance specifications for filter media in establishing monitoring parameters.

Comment. One commenter was very concerned about the way the proposal would have facilities set their compliance parameter limits for pressure drop and temperature through an initial compliance test. The commenter believed that EPA's proposed approaches lack a technical basis and would result in numerous potential violations of the operating limits even when PM and PAH emissions are well below the emission standards. The commenter suggested alternative methodologies that are more appropriate for establishing parameter limits.

The commenter noted that the proposal would treat all ''deviations'' from the operating parameter limits (*i.e.,* all exceedances of parameter limits) as potential violations of the emission standards. The commenter thought that this approach was excessively harsh, particularly because several factors make it almost certain that established operating parameter limits will be exceeded at times even when a facility is not exceeding the GACT emission standards, and is operating its processes and control equipment well.

For example, the commenter stated that an exceedance of a temperature parameter limit does not mean that a facility is exceeding the emission standard; the ambient temperature has a significant effect on the temperature monitored and the amount of emissions is actually controlled by the temperature of the asphalt in the coating mixer, coater, and/or saturator. For that reason, the commenter noted that the preamble to the Subpart UU (NSPS for asphalt processing and asphalt roofing manufacturing) states that ''periods of temperature excursions * * * would not, of themselves, constitute a violation of the numerical emission limits. The commenter noted that even if the temperature is measured at the coater or saturator, an exceedance of the temperature parameter limit does not mean that the source is exceeding the standards.

The commenter asserts that the same is true for deviations from a set pressure drop parameter limit. As discussed above, it would not be at all surprising for a roofing line to exceed its pressure drop limit but still emit fewer PM or PAH emissions than the actual emission standard allows.

Consequently, the commenter stated that EPA should follow an approach similar in some ways to one that EPA established in its subpart NNN fiberglass MACT standards. The subpart NNN wool fiberglass standards consider whether an affected source is operating outside of its parameter limits for more than 5 percent of the time during a 6-month block reporting period. The commenter believes that EPA should borrow from this approach, and require that the facility conduct a new compliance test if a roofing line has operated outside of the established parametric limits, as we have proposed them, for more than 5 percent of the time in any semiannual reporting period. The commenter said that this would essentially be a combination of the approaches taken by the wool fiberglass MACT standards and the subpart UU NSPS for asphalt roofing manufacturing. If the re-test shows the line to be emitting more PAH or PM than the standard allows, commenter said that the facility could be judged to be in violation of the GACT standard. If the re-test shows that emissions do not exceed the standard, commenter said that there would be no violation.

Response. We acknowledge the difficulty in establishing appropriate monitoring parameter ranges for filtration-based PM control devices. As noted in earlier responses to comments above, the final rule allows owners or operators to establish a range of parameter values for monitoring using manufacturer performance specifications. The EPA believes that allowing the use of manufacturer specifications provides owners or operators sufficient flexibility in establishing appropriate parameter ranges. Consequently, we are not including a re-test provision in the final rule. The parameter ranges established by the facility and approved by the delegated authority are not-to-exceed values. A parameter exceedance would be a violation of the monitoring requirements but not necessarily a violation of the emission limits. Additionally, we are not including the re-test provision because we do not believe it is possible in all cases to replicate the conditions that caused the exceedance during a re-test.

Comment. One commenter noted that some of the ESP units currently in operation in the industry are not provided with voltage meters, nor are they easily modified to add meters for the voltage reading. The commenter said that such ESPs are typically provided with a green indicating light. The commenter said that this light is used to assess the operation of the unit and determine when cleaning is needed. The commenter added that the light burns a solid green during normal operation and the light flashes as the cells gradually become dirty; the dirty cells are then replaced with clean spares.

The commenter stated that contractors have been contacted to provide proposals to modify the existing units to add the required voltage indicators. The commenter said that current estimates are around $50,000 to modify the exiting units to add voltage meters and another $25,000 to $50,000 to add controls to automatically provide the 3-hour average voltage (cost varies depending upon the current automation capability of a facility). The commenter said that the high cost of these modifications is not reasonable, given that the use of the indicating light ensures that the ESP will operate properly. The commenter therefore believed that routine monitoring and logging of the ESP monitoring light is the only reasonable method to verify the operation of an ESP that does not have voltage meters and that EPA should allow this method of compliance.

Response. We agree with the commenter that requiring retrofits for voltage monitors is not cost efficient. We also believe that monitoring the ESP instrumentation (*e.g.,* indicator light) provides sufficient monitoring of the ESP performance. Therefore, the final rule allows owners or operators to monitor the ESP instrumentation as an option to monitoring voltage. Additionally, the final rule specifies that failure to service the ESP within one hour of the potential problem is an exceedance of the monitoring standards, which is consistent with previously promulgated area source rules (*e.g.,* area source NESHAP for iron and steel foundries, and area source NESHAP for aluminum, copper and other nonferrous foundries).

Comment. One commenter stated that CEMs are not suitable for asphalt fumes for continuous sampling of PM. The commenter noted that EPA Method 5A is used for stack PM sampling of asphalt fumes and Method 5A requires that the emission stream be cooled to allow the fume aerosols to condense and this PM portion is then recovered from the sample train with an after test solvent wash. The commenter stated that a continuous analyzer does not exist that will perform this PM sampling.

Response. We agree with the commenter and the CEMS option has been removed from the final rule.

Comment. One commenter supported the proposed provision that, for periods of startup and shutdown, would allow owners and operators to demonstrate compliance with the emission standard over a 24-hour averaging period. The commenter advocated, however, that EPA adopt a similar 24 hour averaging approach for determining compliance with the temperature requirements of the rule. Another commenter expressed concerns with the proposed provision that, for periods of startup and shutdown, allows owners and operators to demonstrate compliance with the emission standard over a 24-hour averaging period. Specifically, the commenter expressed concern regarding the public health impacts of excess emissions during SSM episodes.

Response. We appreciate the one commenter's support of the provision that, for periods of startup and shutdown, allows owners and operators to demonstrate compliance with the emission standard over a 24-hour averaging period. However, we reject the commenter's suggestion that the 24-hour averaging period be extended to temperature. As stated elsewhere in this preamble, we have modified the rule to require that the owner/operator establish a temperature range for the inlet gas temperature to the PM control device during the initial compliance assessment and to then maintain the 3-hour average inlet gas temperature within that range during operations. We believe that these changes, which allow the owner/operator to establish a temperature range, obviate any need for a longer averaging time for temperature.

We proposed the use of a 24-hour averaging period for determining compliance with the emission standards to account for emissions generated during periods of startup and shutdown based on the format we chose for the emission standards, *i.e.,* lbs of emissions per ton of product produced. During periods of startup and shutdown, the process will continue to produce emissions. Even though emissions during such periods will be less than those that occur during normal operations when measured on an hourly basis, *i.e.,* pounds of emissions per hour of operation, production during such periods will be very limited. As a result, it will be very difficult, if not impossible, to demonstrate compliance with a standard stated in terms of pounds of emissions per ton of product produced if a 3-hour averaging period is used. Specifically, emissions generated during periods of startup and shutdown will be less on an hourly basis than those generated during normal operations for a number of reasons. First, during periods of startup, the temperature of the asphalt is raised until it reaches the optimal temperature for use when producing product. Similarly, during periods of shutdown, the temperature of the asphalt is being reduced from the temperature which is optimal for production. As the temperature of the asphalt increases, the rate of volatilization also increases, resulting in increased PAH emissions as measured on a pounds per hour basis. As a result, during startup, PAH emissions, as measured on a pounds per hour basis, increase until the temperature of the asphalt reaches the optimal temperature for production after which the temperature is maintained at a steady state. During shutdown, the reverse process occurs, *i.e.,* as the process is shut down, the asphalt cools, the rate of volatilization decreases and hourly PAH emissions decrease. Second, during startup and shutdown, the asphalt usage rate, and hence the hourly PAH emission rate, fluctuates. During startup, the asphalt usage rate gradually increases until it reaches the rate present during normal production. As a result, during startup, the hourly PAH emission rate gradually increases until it reaches the rate that exists during periods of normal production. During shutdown, the reverse occurs, *i.e.,* the hourly asphalt usage rate gradually decreases from the rate present during normal production. Thus, except for the very start of the shut-down period, the hourly PAH emission rate is lower than during periods of normal production. The rate of production, *i.e.,* the amount of product produced on an hourly basis, also fluctuates during periods of startup and shutdown. At the commencement of startup, no product is being produced as the asphalt is being brought up to the proper temperature for normal production. The rate of production then gradually increases until the process reaches, and is maintained at, the rate of normal production. During shutdown, the rate of production is gradually reduced from its normal rate to zero. Thus, in light of the production-based format of the standard and the emission characteristics described above that occur during startup and shutdown at asphalt processing and asphalt roofing manufacturing facilities, we concluded that it was appropriate to provide a longer averaging period for determining compliance during periods of startup and shutdown. We chose a 24-hour averaging period because, based on the exercise of our best engineering judgment, we determined that this was an appropriate period since the record indicates that the startup and shutdown processes can take up to 9 hours to complete. We also considered establishing a 16-hour averaging period as this represents two normal 8-hour shifts, but concluded that this would not provide adequate time for conditions to normalize. The final rule, therefore, allows sources to determine compliance with the emission standard based on a 24-hour averaging period, as opposed to a 3 hour period.

We acknowledge the one comment regarding the health concerns associated with emissions that are generated during start-up and shut-down events; however, the GACT standards are technology-based standards as opposed to health- or risk-based standards. For the reasons described above, we think a 24-hour averaging period during periods of startup and shutdown is reasonable and the commenter has provided no evidence to the contrary.

In the proposed rule, we proposed to also apply the 24-hour period for measuring compliance to malfunction events. We are not adopting this approach in the final rule. Rather, the final rule requires compliance with the standard based on a 3-hour average at all times, except as explained above, for periods of startup and shutdown, in which case the rule provides that owners and operators demonstrate compliance with the standard over a 24-hour averaging period. In re-examining the record for this rulemaking, we recognized that the data in the record supporting a longer averaging period related solely to startup and shutdown events. Moreover, in contrast to startup and shutdown events which are routine and distinct operating modes, a malfunction is defined as a ''sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner * * *'' 40 CFR 63.2. As discussed above, EPA has properly accounted for different periods of operation, including periods of startup and shutdown, in establishing the standards in this rule. Since a malfunction is not a distinct operating mode, malfunction emissions do not need to be factored into the development of CAA section 112(d) standards, which, once promulgated, apply at all times. *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008). Thus, the final rule does not establish a different averaging period for use in measuring compliance during malfunction events. Further, even if malfunctions were considered a distinct operating mode, we believe it would be impracticable to take into account malfunctions in setting CAA section 112(d) standards. Because, by definition, malfunctions are sudden and unexpected events, it would be difficult to set a standard that would account for the myriad of different emissions that could occur during malfunctions. In addition, the type, frequency, and duration of the malfunctions may differ significantly between sources. Finally, setting an emissions standard that accounts for all different potential types of malfunctions would allow a source to emit excessive quantities of uncontrolled pollution and would not provide an incentive for sources to minimize the occurrence of malfunctions.

E. Title V Permitting

Comment. One commenter argued that the Agency's proposal to exempt the asphalt processing and asphalt roofing manufacturing area source category from title V requirements is unlawful and arbitrary. The commenter stated that section 502(a) of the CAA authorizes EPA to exempt area source categories from title V permitting requirements if the Administrator finds that compliance with such requirements is ''impracticable, infeasible or unnecessarily burdensome.'' 42 U.S.C. section 7661a(a). The commenter noted that EPA did not claim that title V requirements are impracticable or infeasible for any of the source categories it proposes to exempt, but that EPA instead relied entirely on its claim that title V would be ''unnecessarily burdensome.''

Response. Section 502(a) of the CAA states, in relevant part, that:

> * * * [t]he Administrator may, in the Administrator's discretion and consistent with the applicable provisions of this chapter, promulgate regulations to exempt one or more source categories (in whole or in part) from the requirements of this subsection if the Administrator finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories, except that the Administrator may not exempt any major source from such regulations. *See* 42 U.S.C. section 7661a(a).

The statute plainly vests the Administrator with discretion to determine when it is appropriate to exempt non-major (*i.e.,* area) sources of air pollution from the requirements of title V. The commenter correctly noted that EPA based the proposed exemptions solely on a determination that title V is ''unnecessarily burdensome,'' and did not rely on whether the requirements of title V are ''impracticable'' or ''infeasible'', which are alternative bases for exempting area sources from title V.

To the extent the commenter is asserting that EPA must determine that all three criteria in CAA section 502 are met before an area source category can be exempted from title V, the commenter misreads the statute. The statute expressly provides that EPA may exempt an area source category from title V requirements if EPA determines that the requirements are ''impracticable, infeasible *or* unnecessarily burdensome.'' *See* CAA section 502 (emphasis added). If Congress had wanted to require that all three criteria be met before a category could be exempted from title V, it would have stated so by using the word ''and,'' in place of ''or.'' For the reasons explained in the preamble to the proposed rule, we believe that it is appropriate to exempt sources in the asphalt processing and asphalt roofing manufacturing area source category, which are not otherwise required to have a title V permit, from title V permitting and, on that basis, have retained the exemption in the final rule.

Comment. One commenter stated that in order to demonstrate that compliance with title V would be ''unnecessarily burdensome,'' EPA must show, among other things, that the ''burden'' of compliance is unnecessary. According to the commenter, by promulgating title V, Congress indicated that it viewed the burden imposed by its requirements as necessary as a general rule. The commenter maintained that the title V requirements provide many benefits that Congress viewed as necessary. Thus, in the commenter's view, EPA must show why, for any given category, special circumstances make compliance unnecessary. The commenter believed that EPA has not made that showing for any of the categories it proposes to exempt.

Response. The EPA does not agree with the commenter's characterization of the demonstration required for determining that title V is unnecessarily burdensome for an area source category. As stated above, the CAA provides the Administrator discretion to exempt an area source category from title V if he determines that compliance with title V requirements is ''impracticable, infeasible, or unnecessarily burdensome'' on an area source category. *See* CAA section 502(a). In December 2005, in a national rulemaking, EPA interpreted the term ''unnecessarily burdensome'' in CAA section 502 and developed a four-factor balancing test for determining whether title V is unnecessarily burdensome for a particular area source category, such that an exemption from title V is appropriate. *See* 70 FR 75320, December 19, 2005 (''Exemption Rule''). In addition to interpreting the term ''unnecessarily burdensome'' and developing the four-factor balancing test in the Exemption Rule, EPA applied the test to certain area source categories.

The four factors that EPA identified in the Exemption Rule for determining whether title V is unnecessarily burdensome on a particular area source category include: (1) Whether title V would result in significant improvements to the compliance requirements, including monitoring, recordkeeping, and reporting, that are proposed for an area source category (70 FR 75323); (2) whether title V permitting would impose significant burdens on the area source category and whether the burdens would be aggravated by any difficulty the sources may have in obtaining assistance from permitting agencies (70 FR 75324); (3) whether the costs of title V permitting for the area source category would be justified, taking into consideration any potential gains in compliance likely to occur for such sources (70 FR 75325); and (4) whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the NESHAP for the area source category, without relying on title V permits (70 FR 75326).

In discussing the above factors in the Exemption Rule, we explained that we considered on ''a case-by-case basis the extent to which one or more of the four factors supported title V exemptions for a given source category, and then we assessed whether considered together those factors demonstrated that compliance with title V requirements would be 'unnecessarily burdensome' on the category, consistent with section 502(a) of the Act.'' *See* 70 FR 75323. Thus, we concluded that not all of the four factors must weigh in favor of exemption for EPA to determine that title V is unnecessarily burdensome for a particular area source category. Instead, the factors are to be considered in combination and EPA determines whether the factors, taken together, rather than on an individual basis, support an exemption from title V for a particular source category.

The commenter asserts that ''EPA must show * * * that the ''burden'' of compliance is unnecessary.'' This is not, however, one of the four factors that we developed in the Exemption Rule in interpreting the term ''unnecessarily burdensome'' in CAA section 502, but rather a new test that the commenter maintains EPA ''must'' meet in determining what is ''unnecessarily burdensome'' under CAA section 502. The EPA did not re-open its interpretation of the term ''unnecessarily burdensome'' in CAA section 502 in the July 9, 2009 proposed rule for the asphalt processing and asphalt roofing manufacturing area source category. Rather, we applied the four-factor balancing test articulated in the Exemption Rule to the asphalt processing and asphalt roofing manufacturing area source category and, on that basis, proposed to exempt the category from title V. Had we sought to re-open our interpretation of the term ''unnecessarily burdensome'' in CAA section 502 and modify it from what was articulated in the Exemption Rule, we would have stated so in the July 9, 2009 proposed rule and solicited comments on a revised interpretation, which we did not do. Accordingly, we reject the commenter's attempt to create a new test for determining what constitutes ''unnecessarily burdensome'' under CAA section 502, as that issue falls outside the purview of this rulemaking. (*See* 74 FR 30386).

Moreover, if the comment was framed as a request to reopen our interpretation of the term ''unnecessarily burdensome'' in CAA section 502, which it is not, we would deny such request because we have a court-ordered deadline to complete this rulemaking by November 16, 2009. In any event, although the commenter espouses a new interpretation of the term ''unnecessarily burdensome'' in CAA section 502 and attempts to create a new test for determining whether the requirements of title V are ''unnecessarily burdensome'' for an area source category, the commenter does not explain why EPA's interpretation of the term ''unnecessarily burdensome'' is arbitrary, capricious or otherwise not in accordance with law. We maintain that our interpretation of the term ''unnecessarily burdensome'' in section 502, as set forth in the Exemption Rule, is reasonable.

Comment. One commenter stated that exempting a source category from title V permitting requirements deprives both the public generally and individual members of the public who would obtain and use permitting information from the benefit of citizen oversight and enforcement that Congress plainly viewed as necessary. According to the commenter, the text and legislative history of the CAA provide that Congress intended ordinary citizens to be able to get emissions and compliance information about air toxics sources and to be able to use that information in enforcement actions and in public policy decisions on a State and local level.

The commenter stated that Congress did not think that enforcement by States or other government entities was enough; if it had, Congress would not have enacted the citizen suit provisions, and the legislative history of the CAA would not show that Congress viewed citizens' access to information and ability to enforce CAA requirements as highly important both as an individual right and as a crucial means to ensuring compliance. According to the commenter, if a source does not have a title V permit, it is difficult or impossible—depending on the laws, regulations and practices of the State in which the source operates—for a member of the public to obtain relevant information about its emissions and compliance status. The commenter stated that likewise, it is difficult or impossible for citizens to bring enforcement actions.

The commenter continued that EPA does not claim—far less demonstrate with substantial evidence, as would be required—that citizens would have the same ability to obtain compliance and emissions information about sources in the categories it proposes to exempt without title V permits. The commenter also added that likewise, EPA does not claim—far less demonstrate with substantial evidence—that citizens would have the same enforcement ability. Thus, according to the commenter, the exemptions EPA proposes plainly eliminate benefits that Congress thought necessary. The commenter claimed that to justify its exemptions, EPA would have to show that the informational and enforcement benefits that Congress intended title V to confer—benefits which the commenter argues are eliminated by the exemptions—are for some reason unnecessary with respect to the categories it proposes to exempt.

The commenter concluded that EPA does not even acknowledge these benefits of title V, far less explain why they are unnecessary, and that for this reason alone, EPA's proposed exemptions are unlawful and arbitrary.

Response. Once again, the commenter attempts to create a new test for determining whether the requirements of title V are ''unnecessarily burdensome'' on an area source category. Specifically, the commenter argues that EPA does not claim or demonstrate with substantial evidence that citizens would have the same access to information and the same ability to enforce under the asphalt processing and asphalt roofing manufacturing area source rule, absent title V. The commenter's position represents a significant revision of the fourth factor that EPA developed in the Exemption Rule in interpreting the term ''unnecessarily burdensome'' in CAA section 502. For all of the reasons explained above, the commenter's attempt to create a new test for EPA to meet in determining whether title V is ''unnecessarily burdensome'' on an area source category cannot be sustained. This rulemaking did not re-open EPA's interpretation of the term ''unnecessarily burdensome'' in CAA section 502. The EPA reasonably applied the four factors to the facts of the asphalt processing and asphalt roofing manufacturing area source category, and the commenter has not identified any flaw in EPA's application of the four factor test.

Moreover, as explained in the proposal, we considered implementation and enforcement issues in evaluating the fourth factor of the four-factor balancing test. Specifically, the fourth factor of EPA's unnecessarily burdensome analysis provides that EPA will consider whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the NESHAP without relying on title V permits. *See* 70 FR 32829–32830.

In applying the fourth factor here, EPA determined that there are adequate enforcement programs in place to assure compliance with the CAA. As stated in the proposal, we believe that State-delegated programs are sufficient to assure compliance with the NESHAP and that EPA retains authority to enforce this NESHAP under the CAA. *See* 74 FR 32822, 32829. We also indicated that States and EPA often conduct voluntary compliance assistance, outreach, and education programs to assist sources and that these additional programs will supplement and enhance the success of compliance with this NESHAP. *See* 74 FR 32822, 32829–32830. The commenter does not challenge the conclusion that there are adequate State and Federal programs in place to ensure compliance with and enforcement of the NESHAP. Instead, the commenter provides an unsubstantiated assertion that information about compliance by area sources with this NESHAP will not be as accessible to the public as information provided to a State pursuant to title V. In fact, the commenter does not provide any information that States will treat information submitted under this NESHAP differently than information submitted pursuant to a title V permit.

Even accepting the commenter's assertions that it is more difficult for citizens to enforce the NESHAP absent a title V permit, which we dispute, in evaluating the fourth factor in EPA's balancing test, EPA concluded that there are adequate implementation and enforcement programs in place to enforce the NESHAP. The commenter has provided no information to the contrary or explained how the absence of title V actually impairs the ability of citizens to enforce the provisions of the NESHAP. Furthermore, the fourth factor is one factor that we evaluated in determining if the title V requirements were unnecessarily burdensome. As explained above, we considered that factor together with the other factors and determined that it was appropriate to finalize the proposed exemptions for the asphalt processing and asphalt roofing manufacturing source category.

Comment. One commenter explained that title V provides important monitoring benefits, and, according to the commenter, EPA assumes that title V monitoring would not add any monitoring requirements beyond those required by the regulations for the asphalt processing and asphalt roofing manufacturing area source category. The commenter stated that in its proposal EPA proposed ''using parametric monitoring'' of either process changes or add-on controls. 74 FR at 32828.'' The commenter further stated that ''EPA argues that its proposed standard, by including these requirements, provides monitoring ''sufficient to assure compliance'' with the proposed rule. *Id.* at 32829.'' The commenter maintains that EPA made conclusory assertions and that the Agency failed to provide any evidence to demonstrate that the proposed monitoring requirements will assure compliance with the NESHAP for the exempt sources. The commenter stated that, for this reason as well, its claim that title V requirements are ''unnecessarily burdensome'' is arbitrary and capricious, and its exemption is unlawful and arbitrary and capricious.

Response. The EPA used the four-factor test described above to determine if title V requirements were unnecessarily burdensome for the asphalt processing and asphalt roofing manufacturing area source category. In the first factor, EPA considers whether imposition of title V requirements would result in significant improvements to the compliance requirements that are proposed for the area source category. *See* 70 FR 75323. It is in the context of this first factor that EPA evaluates the monitoring, recordkeeping and reporting requirements of the proposed NESHAP to determine the extent to which those requirements are consistent with the requirements of title V. *See* 70 FR 75323.

The commenter asserts that ''EPA argues that its proposed standard, by including these requirements, provides monitoring 'sufficient to assure compliance' with the proposed rule,'' and that ''EPA has failed to provide any evidence whatsoever to demonstrate that the monitoring requirements in [the asphalt processing and asphalt roofing manufacturing area source category rule] 'assure' compliance.'' However, the commenter does not provide any evidence that contradicts the conclusion that the proposed monitoring requirements are sufficient to assure compliance with the standards in the rule.

We considered whether title V monitoring requirements would lead to significant improvements in the monitoring requirements in the proposed NESHAP and determined that they would not. We believe that the monitoring requirements in this area source rule can assure compliance. Compliance with the emission limits is determined during the initial assessment and continuous compliance with the final emission limits is demonstrated by monitoring parameters and process conditions established during the initial compliance assessment. For the reasons described above and in the proposed rule, the first factor supports exempting this area source category from title V requirements. Assuming for argument's sake that the first factor alone is not sufficient to support the exemption, *i.e.,* that a single factor cannot alone support the exemption, a proposition that EPA rejects, the four factors when considered in combination do support the exemption. As we explained in the preamble to the proposed rule, the four-factor balancing test requires EPA to examine the factors in combination and determine whether the factors, viewed together, weigh in favor of exemption. *See* 74 FR 32828. As explained above, we determined that the factors, weighed together, support exemption of the area source categories from title V.

Comment. According to one commenter EPA argued that compliance with title V would not yield any gains in compliance with underlying requirements in the relevant NESHAP (74 FR 32829). The commenter stated that EPA's conclusory claim could be made equally with respect to any major or area source category. According to the commenter, the Agency provides no specific reasons to believe—with respect to the asphalt processing and asphalt roofing manufacturing area source category—that the additional informational, monitoring, reporting, certification, and enforcement requirements that exist in title V, but not in the proposed asphalt processing and asphalt roofing manufacturing area source category NESHAP, would not provide additional compliance benefits. The commenter also stated that the only basis for EPA's claim is, apparently, its beliefs that those additional requirements never confer additional compliance benefits. According to the commenter, by advancing such argument, EPA merely seeks to elevate its own policy judgment over Congress' decisions reflected in the CAA's text and legislative history.

Response. The commenter takes out of context certain statements in the proposed rule concerning the factors used in the balancing test to determine if imposition of title V permitting requirements is unnecessarily burdensome for the source category. The commenter also mischaracterizes the first of the four-factor balancing test with regard to determining whether imposition of title V would result in significant improvements in compliance. In addition, the commenter mischaracterizes the analysis in the third factor of the balancing test which instructs EPA to take into account any gains in compliance that would result from the imposition of the title V requirements.

First, EPA nowhere states, nor does it believe, that title V never confers additional compliance benefits as the commenter asserts. While EPA recognizes that requiring a title V permit can generally offer additional compliance options, for the asphalt processing and asphalt roofing manufacturing area source category, EPA concluded that requiring title V permits would be unnecessarily burdensome because the final rule already contains provisions sufficient to assure compliance.

Second, the commenter mischaracterizes the first factor by asserting that EPA must demonstrate that title V will provide no additional compliance benefits. The first factor calls for a consideration of ''whether title V would result in significant improvements to the compliance requirements, including monitoring, recordkeeping, and reporting, that are proposed for an area source category.'' Thus, contrary to the commenter's assertion, the inquiry under the first factor is not whether title V will provide any compliance benefit, but rather whether it will provide significant improvements in compliance requirements.

The monitoring, recordkeeping, and reporting requirements in the rule are sufficient to assure compliance with the requirements of this rule and are sufficient to allow the public the opportunity to obtain knowledge about the source, consistent with the goal in title V permitting. For example, in the Initial Notification, the source must identify its size, whether it must meet any of the GACT requirements in the rule, and how it plans to comply with the rule requirements. Also, in the notification of compliance status, the source must certify how it is achieving compliance and that it has complied with all of the requirements of the final rule. The source must keep records to document on going compliance with the emission standards finalized in this rule. The source must also submit semi-annual compliance reports to the delegated authority. This information is available to the public once the source has filed the reports with the delegated authority.

The EPA believes that these requirements in the rule itself, including the requirement to provide information about the source's compliance that is available to the public, provide sufficient basis to assure compliance, and that the title V requirements, if applicable to these sources, would not offer significant improvements in the compliance of the sources with the rule.

Third, the commenter incorrectly characterizes our statements in the proposed rule concerning our application of the third factor. Under the third factor, EPA evaluates ''whether the costs of title V permitting for the area source category would be justified, taking into consideration any potential gains in compliance likely to occur for such sources.'' Contrary to what the commenter alleges, EPA did not state in the proposed rule that compliance with title V would not yield any gains in compliance with the underlying requirements in the relevant NESHAP, nor does factor three require such a determination. Instead, consistent with the third factor, we considered whether the costs of title V are justified in light of any potential gains in compliance. In other words, EPA must evaluate whether any improvement in compliance above what the rule requires justifies the costs associated with title V permitting requirements. The EPA reviewed the area source category at issue and determined that approximately 30 of the 75 sources that would be subject to the rule currently have a title V permit. As stated in the proposal (74 FR 32829), EPA estimated that the average cost of obtaining and complying with a title V permit was $65,700 per source for a 5-year permit period, including fees. *See* Information Collection Request for Part 70 Operating Permit Regulations, 72 FR 32290, June 12, 2007, EPA ICR Number 1587.07. Based on this information, EPA determined that there is a significant cost burden to the industry to require title V permitting for all the sources subject to the rule. In addition, in analyzing factor one, EPA found that imposition of the title V requirements offers no significant improvements in compliance. In considering the third factor, we stated in part that, ''Because the costs, both economic and non-economic, of compliance with title V are high for any small entity, and the potential for gains in compliance is low, title V permitting is not justified for this source category. Accordingly, the third factor supports title V exemptions for this area source category.'' *See* 74 FR 32829.

Most importantly, EPA considered all four factors in the balancing test in determining whether title V was unnecessarily burdensome on the area source category. The EPA found it reasonable, after considering all four factors, to exempt the asphalt processing and asphalt roofing manufacturing area source category from the permitting requirements in title V. This rulemaking did not re-open EPA's interpretation of the term ''unnecessarily burdensome'' in CAA section 502. Because the commenter's statements do not demonstrate a flaw in EPA's application of the four-factor balancing test to the specific facts of the asphalt processing and asphalt roofing manufacturing area source category, the comments provide no basis for the Agency to reconsider its proposal to exempt the category from title V.

Comment. According to one commenter, ''[t]he agency does not identify any aspect of any of the underlying NESHAP showing that with respect to these specific NESHAP—unlike all the other major and area source NESHAP it has issued without title V exemptions—title V compliance is unnecessary.'' Instead, according to the commenter, EPA merely pointed to existing State requirements and the potential for actions by States and EPA that are generally applicable to all categories (along with some small business and voluntary programs). The commenter stated that, absent a showing by EPA that distinguishes the sources it proposes to exempt from other sources, however, the Agency's argument boils down to the generic and conclusory claim that it generally views title V requirements as unnecessary. The commenter stated that, while this may be EPA's view, it was not Congress' view when Congress enacted title V, and a general view that title V is unnecessary does not suffice to show that title V compliance is unnecessarily burdensome.

Response. The commenter again takes issue with the Agency's test for determining whether title V is unnecessarily burdensome, as developed in the Exemption Rule. Our interpretation of the term ''unnecessarily burdensome'' is not the subject of this rulemaking. In any event, as explained above, we believe the Agency's interpretation of the term ''unnecessarily burdensome'' is a reasonable. In addition, our determination to exempt the asphalt processing and asphalt roofing manufacturing area source category from title V is specific to this rule, and is not, as the commenter suggests, reflective of a general view that title V requirements are unnecessary. We review the facts of each area source category individually in determining whether to exempt the category, or a portion of the category, from the requirements of title V pursuant to section 502. To the extent the commenter asserts that our application of the fourth factor is flawed, we disagree. The fourth factor involves a determination as to whether there are implementation and enforcement programs in place that are sufficient to assure compliance with the rule without relying on the title V permits. In discussing the fourth factor in the proposal, EPA states that prior to delegating implementation and enforcement to a State, EPA must ensure that the State has programs in place to enforce the rule. The EPA believes that these programs will be sufficient to assure compliance with the rule. The EPA also retains authority to enforce this NESHAP anytime under CAA sections 112, 113 and 114. The EPA also noted other factors in the proposal that together are sufficient to assure compliance with this area source standard.

The commenter argues that EPA cannot exempt these area sources from title V permitting requirements because ''t]he agency does not identify any aspect of any of the underlying NESHAP showing that with respect to these specific NESHAP—unlike all the other major and area source NESHAP it has issued without title V exemptions—title V compliance is unnecessary.'' As an initial matter, EPA cannot exempt major sources from title V permitting. 42 U.S.C. 502(a). The application of the standard that the commenter proposes—that EPA must show that ''title V compliance is unnecessary''—in determining whether to exempt an area source category from title V is not consistent with the standard the Agency established in the Exemption Rule and applied in the proposed rule in determining if title V requirements are unnecessarily burdensome for the asphalt processing and asphalt roofing manufacturing area source category.

Furthermore, we disagree that the basis for excluding the asphalt processing and asphalt roofing manufacturing area source category from title V requirements is generally applicable to any source category. As explained in the proposal preamble and above, we balanced the four factors considering the facts and circumstances of the source category at issue in this rule.

Comment. One commenter stated that EPA concedes that the legislative history of the CAA shows that Congress did not intend EPA to exempt source categories from compliance with title V unless doing so would not adversely affect public health, welfare, or the environment, citing 74 FR 32830. Nonetheless, according to the commenter, EPA does not make any showing that its exemptions would not have adverse impacts on health, welfare and the environment. The commenter stated that, instead, EPA offered only the conclusory assertion that ''the level of control would remain the same'' whether title V permits are required or not (74 FR 32830).

The commenter continued by stating that EPA relied entirely on the conclusory arguments advanced elsewhere in its proposal that compliance with title V would not yield additional compliance with the underlying NESHAP. The commenter stated that those arguments are wrong for the reasons provided earlier in its comments, and that, therefore, EPA's claims about public health, welfare and the environment are wrong too. The commenter also stated that Congress enacted title V for a reason: ''to assure compliance with all applicable requirements and to empower citizens to get information and enforce the CAA.'' The commenter stated that those benefits—of which EPA's proposed rule deprives the public—would improve compliance with the underlying standards and thus have benefits for public health, welfare and the environment. According to the commenter, EPA has not demonstrated that these benefits are unnecessary with respect to any specific source category, but again simply rests on its own apparent belief that they are never necessary.

The commenter concluded that, for the reasons given above, the attempt to substitute EPA's judgment for Congress' is unlawful and arbitrary.

Response. Congress gave the Administrator the authority to exempt area sources from compliance with title V if, in his or her discretion, the Administrator ''finds that compliance with [title V] is impracticable, infeasible, or unnecessarily burdensome.'' *See* CAA section 502(a). The EPA has interpreted one of the three justifications for exempting area sources, ''unnecessarily burdensome,'' as requiring consideration of the four factors discussed above. The EPA applied these four factors to the area source category subject to this rule and concluded that requiring title V for this area source category would be unnecessarily burdensome.

In addition to determining that title V would be unnecessarily burdensome on the asphalt processing and asphalt roofing manufacturing area source category, as in the Exemption Rule, EPA also considered whether exempting the area source category would adversely affect public health, welfare or the environment. As explained in the proposal preamble, we concluded that exempting the asphalt processing and asphalt roofing manufacturing area source category from title V would not adversely affect public health, welfare or the environment because the level of control would be the same even if title V applied. We further explained in the proposal preamble that the title V permit program does not generally impose new substantive air quality control requirements on sources, but instead requires that certain procedural measures be followed, particularly with respect to determining compliance with applicable requirements. The commenter has not provided any information that exemption of the asphalt processing and asphalt roofing manufacturing area source category from title V will adversely affect public health, welfare or the environment.

F. Definitions

Comment. Two commenters noted that the definition of saturator in the proposed rule implies that an impregnator vat is a saturator. The commenters noted that the distinction is important because emission limits in Table 2 of the proposed rule are different for coater-only lines and saturator-only lines. Consequently, the commenters said that EPA should clarify the definition of saturator. One of the commenters also noted that it would be helpful if EPA further explained what is meant by ''hot mix asphalt plant operations used in hardstand,'' ''operations where asphalt may be used in the fabrication of a built-up roof,'' ''asphalt roofing facility'' and ''wet looper.''

Response. We agree with the commenters and the final rule clarifies the definition of saturator with regard to impregnation vats and wet looper, and adds definitions for ''hot mix asphalt plant operations,'' ''built-up roofing operations,'' and ''asphalt roofing facility.''

G. Cost Impacts

Comment. One commenter stated that the EPA's assertions that all facilities will be able to meet the proposed standards using existing controls, that only 50 percent of facilities would need to install monitoring equipment, that the only additional costs would be for reporting and recordkeeping, and that the proposed rule would not impose a significant adverse impact on any facilities, large or small are not supported by information collected by the commenter.

Although it may be possible for some sources to modify existing control equipment to meet the emission limits, the commenter stated that it is unlikely that every source, especially the 11 small businesses, will be able to meet the standards under the worst foreseeable circumstances, the standard that is required for continuous compliance. (*See* Section V of these comments for a discussion of variability and *Sierra Club* v. *EPA,* 167 F.3d 658, 665 (DC Cir. 1999).

For the proposed GACT standards, the commenter noted that EPA estimated an average cost of $3000 per facility. The commenter believed that the compliance cost will be at least an order of magnitude greater than the EPA cost estimates. Accordingly, the commenter developed a cost estimate by assuming that 25 percent of existing lines will need to install controls equivalent to those EPA identified in 2001 as ''beyond the MACT floor.'' The commenter's industry-wide cost estimates, not adjusted for inflation, are:

- $12,921,000 in capital costs (19 lines × $680,000 in capital costs),
- $11,951,925 in installation costs (19 lines × $629,000 in installation costs),
- $6,971,011.33 in annual operating costs (19 lines × $367,000 in annual operating costs), and
- $234,000 (EPA's estimate of annual cost of $3000 per facility for monitoring, recordkeeping and reporting for 78 lines).

In addition, the commenter noted that facilities will bear the costs of performance testing. Under the proposal, the commenter said that facilities would have to continue re-testing until they conduct a test on one of the hottest days of the year. The commenter stated that these performance test costs will be significant—approximately $10,000 per test.

The commenter noted that these costs will not be incurred by individual facilities as ''industry-wide average costs.'' The commenter said that some facilities will bear only the $3000 annual recordkeeping and reporting costs; others will incur the $1,310,000 in capital costs and $367,000 in operating costs for each line at the facility and a further $3000 in monitoring, recordkeeping and reporting costs. In addition, the commenter said that most facilities will incur costs of at least $10,000 for each performance test required. The commenter stated that EPA did not account for these costs for performance testing.

Response. The commenter's assertions regarding control cost estimates are based upon the assumption that new control devices will be needed to comply with the GACT standards which we believe is not the case. Considering that all asphalt processing operations and the vast majority or asphalt roofing manufacturing operations are currently controlled, and considering the revised GACT emissions limits (which incorporate both the additional data provided by the commenter and the variability in the underlying emissions data) and the allowance for owners or operators to use manufacturer specifications when establishing monitoring parameter ranges for roofing lines in the final rule, we continue to believe that no new add-on control devices will be needed to comply with the GACT standards. Therefore, we do not believe that it is necessary to revise our approach for estimating control device costs. Additionally, we disagree with the commenter with regard to consideration of the costs of conducting compliance tests. We took into account the cost of conducting compliance tests in developing the final standards. In the Information Collection Request (ICR) prepared for this rulemaking, we assumed that 25 percent of the industry would need to conduct a new test (at a cost of $6,000) to demonstrate compliance with the GACT emission limits. We believe that this approach is reasonably conservative.

H. Miscellaneous

Comment. One commenter stated that in order for these rules to be implemented properly, EPA should provide sufficient additional funds to State and local clean air agencies. The commenter stated that in recent years, Federal grants for State and local air programs have amounted to only about one-third of what they should be, and budget requests for the last two years have called for additional cuts. According to the commenter, additional area source programs, which are not eligible for title V fees, will require significant increases in resources for State and local air agencies beyond what is currently provided. The commenter claims that without increased funding, some State and local air agencies may not be able to adopt and enforce additional area source rules.

Response. State and local air programs are an important and integral part of the regulatory scheme under the CAA. As always, EPA recognizes the efforts of State and local agencies in taking delegations to implement and enforce CAA requirements, including the area source standards under section 112. We understand the importance of adequate resources for State and local agencies to run these programs; however, the issue of funding for these resources is beyond the purview of today's rulemaking. The EPA today is promulgating standards for the Asphalt Processing and Asphalt Roofing Manufacturing area source category that reflect what constitutes GACT for the Urban HAP for which the source category was listed. GACT standards are technology-based standards. The level of State and local resources needed to implement these rules is not a factor that we consider in determining what constitutes GACT. Although the resource issue cannot be resolved through today's rulemaking for the reason stated above, EPA remains committed to working with State and local agencies to implement this rule. State and local agencies that receive grants for continuing air programs under CAA section 105 should work with their project officer to determine what resources are necessary to implement and enforce the area source standards. The EPA will continue to provide the resources appropriated for section 105 grants consistent with the statute and the allotment formula developed pursuant to the statute.

VI. Summary of Impacts of the Final Standards

A. What Are the Air Impacts?

Since 1990, in addition to a lessening of air impacts due to the increased use of add-on controls in response to Federal and State permitting requirements, the asphalt processing and asphalt roofing manufacturing industry has further reduced its air impacts by reducing the amount of asphalt used to manufacture roofing products (reformulation), largely through the use of inorganic substrates which do not require the asphalt-intensive step of saturating the substrate. These process improvements have reduced the generation rate of PAH emissions by approximately 0.0015 lbs/ton of product manufactured before controls are applied. In addition to the PAH emission reductions, the process improvements undertaken by the industry since 1990 have resulted in reductions of approximately 0.02 lbs of total HAP, 0.29 lbs of THC, and 0.58 lbs of PM per ton of product manufactured.

We believe that the final standards codify, and thereby lock in, the reductions in PAH emissions, and the concomitant reductions in total HAP, THC, and PM emissions resulting from co-control, that have been achieved by the asphalt refining and asphalt roofing manufacturing industry since 1990 by requiring compliance with the level of control that can be achieved via the use of current GACT as applied to the reduced amount of asphalt used by the industry to produce asphalt roofing products.

B. What Are the Cost Impacts?

While some asphalt processing and asphalt roofing manufacturing facilities may need to conduct emissions tests to demonstrate compliance with the final standards, based on the available information, we believe that all asphalt processing and asphalt roofing manufacturing facilities will be able to meet the final standards using existing controls. Therefore, no additional air pollution control devices would be required. We have assumed that 38 facilities (50 percent) will need to install a pressure drop monitoring system for existing controls. Compliance with the final rule will not require any other capital expenditures. We do not expect compliance with the final rule to result in any new control device operational and maintenance costs because, absent any data to demonstrate otherwise, we have assumed that existing facilities are already following the manufacturer's instructions for operating and maintaining air pollution control devices and systems.

The annual cost of monitoring, reporting, and recordkeeping for this final rule is estimated at approximately $3,000 per facility per year for the first 3 years following promulgation. The costs are expected to be less than 1 percent of revenues. The annual cost estimate includes 8 hours per facility per year for preparing semiannual compliance reports.

The annual cost estimate includes 12,442 labor hours for the first 3 years following promulgation. This total includes 173 hours industry-wide for preparation of the Initial Notification in the first year and 173 hours industry-wide for preparation of the Notification of Compliance Status in the first year. The average total labor hour burden in the first year is 71 hours per facility, which include 15 hours per facility for monitoring activities.

Information on our cost impact estimates on the sources expected to be subject to the final rule is available in the docket for this final rule. (*See* Docket ID No. EPA–HQ–OAR–2009–0027).

C. What Are the Economic Impacts?

The only measurable costs attributable to these final standards are associated with the monitoring, recordkeeping, and reporting requirements. These final standards are estimated to impact a total of 75 area source facilities. We estimate that 11 of these facilities are owned by small businesses. Our analysis indicates that this final rule would not impose a significant adverse impact on any facilities, large or small, because, even for the smallest sources, these costs are less than 1 percent of the individual company revenues.

D. What Are the Non-Air Health, Environmental, and Energy Impacts?

No detrimental secondary impacts are expected to occur from the asphalt processing and asphalt roofing manufacturing sources complying with the final rule because all facilities are currently achieving the GACT level of control. No additional solid waste would be generated as a result of the PAH and PM emissions collected and there are no additional energy impacts associated with the operation of control devices or monitoring systems for the asphalt refining and asphalt roofing manufacturing sources. We expect no increase in the generation of wastewater or other water quality impacts. None of the control measures considered for this final rule generate a wastewater stream.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a ‘‘significant regulatory action’’ because OMB determined that it may raise novel legal or policy issues. Accordingly, EPA submitted this action to the OMB for review under EO 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this final rule have been submitted for approval to OMB under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them.

The recordkeeping and reporting requirements in this final rule are based on the requirements in EPA's NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping and reporting requirements in the General Provisions are mandatory pursuant to section 114 of the CAA (42 U.S.C. 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and the Agency's implementing regulations at 40 CFR part 2, subpart B.

This final NESHAP would require asphalt processing and asphalt roofing manufacturing area sources to submit an Initial Notification and a Notification of Compliance Status, and to conduct continuous parametric monitoring and submit semi-annual compliance reports according to the requirements in 40 CFR 63.9 of the General Provisions (subpart A). The annual burden for this information collection averaged over the first three years of this ICR is estimated to be a total of 4,147 labor hours per year at a total cost of $224,085 or approximately $3,000 per facility. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. EPA displays OMB control numbers various ways. For example, EPA lists OMB control numbers for EPA's regulations in 40 CFR part 9, which we amend periodically. Additionally, we may display the OMB control number in another part of the CFR, or in a valid **Federal Register** notice, or by other appropriate means. The OMB control number display will become effective the earliest of any of the methods authorized in 40 CFR part 9.

When this ICR is approved by OMB, the Agency will publish a **Federal Register** notice announcing this approval and displaying the OMB control number for the approved information collection requirements contained in this final rule. We will also publish a technical amendment to 40 CFR part 9 in the **Federal Register** to consolidate the display of the OMB control number with other approved information collection requirements.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule would not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

For the purposes of assessing the impacts of the final asphalt processing and asphalt roofing manufacturing area source NESHAP on small entities, small entity is defined as: (1) A small business that meets the Small Business Administration size standards for small businesses found at 13 CFR 121.201 (less than 750 for NAICS 324122); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule is estimated to impact all new and existing asphalt processing and asphalt roofing manufacturing area source facilities. We estimate that 11 facilities are owned by small entities. Although some small entities may incur capital costs to install additional monitoring equipment (*e.g.,* a pressure drop monitoring system for existing controls), we have determined that small entity compliance costs, as assessed by the facilities' cost-to-sales ratio, are expected to be less than 1 percent of revenues for any individual facility. The costs are so small that the impact is not expected to be significant. Although this final rule contains requirements for new area sources, we are not aware of any new area sources being constructed now or planned in the next year, and consequently, we did not estimate any impacts for new sources.

This final rule will not have a significant economic impact on a substantial number of small entities; however, EPA has, nonetheless, tried to reduce the impact of this final rule on small entities. The standards represent practices and controls that are common throughout the asphalt processing and asphalt roofing manufacturing industry. The standards also require only the essential monitoring, recordkeeping, and reporting needed to demonstrate and verify compliance. These final standards were developed based, in part, on information concerning small businesses included in the data provided by ARMA, as well as information obtained through online permit database searches, consultation with small business representatives on the state and national level, and consultation with industry representatives that are affiliated with small businesses.

D. Unfunded Mandates Reform Act

This final rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any one year. The total annual cost of the rule is estimated at $224,085/yr. This final rule is not expected to impact State, local, or Tribal governments. Thus, this action is not subject to the requirements of sections 202 and 205 of the UMRA.

This final rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This final rule contains no requirements that apply to such governments, imposes no obligations upon them, and would not result in expenditures by them of $100 million or more in any one year or any disproportionate impacts on them.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This final rule does not impose any requirements on state and local governments and therefore creates no substantial direct effects on the states. Thus, Executive Order 13132 does not apply to this action. Although section 6 of Executive Order 13132 does not apply to this action, EPA did solicit comment from State program officials. A summary of these comments and EPA's response to these comments is provided in section V of this preamble.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This final action imposes no requirements on Tribal governments; thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

Executive Order 13045, ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997), applies to any rule that (1) is determined to be ''economically significant,'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance. It is also not ''economically significant''.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. We have concluded that this final rule will not likely have any significant adverse energy effects because no additional pollution controls or other equipment that consume energy will be needed to comply with the final rule.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113 (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

This final rulemaking involves technical standards. The EPA has decided to use EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 5A, and 23 in conjunction with the final rule. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified.

Under §§ 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have any disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801, *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of Congress and to the Comptroller General of the United States. EPA will submit a report containing this final rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of this final rule in the **Federal Register.** A ''major rule'' cannot take effect until 60 days after it is published in the **Federal Register.** This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This final rule will be effective December 2, 2009.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated: November 16, 2009.

Lisa P. Jackson,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is to be amended as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

■ 2. Part 63 is amended by adding subpart AAAAAAA to read as follows:

Subpart AAAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

Applicability and Compliance Dates

Sec.

Standards and Compliance Requirements

Other Requirements and Information

Tables

Subpart AAAAAAA—National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

Applicability and Compliance Dates

§ 63.11559 Am I Subject to this Subpart?

(a) You are subject to this subpart if you own or operate an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions, as defined in § 63.2.

(b) This subpart applies to each new or existing affected source as defined in paragraphs (b)(1) and (b)(2) of this section.

(1) *Asphalt processing.* The affected source for asphalt processing operations is the collection of all blowing stills, as defined in § 63.11566, at an asphalt processing operation.

(2) *Asphalt roofing manufacturing.* The affected source for asphalt roofing manufacturing operations is the collection of all asphalt coating equipment, as defined in § 63.11566, at an asphalt roofing manufacturing operation.

(c) This subpart does not apply to hot mix asphalt plant operations that are used in the paving of roads or hardstand, or operations where asphalt may be used in the fabrication of a built-up roof.

(d) An affected source is a new affected source if you commenced construction or reconstruction after July 9, 2009.

(e) An affected source is reconstructed if it meets the criteria as defined in § 63.2.

(f) An affected source is an existing source if it is not new or reconstructed.

(g) This subpart does not apply to research or laboratory facilities, as defined in section 112(c)(7) of the Clean Air Act.

(h) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

§ 63.11560 What are my Compliance Dates?

(a) If you own or operate an existing affected source, you must be in compliance with the applicable provisions in this subpart no later than December 2, 2010. As specified in § 63.11562(f), you must demonstrate initial compliance within 180 calendar days after December 2, 2010.

(b) If you own or operate a new affected source, you must be in compliance with the provisions in this subpart on or before December 2, 2009 or upon startup, whichever date is later. As specified in § 63.11562(g), you must demonstrate initial compliance with the applicable emission limits no later than 180 calendar days after December 2, 2009 or within 180 calendar days after startup of the source, whichever is later.

Standards and Compliance Requirements

§ 63.11561 What are my Standards and Management Practices?

(a) For asphalt processing operations, you must meet the emission limits specified in Table 1 of this subpart.

(b) For asphalt roofing manufacturing lines, you must meet the applicable emission limits specified in Table 2 of this subpart.

(c) These standards apply at all times.

§ 63.11562 What are my Initial Compliance Requirements?

(a) For asphalt processing operations, you must:

(1) Demonstrate initial compliance with the emission limits specified in Table 1 of this subpart by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart; or

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section.

(2) Establish the value or range of values of the operating parameters specified in Table 4 of this subpart:

(i) Using the operating parameter data recorded during the compliance emission tests; or

(ii) Using the operating parameter data recorded during a previously-conducted emission test.

(b) For asphalt roofing manufacturing lines that use a control device to comply with the emission limits in Table 2 of this subpart, you must:

(1) Demonstrate initial compliance by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart; or

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section.

(2) Establish the value of the operating parameter specified in Table 4 of this subpart for thermal oxidizers:

(i) Using the operating parameter data recorded during the compliance emission tests; or

(ii) Using the operating parameter data recorded during a previously-conducted emission test.

(3) Establish the value or range of values of the operating parameters

specified in Table 4 of this subpart for control devices other than thermal oxidizers:

(i) Using the operating parameter data recorded during the compliance emission tests;

(ii) Using the operating parameter data recorded during a previously-conducted emission test; or

(iii) Using manufacturer performance specifications.

(c) For asphalt roofing manufacturing lines that do not require a control device to comply with the emission limits in Table 2 of this subpart, you must:

(1) Demonstrate initial compliance by:

(i) Conducting emission tests using the methods specified in Table 3 of this subpart,

(ii) Using the results of a previously-conducted emission test as specified in paragraph (d) of this section; or

(iii) Using process knowledge and engineering calculations as specified in paragraph (e) of this section.

(2) Establish the value or range of values of the operating parameters specified in Table 4 of this subpart:

(i) Using the operating parameter data recorded during the compliance emission tests;

(ii) Using the operating parameter data recorded during a previously-conducted emission test; or

(iii) Using process knowledge and engineering calculations as specified in paragraph (f) of this section.

(d) If you are using a previously-conducted emission test to demonstrate compliance with the emission limitations in this subpart for existing sources, as specified in paragraphs (a)(1)(ii), (b)(1)(ii), or (c)(1)(ii) of this section, the following conditions must be met:

(1) The emission test was conducted within the last 5 years;

(2) No changes have been made to the process since the time of the emission test;

(3) The operating conditions and test methods used for the previous test conform to the requirements of this subpart; and

(4) The data used to establish the value or range of values of the operating parameters, as specified in paragraphs (a)(2)(ii), (b)(2)(ii), or (c)(2)(ii) of this section, were recorded during the emission test.

(e) If you are using process knowledge and engineering calculations to demonstrate initial compliance as specified in paragraph (c)(1)(iii) of this section, you must prepare written documentation that contains the data and any assumptions used to calculate the process emission rate that demonstrate compliance with the emission limits specified in Table 2 of this subpart.

(f) If you are using process knowledge and engineering calculations to establish the value or range of values of operating parameters as specified in paragraph (c)(2)(iii) of this section, you must prepare written documentation that contains the data and any assumptions used to show that the process parameters and corresponding parameter values correlate to the process emissions.

(g) For existing sources, you must demonstrate initial compliance no later than 180 calendar days after December 2, 2010.

(h) For new sources, you must demonstrate initial compliance no later than 180 calendar days after December 2, 2009 or within 180 calendar days after startup of the source, whichever is later.

(i) For emission tests conducted to demonstrate initial compliance with the emission limits specified in Tables 1 and 2 of this subpart, you must follow the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) You must conduct the tests while manufacturing the product that generates the greatest PAH and PM emissions to the control device inlet, or exiting the process if you are not using a control device to comply with the emissions limits specified in Tables 1 and 2 of this subpart.

(2) You must conduct a minimum of three separate test runs for each compliance test specified in paragraphs (a)(1)(i), (b)(1)(i), and (c)(1)(i) of this section according to the requirements specified in § 63.7(e)(3). The sampling time and sample volume of each test run must be as follows:

(i) For asphalt processing operations, the sampling time and sample volume for each test run must be at least 90 minutes or the duration of the coating blow or non-coating blow, whichever is greater, and 2.25 dscm (79.4 dscf).

(ii) For asphalt coating operations, the sampling time and sample volume for each test run must be at least 120 minutes and 3.00 dscm (106 dscf).

(3) For asphalt processing operations, you must use the following equations to calculate the asphalt charging rate (P).

(i) $P = (Vd)/(K' \Theta)$

Where:

P = asphalt charging rate to blowing still, Mg/hr (ton/hr).
V = volume of asphalt charged, m^3 (ft^3).
d = density of asphalt, kg/m^3 (lb/ft^3).
K′ = conversion factor, 1000 kg/Mg (2000 lb/ton).
Θ = duration of test run, hr.

(ii) $d = K_1 - K_2 T_i$

Where:

d = Density of the asphalt, kg/m^3 (lb/ft^3)
$d = K_1 - K_2 T_i$
K_1 = 1056.1 kg/m^3 (metric units)
= 66.6147 lb/ft^3 (English Units)
K_2 = 0.6176 kg/(m^3 °C) (metric units)
= 0.02149 lb/(ft^3 °F) (English Units)
T_i = temperature at the start of the blow, °C (°F)

(4) You must use the following equation to demonstrate compliance with the emission limits specified in Table 2 of this subpart:

$E = [(C)*(Q)/(P)*(K)]$

Where:

E = emission rate of particulate matter, kg/Mg (lb/ton).
C = concentration of particulate matter, g/dscm (gr/dscf).
Q = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).
P = the average asphalt roofing production rate or asphalt charging rate over the duration of the test, Mg/hr (ton/hr).
K = conversion factor, 1000 g/kg [7000 (gr/lb)].

§ 63.11563 What are my Monitoring Requirements?

(a) You must maintain the operating parameters established under § 63.11562(a)(2), (b)(2), (b)(3), and (c)(2) as specified in Table 4 of this subpart.

(b) If you are using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must develop and make available for inspection by the delegated authority, upon request, a site-specific monitoring plan for each monitoring system that addresses the following:

(1) Installation of the CPMS probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device);

(2) Performance and equipment specifications for the probe or interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system; and

(3) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(i) In your site-specific monitoring plan, you must also address the following:

(A) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);

(B) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(C) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(c) If you are using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must install, operate, and maintain a continuous parameter monitoring system (CPMS) as specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period.

(2) To determine the 3-hour average, you must:

(i) Have a minimum of four successive cycles of operation to have a valid hour of data.

(ii) Have valid data from at least three of four equally spaced data values for that hour from a CPMS that is not out-of-control according to your site-specific monitoring plan.

(iii) Determine the 3-hour average of all recorded readings for each operating day, except as stated in paragraph (g) of this section. You must have at least two of the three hourly averages for that period using only hourly average values that are based on valid data (*i.e.,* not from out-of-control periods).

(3) You must record the results of each inspection, calibration, and validation check of the CPMS.

(d) For each temperature monitoring device, you must meet the CPMS requirements in paragraphs (c)(1) through (c)(3) of this section and the following requirements:

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) For a noncryogenic temperature range, use a temperature sensor with a minimum measurement sensitivity of 2.8 °C or 1.0 percent of the temperature value, whichever is larger.

(3) If a chart recorder is used, the recorder sensitivity in the minor division must be at least 20 °F.

(4) Perform an accuracy check at least semiannually or following an operating parameter deviation:

(i) According to the procedures in the manufacturer's documentation; or

(ii) By comparing the sensor output to redundant sensor output; or

(iii) By comparing the sensor output to the output from a calibrated temperature measurement device; or

(iv) By comparing the sensor output to the output from a temperature simulator.

(5) Conduct accuracy checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(6) At least quarterly or following an operating parameter deviation, perform visual inspections of components if redundant sensors are not used.

(e) For each pressure measurement device, you must meet the CPMS requirements of paragraphs (e)(1) through (e)(6) of this section and the following requirements:

(1) Locate the pressure sensor(s) in, or as close as possible, to a position that provides a representative measurement of the pressure.

(2) Use a gauge with a minimum measurement sensitivity of 0.12 kiloPascals or a transducer with a minimum measurement sensitivity of 5 percent of the pressure range.

(3) Check pressure tap for blockage daily. Perform an accuracy check at least quarterly or following an operating parameter deviation:

(i) According to the manufacturer's procedures; or

(ii) By comparing the sensor output to redundant sensor output.

(4) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(5) At least monthly or following an operating parameter deviation, perform a leak check of all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(6) At least quarterly or following an operating parameter deviation, perform visible inspections on all components if redundant sensors are not used.

(f) For each electrostatic precipitator (ESP) used to control emissions, you must install and operate a CPMS that meets the requirements of paragraphs (c)(1) through (c)(3) of this section to provide representative measurements of the voltage supplied to the ESP.

(j) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(k) You must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

(l) If you are not using a control device to comply with the emission limits specified in Tables 1 and 2 of this subpart, you must develop and make available for inspection by the delegated authority, upon request, a site-specific monitoring plan. The plan must specify the process parameters established during the initial compliance assessment and how they are being monitored and maintained to demonstrate continuous compliance.

(m) If you would like to use parameters or means other than those specified in Table 4 of this subpart to demonstrate continuous compliance with the emission limits specified in Tables 1 and 2 of this subpart, you must apply to the Administrator for approval of an alternative monitoring plan under § 63.8(f). The plan must specify how process parameters established during the initial compliance assessment will be monitored and maintained to demonstrate continuous compliance.

(n) At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§ 63.11564 What are my Notification, Recordkeeping, and Reporting Requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (a)(6) of this section.

(1) You must submit all of the notifications in §§ 63.5(b), 63.7(b); 63.8(e) and (f); 63.9(b) through (e); and 63.9(g) and (h) that apply to you by the dates specified in those sections.

(2) As specified in § 63.9(b)(2), if you have an existing affected source, you must submit an Initial Notification not later than 120 calendar days after December 2, 2009.

(3) As specified in § 63.9(b)(4) and (5), if you have a new affected source, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(4) You must submit a notification of intent to conduct a compliance test at least 60 calendar days before the compliance test is scheduled to begin, as required in § 63.7(b)(1).

(5) You must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). You must submit the Notification of Compliance Status, including the compliance test results, before the close of business on the 60th calendar day following the completion of the compliance test according to § 63.10(d)(2).

(6) If you are using data from a previously-conducted emission test to serve as documentation of compliance with the emission standards and

operating limits of this subpart, you must submit the test data in lieu of the initial compliance test results with the Notification of Compliance Status required under paragraph (a)(5) of this section.

(b) You must submit a compliance report as specified in paragraphs (b)(1) through (b)(4) of this section.

(1) If you are using a control device to comply with the emission limits, the compliance report must identify the controlled units (*e.g.,* blowing stills, saturators, coating mixers, coaters). If you are not using a control device to comply with the emission limits, the compliance report must identify the site-specific process operating parameters monitored to determine compliance with the emission limits.

(2) During periods for which there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, the compliance report must contain the information specified in paragraphs (b)(2)(i) through (b)(2)(v) of this section.

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) A statement that there were no deviations from the emission limitations during the reporting period.

(v) If there were no periods during which the CPMS was out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(3) For each deviation from an emission limitation (emission limit and operating limit), you must include the information in paragraphs (b)(3)(i) through (b)(3)(xii) of this section.

(i) The date and time that each deviation started and stopped.

(ii) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time and duration that each CPMS was out-of-control, including the information in § 63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CPMS downtime during the reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that reporting period.

(viii) An identification of each air pollutant that was monitored at the affected source.

(ix) A brief description of the process units.

(x) A brief description of the CPMS.

(xi) The date of the latest CPMS certification or audit.

(xii) A description of any changes in CPMS or controls since the last reporting period.

(4) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report specified in paragraph (b) of this section according to the following dates:

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.11560 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.11560.

(ii) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.11560.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(c) You must maintain the records specified in paragraphs (c)(1) through (c)(10) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Copies of emission tests used to demonstrate compliance and performance evaluations as required in § 63.10(b)(2)(viii).

(3) Documentation that shows that the following conditions are true if you use a previously-conducted emission test to demonstrate initial compliance as specified in § 63.11562(a)(1)(ii), (b)(1)(ii), and (c)(1)(ii):

(i) The test was conducted within the last 5 years;

(ii) No changes have been made to the process since the time of the emission test;

(iii) The operating conditions and test methods used for the previous test conform to the requirements of this subpart; and

(iv) The data used to establish the value or range of values of the operating parameters, as specified in § 63.11562(a)(2)(ii), (b)(2)(ii), or (c)(2)(ii), were recorded during the emission test.

(4) Documentation that identifies the operating parameters and values specified in Table 4 of this subpart and that contains the data used to establish the parameter values as specified in § 63.11562(a)(2), (b)(2), (b)(3), or (c)(2).

(5) Copies of the written manufacturers performance specifications used to establish operating parameter values as specified in § 63.11562(b)(3)(iii).

(6) Documentation of the process knowledge and engineering calculations used to demonstrate initial compliance as specified in § 63.11562(e).

(7) Documentation of the process knowledge and engineering calculations used to establish the value or range of values of operating parameters as specified in § 63.11562(f).

(8) A copy of the site-specific monitoring plan required under § 63.11563(b) or (l).

(9) A copy of the approved alternative monitoring plan required under § 63.11563(m), if applicable.

(10) Records of the operating parameter values required in Table 4 of this subpart to show continuous compliance with each operating limit that applies to you.

Other Requirements and Information

§ 63.11565 What General Provisions Sections Apply to this Subpart?

You must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 5 of this subpart.

§ 63.11566 What Definitions Apply to this Subpart?

Asphalt coating equipment means the saturators, coating mixers, and coaters used to apply asphalt to substrate to manufacture roofing products (*e.g.,* shingles, roll roofing).

Asphalt flux means the organic residual material from distillation of crude oil that is generally used in asphalt roofing manufacturing and paving and non-paving asphalt products.

Asphalt processing operation means any operation engaged in the preparation of asphalt flux at stand-alone asphalt processing facilities, petroleum refineries, and asphalt roofing facilities. Asphalt preparation, called ''blowing,'' is the oxidation of asphalt flux, achieved by bubbling air through the heated asphalt, to raise the softening point and to reduce penetration of the oxidized asphalt. An asphalt processing facility includes one or more asphalt flux blowing stills.

Asphalt roofing manufacturing operation means the collection of equipment used to manufacture asphalt roofing products through a series of sequential process steps. The equipment configuration of an asphalt roofing manufacturing process varies depending upon the type of substrate used (*i.e.,* organic or inorganic). For example, an asphalt roofing manufacturing line that uses organic substrate (*e.g.,* felt) typically would consist of a saturator (and wet looper), coating mixer, and coater (although the saturator could be bypassed if the line manufacturers multiple types of products). An asphalt roofing manufacturing line that uses inorganic (fiberglass mat) substrate typically would consist of a coating mixer and coater.

Blowing still means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate of the asphalt flux, creating oxidized asphalt.

Built-up roofing operations means operations involved in the on-site (*e.g.,* at a commercial building) assembly of roofing system components (*e.g.,* asphalt, substrate, surface granules).

Coater means the equipment used to apply amended (filled or modified) asphalt to the top and bottom of the substrate (typically fiberglass mat) used to manufacture shingles and rolled roofing products.

Coating mixer means the equipment used to mix coating asphalt and a mineral stabilizer, prior to applying the stabilized coating asphalt to the substrate.

Hot-mix asphalt operation means operations involved in mixing asphalt cement and aggregates to produce materials for paving roadways and hardstand (*e.g.,* vehicle parking lots, prepared surfaces for materiel storage).

Particulate matter (PM) means, for the purposes of this subpart, includes any material determined gravimetrically using EPA Method 5A—Determination of Particulate Matter Emissions From the Asphalt Processing And Asphalt Roofing Industry (40 CFR Part 60, Appendix A–3).

Responsible official is defined in § 63.2.

Saturator means the equipment used to impregnate a substrate (predominantly organic felt) with asphalt. Saturators are predominantly used for the manufacture of rolled-roofing products (*e.g.,* saturated felt). For the purposes of this subpart, the term saturator includes impregnation vat and wet looper.

Wet looper means the series of rollers typically following the saturator used to provide additional absorption time for asphalt to penetrate the roofing substrate.

§ 63.11567 Who Implements and Enforces this Subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under 40 CFR part 63, subpart E, the following authorities are retained by the Administrator of U.S. EPA:

(1) Approval of alternatives to the requirements in §§ 63.11559, 63.11560, 63.11561, 63.11562, and 63.11563.

(2) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major changes to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

Tables

TABLE 1 OF SUBPART AAAAAAA OF PART 63—EMISSION LIMITS FOR ASPHALT PROCESSING (REFINING) OPERATIONS

For * * *	You must meet the following emission limits * * *
1. Blowing stills	a. Limit PAH emissions to 0.003 lb/ton of asphalt charged to the blowing stills; or b. Limit PM emissions to 1.2 lb/ton of asphalt charged to the blowing stills.

TABLE 2 OF SUBPART AAAAAAA OF PART 63—EMISSION LIMITS FOR ASPHALT ROOFING MANUFACTURING (COATING) OPERATIONS

For * * *	
1. Coater-only production lines	a. Limit PAH emissions to 0.0002 lb/ton of asphalt roofing product manufactured; or b. Limit PM emissions to 0.06 lb/ton of asphalt roofing product manufactured.
2. Saturator-only production lines	a. Limit PAH emissions to 0.0007 lb/ton of asphalt roofing product manufactured; or b. Limit PM emissions to 0.30 lb/ton of asphalt roofing product manufactured.
3. Combined saturator/coater production lines	a. Limit PAH emissions to 0.0009 lb/ton of asphalt roofing product manufactured; or b. Limit PM emissions to 0.36 lb/ton of asphalt roofing product manufactured.

TABLE 3 OF SUBPART AAAAAAA OF PART 63—TEST METHODS

For * * *	You must use * * *
1. Selecting the sampling locations [a] and the number of traverse points.	EPA test method 1 or 1A in appendix A to part 60.
2. Determining the velocity and volumetric flow rate.	EPA test method 2, 2A, 2C, 2D, 2F, or 2G, as appropriate, in appendix A to part 60.
3. Determining the gas molecular weight used for flow rate determination.	EPA test method 3, 3A, 3B, as appropriate, in appendix A to part 60.
4. Measuring the moisture content of the stack gas.	EPA test method 4 in appendix A to part 60.
5. Measuring the PM emissions	EPA test method 5A in appendix A to part 60.
6. Measuring the PAH emissions	EPA test method 23 [b] with analysis by SW–846 Method 8270D.

[a] The sampling locations must be located at the outlet of the process equipment (or control device, if applicable), prior to any releases to the atmosphere.

[b] When using EPA Method 23, the toluene extraction step specified in section 3.1.2.1 of the method should be omitted.

TABLE 4 OF SUBPART AAAAAAA OF PART 63—OPERATING LIMITS

If you comply with the emission limits using * * *	You must establish an operating value for * * *	And maintain [a] * * *
1. A thermal oxidizer	Combustion zone temperature	The 3-hour average combustion zone temperature at or above the operating value established as specified in § 63.11562(a)(2) and (b)(2).
2. A high-efficiency air filter or fiber bed filter.	a. Inlet gas temperature [b], and	The 3-hour average inlet gas temperature within the operating range established as specified in § 63.11562(a)(2) and (b)(3).
	b. Pressure drop across device [b]	The 3-hour average pressure drop across the device within the approved operating range established as specified in § 63.11562(a)(2) and (b)(3).
3. An electrostatic precipitator (ESP).	Voltage [c] to the ESP	The 3-hour average ESP voltage [c] at or above the approved operating value established as specified in § 63.11562(a)(2) and (b)(3).
4. Process modifications (*i.e.*, a control device is not required).	Appropriate process monitoring parameters.[d]	The monitoring parameters within the operating values established as specified in § 63.11562(c)(2).

[a] The 3-hour averaging period applies at all times other than startup and shutdown, as defined in § 63.2. Within 24 hours of a startup event, or 24 hours prior to a shutdown event, you must normalize the emissions that occur during the startup or shutdown, when there is no production rate available to assess compliance with the lb/ton of product emission limits, with emissions that occur when the process is operational. The emissions that occur during the startup or shutdown event must be included with the process emissions when assessing compliance with the emission limits specified in Tables 1 and 2 of this subpart.

[b] As an alternative to monitoring the inlet gas temperature and pressure drop, you can use a leak detection system that identifies when the filter media has been comprised.

[c] As an alternative to monitoring the ESP voltage, you can monitor the ESP instrumentation (*e.g.* light, alarm) that indicates when the ESP must be cleaned and maintain a record of the instrumentation on an hourly basis. Failure to service the ESP within one hour of the indication is an exceedance of the applicable monitoring requirements specified in § 63.11563(a).

[d] If you are not using a control device to comply with the emission limits specified in Table 2 of this subpart, the process parameters and corresponding parameter values that you select to demonstrate continuous compliance must correlate to the process emissions.

TABLE 5 OF SUBPART AAAAAAA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAAAA

Citation	Subject	Applies to subpart AAAAAAA
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes.
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities	Yes.
§ 63.5	Construction/Reconstruction	Yes.
§ 63.6(a)–(d)	Compliance With Standards and Maintenance Requirements	Yes.
§ 63.6(e)(1)(i)	Operation and Maintenance Requirements	No.
§ 63.6(e)(1)(ii)	Operation and Maintenance Requirements	No.
§ 63.6(e)(1)(iii)	Operation and Maintenance Requirements	Yes.
§ 63.6(e)(2)	[Reserved]	
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§ 63.6(f)(1)	Compliance with Nonopacity Emission Standards	No. The emission limits apply at all times.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance and Finding of Compliance	Yes.
§ 63.6(h)	Opacity/Visible Emission (VE) Standards	No. Subpart AAAAAAA does not contain opacity or VE standards.
§ 63.6(i)	Compliance Extension	Yes.
§ 63.6(j)	Presidential Compliance Exemption	Yes.
§ 63.7(a)–(d)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Performance Testing Requirements	No. Subpart AAAAAAA specifies the conditions under which performance tests must be conducted.
§ 63.7(e)(2)–(4)	Conduct of Performance Tests and Data Reduction	Yes.

TABLE 5 OF SUBPART AAAAAAA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAAAA—Continued

Citation	Subject	Applies to subpart AAAAAAA
§ 63.7(f)–(h)	Use of Alternative Test Method; Data Analysis, Recordkeeping, and Reporting; and Waiver of Performance Tests.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Yes.
§ 63.8(a)(2)	Performance Specifications	No. Subpart AAAAAAA does not allow CEMS.
§ 63.8(a)(3)	[Reserved]	
§ 63.8(a)(4)	Monitoring with Flares	Yes.
§ 63.8(b)(1)	Conduct of Monitoring	Yes.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance	Yes.
§ 63.8(c)(1)(i)	CMS maintenance	Yes.
§ 63.8(c)(1)(ii)	Spare Parts for CMS Malfunction	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§ 63.8(c)(2)–(3)	Monitoring System Installation	Yes.
§ 63.8(c)(4)	CMS Requirements	No; § 63.11563 specifies the CMS requirements.
§ 63.8(c)(5)	COMS Minimum Procedures	No. Subpart AAAAAAA does not contain opacity or VE standards.
§ 63.8(c)(6)	CMS Requirements	No; § 63.11563 specifies the CMS requirements.
§ 63.8(c)(7)–(8)	CMS Requirements	Yes.
§ 63.8(d)	CMS Quality Control	No; § 63.11563 specifies the CMS requirements.
§ 63.8(e)–(f)	CMS Performance Evaluation	Yes.
§ 63.8(g)(1)–(4)	Data Reduction Requirements	Yes.
§ 63.8(g)(5)	Data to Exclude from Averaging	No. All monitoring data must be included when calculating averages.
§ 63.9	Notification Requirements	Yes.
§ 63.10(a)	Recordkeeping and Reporting Requirements—Applicability	Yes.
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes.
§ 63.10(b)(2)(i)–(iii)	General Recordkeeping Requirements	Yes.
§ 63.10(b)(2)(iv)–(v)	Records of Actions Taken During Startup, Shutdown, and Malfunction Plans.	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§ 63.10(b)(2)(vi)–(xiv)	General Recordkeeping Requirements	Yes.
§ 63.10(c)(1)–(14)	Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems.	Yes.
§ 63.10(c)(15)	Additional Recordkeeping Requirements for Sources with Continuous Monitoring Systems.	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§ 63.10(d)(1)–(4)	General Reporting Requirements	Yes.
§ 63.10(d)(5)	Periodic Startup, Shutdown, and Malfunction Reports	No. Subpart AAAAAAA does not require startup, shutdown, and malfunction plans.
§ 63.10(e)	Additional Reporting Requirements for Sources with Continuous Monitoring Systems.	Yes.
§ 63.10(f)	Waiver of Recordkeeping or Reporting Requirements	Yes.
§ 63.11	Control Device and Work Practice Requirements	Yes.
§ 63.12	State Authority and Delegations	Yes.
§ 63.13	Addresses of State Air Pollution Control Agencies and EPA Regional Offices.	Yes.
§ 63.14	Incorporations by Reference	Yes.
§ 63.15	Availability of Information and Confidentiality	Yes.
§ 63.16	Performance Track Provisions	No.

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We will publish an appropriate amendment to 39 CFR Part 111 to reflect these changes.

Stanley F. Mires,

Chief Counsel, Legislative.

[FR Doc. 2010–5738 Filed 3–17–10; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2009–0027; FRL–9128–1]

RIN 2060–AO94

National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing; Technical Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; technical correction.

SUMMARY: On December 2, 2009, EPA promulgated national emissions standards for the control of emissions of Hazardous Air Pollutants (HAP) from the asphalt processing and asphalt roofing manufacturing area source category (74 FR 63236). Following signature of this final rule, EPA discovered three inadvertent typographical errors in the numbering of paragraphs and is correcting those errors in this action.

DATES: This correction is effective on April 19, 2010.

FOR FURTHER INFORMATION CONTACT: Warren Johnson at (919) 541–5124.

SUPPLEMENTARY INFORMATION:

I. Summary of Amendments

We promulgated national emissions standards for the control of emissions of HAP from the asphalt processing and asphalt roofing manufacturing area source category on December 2, 2009 (40 CFR part 63, subpart AAAAAAA). Following signature of the final asphalt processing and asphalt roofing manufacturing area source standards in subpart AAAAAAA, we discovered three inadvertent typographical errors in the lettering of paragraphs in section 63.11563, entitled, "What are my Monitoring Requirements?" We are correcting those errors in this action. Also, in section 63.11564, entitled, "What are my Notification, Recordkeeping, and Reporting Requirements?" we are amending cross references to the paragraphs we are correcting in section 63.11563 to satisfy these cross references. A red line version of the corrected rule language is available in docket EPA–HQ–OAR–2009–0027. Table 1 of this preamble describes the five technical corrections to 40 CFR part 63, subpart AAAAAAA.

TABLE 1—TECHNICAL CORRECTIONS TO 40 CFR PART 63, SUBPART AAAAAAA, SECTIONS 63.11563 AND 63.11564

Technical correction	Reason
In section 63.11563, replace paragraph letter "(l)" with paragraph letter "(g)".	To have this paragraph follow paragraph 63.11563(f) in proper sequence, and to satisfy the cross reference in section 63.11563(c)(2)(iii).
In section 63.11563, replace paragraph letter "(m)" with paragraph letter "(h)".	To have this paragraph follow corrected paragraph (g) in proper sequence.
In section 63.11563, replace paragraph letter "(n)" with paragraph letter "(i)".	To have this paragraph follow corrected paragraph (h) in proper sequence.
In section 63.11564(c)(8), replace cross reference to section "63.11563(b) or (l)" with "63.11563(b) or (g)".	To satisfy the cross reference in section 63.11564(c)(8).
In section 63.11564(c)(9), replace cross reference to section "63.11563(m)" with "63.11563(h)".	To satisfy the cross reference in section 63.11564(c)(9).

Section 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553(b)(3)(B), provides that, when an Agency for good cause finds that notice and public procedure are impracticable, unnecessary, or contrary to the public interest, the Agency may issue a rule without providing notice and an opportunity for public comment. We have determined that there is good cause for making this technical correction final without prior proposal and opportunity for comment because only simple typographical errors are being corrected that do not substantially change the Agency actions taken in the final rule. Thus, notice and public procedure are unnecessary. We find that this constitutes good cause under 5 U.S.C. 553(b)(3)(B). (See also the final sentence of section 307(d)(1) of the Clean Air Act (CAA), 42 U.S.C. 307(d)(1), indicating that the good cause provisions in subsection 553(b) of the APA continue to apply to this type of rulemaking under section 307(d) of the CAA.)

II. Statutory and Executive Order Reviews

Under Executive Order 12866, Regulatory Planning and Review (58 F.R. 51735, October 4, 1993), this action is not a "significant regulatory action" and is therefore not subject to review by the Office of Management and Budget. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The technical corrections do not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

Because EPA has made a "good cause" finding that this action is not subject to notice and comment requirements under the APA or any other statute (see Section I of this preamble), it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act [5 U.S.C. 601 *et seq.*], or to sections 202 and 205 of the Unfunded Mandates Reform Act of 1995 (UMRA) [Pub. L. 104–4]. In addition, this action does not significantly or uniquely affect small governments or impose a significant intergovernmental mandate, as described in sections 203 and 204 of the UMRA.

This technical correction does not have substantial direct effects on the States, or on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of Government, as specified in Executive Order 13132, Federalism (64 FR 43255, August 10, 1999).

This action does not significantly or uniquely affect the communities of tribal governments, as specified by Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249, November 9, 2000). This correction also is not subject to Executive Order 13045, Protection of Children from Environmental Health and Safety Risks (62 FR 19885, April 23, 1997) because it is not economically significant.

This technical correction is not subject to Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use (66 FR 28355, May 22, 2001) because this action is not a significant regulatory action under Executive Order 12866.

This technical correction does not involve changes to the technical standards related to test methods or monitoring requirements; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) do not apply.

This technical correction also does not involve special consideration of environmental justice-related issues as required by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629, February 16, 1994).

The Congressional Review Act (CRA), 5 U.S.C. 801 *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), generally provides that before a rule may take effect, the Agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the U.S. Section 808 allows the issuing Agency to make a rule effective sooner than otherwise provided by the CRA if the Agency makes a good cause finding that notice and public procedure is impracticable, unnecessary, or contrary to the public interest. This determination must be supported by a brief statement. 5 U.S.C. 808(2). As stated previously, we have determined that there is good cause for making this technical correction final without prior proposal and opportunity for comment because only simple typographical errors are being corrected that do not substantially change the Agency actions taken in the final rule. Thus, notice and public procedure are unnecessary. EPA has therefore established an effective date of April 19, 2010. The EPA will submit a report containing this final action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the U.S. prior to publication of this action in the **Federal Register.** This action is not a "major rule" as defined by 5 U.S.C. 804(2). The final rule will be effective April 19, 2010.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: March 11, 2010.

Gina McCarthy,

Assistant Administrator, Office of Air and Radiation.

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart AAAAAAA-—[Amended]

§ 63.11563 [Amended]

■ 2. Section 63.11563 is amended by redesignating paragraphs (l), (m) and (n) to become paragraphs (g), (h), and (i), respectively.

■ 3. Section 63.11564 is amended by revising paragraphs (c)(8) and (c)(9) to read as follows:

§ 63.11564 What are my notification, recordkeeping, and reporting requirements?

* * * * *

(c) * * *

(8) A copy of the site-specific monitoring plan required under § 63.11563(b) or (g).

(9) A copy of the approved alternative monitoring plan required under § 63.11563(h), if applicable.

* * * * *

[FR Doc. 2010–5964 Filed 3–17–10; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 262, 263, 264, 265, 266, 268 and 270

[EPA–RCRA–2008–0678; FRL–9127–9]

RIN 2050–AG52

Hazardous Waste Technical Corrections and Clarifications Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: The Environmental Protection Agency (EPA or the Agency) is taking Direct Final action on a number of technical changes that correct or clarify several parts of the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations that relate to hazardous waste identification, manifesting, the hazardous waste generator requirements, standards for owners and operators of hazardous waste treatment, storage and disposal facilities, standards for the management of specific types of hazardous waste and specific types of hazardous waste management facilities, the land disposal restrictions program, and the hazardous waste permit program. These changes correct existing errors in the hazardous waste regulations that have occurred over time in numerous final rules published in the **Federal Register**, such as typographical errors, incorrect or outdated citations, and omissions. Some of the corrections are necessary to make conforming changes to all appropriate parts of the RCRA hazardous waste regulations for new rules that have since been promulgated. In addition, these changes clarify existing parts of the hazardous waste regulatory program and update references to Department of Transportation (DOT) regulations that have changed since the publication of various RCRA hazardous waste final rules.

DATES: This Direct Final Rule is effective on June 16, 2010 without further notice unless EPA receives adverse comments by May 3, 2010. If adverse comment is received, EPA will publish a timely withdrawal of the Direct Final rule in the **Federal Register** informing the public that the rule will not take effect.

ADDRESSES: Submit your comments, identified by Docket ID No. No. EPA–HQ–RCRA–2008–0678 by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: rcra-docket@epa.gov* and *oleary.jim@epa.gov.* Attention Docket ID No. EPA–HQ–RCRA–2008–0678.
- *Fax:* (202) 566–9744. Attention Docket ID No. EPA–HQ–RCRA–2008–0678.
- *Mail:* RCRA Docket (2822T), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. Attention Docket ID No. EPA–HQ–RCRA–2008–0678. Please include a total of 2 copies.
- *Hand Delivery:* EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–RCRA–2008–0678. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://*

This action is not a ‘‘major rule’’ as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 24, 2015. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purpose of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Reporting and recordkeeping requirements.

Dated: June 11, 2015.

Ron Curry,

Regional Administrator, Region 6.

40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart GG—New Mexico

■ 2. The second table in § 52.1620(e) entitled ‘‘EPA Approved Nonregulatory Provisions and Quasi-Regulatory Measures in the New Mexico SIP’’ is amended by revising the entry for ‘‘Infrastructure for 2006 PM$_{2.5}$ NAAQS’’ and adding new entries at the end for ‘‘Infrastructure for the 2008 Ozone NAAQS’’ and ‘‘Infrastructure for the 2010 NO$_2$ NAAQS’’.

The revision and additions reads as follows:

§ 52.1620 Identification of plan.

* * * * *

(e) * * *

EPA APPROVED NONREGULATORY PROVISIONS AND QUASI-REGULATORY MEASURES IN THE NEW MEXICO SIP

Name of SIP provision	Applicable geographic or nonattainment area	State submittal/ effective date	EPA approval date	Explanation
*	*	*	* *	* *
Infrastructure for 2006 PM$_{2.5}$ NAAQS.	Statewide, except for Bernalillo County and Indian country.	6/12/2009	1/22/2013, (78 FR 4337)	Additional approvals on 7/9/2013, 78 FR 40966 (110(a)(2)(D)(i)(I)) and 6/24/2015, [Insert **Federal Register** citation] (110(a)(2)(D)(i)(II), visibility portion).
*	*	*	* *	* *
Infrastructure for the 2008 Ozone NAAQS.	Statewide, except for Bernalillo County and Indian country.	8/27/2013	6/24/2015 [Insert **Federal Register** citation].	
Infrastructure for the 2010 NO$_2$ NAAQS.	Statewide, except for Bernalillo County and Indian country.	3/12/2014	6/24/2015 [Insert **Federal Register** citation].	

[FR Doc. 2015–15322 Filed 6–23–15; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

National Emission Standards for Hazardous Air Pollutants for Source Categories

CFR Correction

In Title 40 of the Code of Federal Regulations, Part 63 (§ 63.8980 to end of part 63), revised as of July 1, 2014, on page 244, in § 63.10686, paragraph (e) is reinstated to read as follows:

§ 63.10686 What are the requirements for electric arc furnaces and argon-oxygen decarburization vessels?

* * * * *

(e) You must monitor the capture system and PM control device required by this subpart, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR part 64. The exemption in 40 CFR 64.2(b)(1)(i) for emissions limitations or standards proposed after November 15, 1990 under section 111 or 112 of the CAA does not apply. In lieu of the deadlines for submittal in 40 CFR 64.5, you must submit the monitoring information required by 40 CFR 64.4 to the applicable permitting authority for approval by no later than the compliance date for your affected source for this subpart and operate according to the approved plan by no later than 180 days after the date of approval by the permitting authority.

[FR Doc. 2015–15481 Filed 6–23–15; 8:45 am]

BILLING CODE 1505–01–D

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 81

Designation of Areas for Air Quality Planning Purposes

CFR Correction

In Title 40 of the Code of Federal Regulations, Parts 81 to 84, revised as of July 1, 2014, on page 150, in § 81.305, in the table entitled ‘‘California—NO$_2$ (2010 1-Hour Standard)’’, for the entry ‘‘Sacramento County’’, the date in the second column is removed and the entry in the third column is corrected to read ‘‘Unclassifiable/Attainment’’.

[FR Doc. 2015–15482 Filed 6–23–15; 8:45 am]

BILLING CODE 1501–05–D

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Part II

Environmental Protection Agency

40 CFR Part 63
National Emissions Standards for Hazardous Air Pollutants: Ferroalloys Production; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2010–0895; FRL–9928–66–OAR]

RIN 2060–AQ11

National Emissions Standards for Hazardous Air Pollutants: Ferroalloys Production

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review (RTR) conducted for the Ferroalloys Production source category regulated under national emission standards for hazardous air pollutants (NESHAP). These final amendments include revisions to particulate matter (PM) standards for electric arc furnaces, metal oxygen refining processes, and crushing and screening operations, and expand and revise the requirements to control process fugitive emissions from furnace operations, tapping, casting, and other processes. We are also finalizing opacity limits, as proposed in 2014. However, regarding opacity monitoring, in lieu of Method 9, we are requiring monitoring with the digital camera opacity technique (DCOT). Furthermore, we are finalizing emissions standards for four previously unregulated hazardous air pollutants (HAP): Formaldehyde, hydrogen chloride (HCl), mercury (Hg) and polycyclic aromatic hydrocarbons (PAH). Other requirements related to testing, monitoring, notification, recordkeeping, and reporting are included. This rule is health protective due to the revised emissions limits for the stacks and the requirement of enhanced fugitive emissions controls that will achieve significant reductions of process fugitive emissions, especially manganese.

DATES: This final action is effective on June 30, 2015. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of June 30, 2015.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0895. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Phil Mulrine, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–5289; fax number: (919) 541–3207; and email address: *mulrine.phil@epa.gov*. For specific information regarding the risk modeling methodology, contact Darcie Smith, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–2076; fax number: (919) 541–0840; and email address: *smith.darcie@epa.gov*. For information about the applicability of the NESHAP to a particular entity, contact Cary Secrest, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564–8661; and email address: *secrest.cary@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviation

We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ATSDR	Agency for Toxic Substances and Disease Registry
BLDS	bag leak detection system
BTF	Beyond-the-Floor
CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
EJ	environmental justice
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines
ERT	Electronic Reporting Tool
FeMn	Ferromanganese
FR	Federal Register
HAP	hazardous air pollutants
HCl	hydrochloric acid
HI	Hazard Index
HQ	Hazard Quotient
ICR	Information Collection Request
IRIS	Integrated Risk Information System
km	kilometer
MACT	maximum achievable control technology
mg/dscm	milligrams per dry standard cubic meter
mg/m^3	milligrams per cubic meter
MIR	maximum individual risk
MOR	metal oxygen refining
MRL	Minimal Risk Level
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OECA	Office of Enforcement and Compliance Assurance
OMB	Office of Management and Budget
PAH	polycyclic aromatic hydrocarbons
PB–HAP	hazardous air pollutants known to be persistent and bio-accumulative in the environment
PM	particulate matter
POM	polycyclic organic matter
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RTR	residual risk and technology review
SAB	Science Advisory Board
SBA	Small Business Administration
SiMn	Silicomanganese
SSM	startup, shutdown, and malfunction
TOSHI	target organ-specific hazard index
TPY	tons per year
TRIM.FaTE	Total Risk Integrated Methodology.Fate, Transport, and Ecological Exposure model
TTN	Technology Transfer Network
µg/dscm	micrograms per dry standard cubic meter
µg/m^3	micrograms per cubic meter
UMRA	Unfunded Mandates Reform Act
UPL	Upper Prediction Limit
VCS	voluntary consensus standards

Background Information

On November 23, 2011, and October 6, 2014, the EPA proposed revisions to the Ferroalloys Production NESHAP based on our RTR. In this action, we are finalizing decisions and revisions for the NESHAP. We summarize some of the more significant comments we timely received regarding the proposed rule and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments are available in document titled: *National Emission Standards for Hazardous Air Pollutant Emissions: Ferroalloys Production Summary of Public*

Comments and the EPA's Responses on Proposed Rule (76 FR 72508, November 23, 2011) and Supplemental Proposal (79 FR 60238, October 6, 2014), Docket ID No. EPA–HQ–OAR–2010–0895, which is available in the docket. A ''track changes'' version of the regulatory language that incorporates the changes in this action is also available in the docket.

Organization of this Document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS[a] Code
Ferroalloys Production	331112

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in 40 CFR part 63, subpart XXX (National Emission Standards for Hazardous Air Pollutants (NESHAP): Ferroalloys Production). If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *http://www.epa.gov/ttn/atw/ferroa/ferropg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, links to project Web sites for the RTR source categories and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by August 31, 2015. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the Clean Air Act (CAA) further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of HAP from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems, or techniques, including, but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. For existing sources the MACT standards can be less stringent than the floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, see 79 FR 60238.

B. What is the Ferroalloys Production source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA promulgated the Ferroalloys Production NESHAP on May 20, 1999 (64 FR 27450). The standards are codified at 40 CFR part 63, subpart XXX. The ferroalloys production industry consists of facilities that produce ferromanganese (FeMn) or silicomanganese (SiMn). The source category covered by this MACT standard currently includes two facilities.

The rule applies to ferroalloys production operations that are located at major sources of HAP emissions or are co-located at a major source of HAP emissions. The HAP emission sources at facilities subject to the Ferroalloys Production NESHAP are open, semi-sealed, or sealed submerged arc furnaces, tapping operations, casting operations, metal oxygen refining (MOR) process, crushing and screening operations, other processes, such as ladle treatment and slag raking, and outdoor fugitive dust sources. The 1999 NESHAP regulated these emissions sources through emission limits for PM, opacity limits, and work practices.

C. What changes did we propose for the Ferroalloys Production source category in our November 23, 2011, proposal and our October 6, 2014, supplemental proposal?

On November 23, 2011, the EPA published a proposed rule in the **Federal Register** (76 FR 72508) for the Ferroalloys Production NESHAP, 40 CFR part 63, subpart XXX that took into consideration the RTR analyses. In the 2011 proposed rule, we proposed:

- Revisions to the numeric emission limits for PM from furnace stacks to reflect the current performance of control devices in place at ferroalloys production facilities to control furnace emissions (primary and tapping), crushing and screening operations, and the MOR operation at one plant;
- Addition of Hg, HCl, PAH, and formaldehyde furnace stack emission standards that reflected the MACT determination for control of these pollutants;
- Requirements to capture process fugitive emissions using full building enclosure with negative pressure building ventilation and duct the captured emissions to a control device; and
- Revisions to the opacity standards to reflect effective capture and control of process fugitive emissions.

On October 6, 2014, the EPA published a supplemental proposed rule in the **Federal Register** (79 FR 60238). For the supplemental proposal, we proposed:

- Revisions to the proposed PM furnace stack emission standards based on additional test data submitted by the facilities;
- Revisions to the proposed Hg, HCl, and PAH furnace stack emission standards based on additional test data submitted by the facilities;
- Requirements to capture process fugitive emissions using effective, enhanced local capture, and duct the captured emissions to control devices;
- Revisions to the opacity standards to reflect effective, enhanced capture, and control of process fugitive emissions;
- To demonstrate compliance with the opacity limits, we proposed facilities would need to take opacity readings for an entire furnace cycle once per week per furnace using Method 9 or

---

[1] The U.S. Court of Appeals has affirmed this approach of implementing CAA section 112(f)(2)(A); *NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

as an option they could take the readings using DCOT; and

- Several minor clarifications and corrections.

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Ferroalloys Production source category and amends the existing Ferroalloys Production NESHAP based on those determinations. Among the changes finalized in this action are: The promulgation of MACT-based limits for previously unregulated HAP; requirements to effectively capture and control process fugitive emissions; the removal of startup, shutdown, and malfunction (SSM) exemptions; and the addition of DCOT monitoring. This action also reflects several changes to the November 2011 and October 2014 proposals in consideration of comments received during the public comment periods as described in section IV of this preamble.

A. What are the final rule amendments based on the risk review for the Ferroalloys Production source category?

This section provides a summary of the final amendments to the Ferroalloys Production NESHAP being promulgated pursuant to CAA section 112(f).

1. Stack Emissions

We are promulgating PM emission limits for stacks at the following levels: 4.0 milligrams per dry standard cubic meter (mg/dscm) for new or reconstructed electric arc furnaces; 25 mg/dscm for existing electric arc furnaces; and 4.0 mg/dscm for any new, reconstructed, or existing local ventilation control device. These emission limits are the same as the limits proposed in the 2014 supplemental proposal.

In addition, we are promulgating a PM limit of 3.9 mg/dscm for any new, reconstructed, or existing MOR process and a PM limit of 13 mg/dscm for any new, reconstructed, or existing crushing and screening equipment, which are consistent with what we proposed in our November 23, 2011, proposal.

2. Process Fugitive Emissions Sources

We are promulgating a requirement that facilities in this source category must achieve effective enhanced capture of process fugitive emissions using a system of primary hoods (that capture process fugitive emissions near the source) and/or secondary capture of fugitives (which would capture remaining fugitive emissions near the roof-line). Facilities must install, operate, and maintain a process fugitives capture system that is designed to capture 95 percent or more of the process fugitive emissions. We are also promulgating an opacity limit of 8-percent to ensure process fugitive emissions are effectively captured. This is what we proposed in the October 6, 2014, supplemental proposal. However, we have revised the rule based on public comment, to provide more flexibility on how facilities achieve 95-percent capture of process fugitive emissions. We also strengthened the monitoring provisions to ensure that the required reductions are achieved.

B. What are the final rule amendments based on the technology review for the Ferroalloys Production source category?

We determined that there are developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category for both stack PM emissions and process fugitive emissions. Therefore, under the authority of CAA section 112(d)(6), we are promulgating the same PM stack emission limits and enhanced fugitive control requirements that we are promulgating under CAA section 112(f), as described in section A above.

C. What are the final rule amendments pursuant to CAA section 112(d)(2) & (3) for the Ferroalloys Production source category?

We are promulgating emission limits for formaldehyde, HCl, Hg, and PAH, which were previously unregulated HAP, pursuant to CAA section 112(d)(2) and 112(d)(3).

We are promulgating a formaldehyde emission limit of 201 micrograms per dry standard cubic meter (μg/dscm) for any new, reconstructed, or existing electric arc furnace. This is the same limit that we proposed on November 23, 2011.

We are promulgating an HCl emission limit of 180 μg/dscm for new or reconstructed electric arc furnaces and 1,100 μg/dscm for existing electric arc furnaces. This is the same limit that we proposed on October 6, 2014.

For electric arc furnaces producing FeMn, we are promulgating Hg emission limits of 13 μg/dscm for new or reconstructed electric arc furnaces and 130 μg/dscm for existing electric arc furnaces. For electric arc furnaces producing SiMn, we are promulgating Hg emission limits of 4 μg/dscm for new or reconstructed electric arc furnaces and 12 μg/dscm for existing electric arc furnaces. The Hg limit for new SiMn furnaces is the same as in the October 6, 2014, supplemental proposal. The final Hg limits for new and existing FeMn and existing SiMn furnaces are generally consistent with the supplemental proposal; however, there were changes to these three limits due to the inclusion of new emission data we received shortly before or during the supplemental proposal comment period.

For electric arc furnaces producing FeMn, we are promulgating a PAH emission limit of 12,000 μg/dscm for new or reconstructed and existing electric arc furnaces. The FeMn furnace PAH emission limits are significantly higher than what we proposed in the October 6, 2014, supplemental proposal due to the inclusion of new PAH emission data we received a few weeks before signature of the supplemental proposal and during the supplemental proposal comment period. We explained in the supplemental proposal preamble that we received data shortly before that notice and provided the data for comment (i.e., the data were available in the docket). The data received during the comment period were consistent with the data mentioned in the supplemental proposal. For electric arc furnaces producing SiMn, we are promulgating a PAH emission limit of 72 μg/dscm for new or reconstructed electric arc furnaces and 130 μg/dscm for existing electric arc furnaces. The SiMn furnace new PAH emission limit is the same as the limit in the October 6, 2014, supplemental proposal. There was a slight revision to the existing SiMn furnace PAH limit due to the inclusion of new emission data we received during the supplemental proposal comment period.

D. What are the requirements during periods of startup, shutdown and malfunction?

We are finalizing, as proposed in the supplemental proposal, changes to the Ferroalloys Production NESHAP to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA is establishing standards in this rule that apply at all times. Table 1 to subpart XXX of part 63 (General Provisions applicability table) is being revised to change several references related to requirements that apply during periods of SSM. We also are eliminating or revising certain recordkeeping and reporting requirements related to the eliminated SSM exemption. The EPA also made changes to the rule to remove or modify inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. We determined that facilities in this source category can meet the applicable emission standards in the Ferroalloys Production NESHAP at all times, including periods of startup and shutdown; therefore, the EPA determined that no separate standards are needed to address emissions during these periods.

E. What other changes have been made to the NESHAP?

This rule also finalizes revisions to several other Ferroalloys Production NESHAP requirements as proposed, or in some cases with some modification as described in this section.

To increase the ease and efficiency of data submittal and data accessibility, we are finalizing, as proposed, a requirement that owners and operators of ferroalloys production facilities submit electronic copies of certain required performance test reports through an electronic performance test report tool called the Electronic Reporting Tool (ERT). This requirement to submit performance test data electronically to the EPA does not require any additional performance testing and applies only to those performance tests conducted using test methods that are supported by the ERT.

We are finalizing the opacity standards, as proposed in the supplemental proposal. However, regarding compliance demonstration, we are requiring that facilities measure opacity using DCOT. In the supplemental proposal, we proposed facilities would need to monitor opacity with Method 9 or DCOT. However, after considering public comments, we decided to require DCOT rather than have it as optional. Regarding monitoring frequency, we proposed facilities would need to do opacity readings weekly per furnace building with no opportunity to reduce frequency overtime. After considering public comments, we have decided to require weekly readings initially, as proposed, but allow a facility an opportunity to decrease frequency of opacity readings to monthly per furnace building after 26 weeks of successful, compliant opacity readings.

In addition, due to the large variation in PAH emissions from furnace stacks during FeMn production, we are requiring quarterly compliance tests for PAHs (i.e., four PAH compliance tests per year) for furnaces while producing FeMn, with an opportunity for facilities to request decreased frequency of such compliance testing from their permit authority after the first year and after four or more successful PAH compliance tests have been completed and submitted electronically.

We are also finalizing other minor changes to the NESHAP in response to comments received during the public comment period for the proposal and supplemental proposal, as described in this preamble.

F. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on June 30, 2015. The compliance date for existing ferroalloys production sources for all the requirements promulgated in this final rule is June 30, 2017. Facilities must comply with the changes set out in this final rule (which are being promulgated under CAA sections 112(d)(2), 112(d)(3), 112(d)(6), and 112(f)(2) for all affected sources) no later than 2 years after the effective date of the final rule. CAA section 112(f)(4) generally provides that a standard promulgated pursuant to CAA section 112(f)(2) applies 90 days after the effective date, but further provides for a compliance period of up to 2 years when the Administrator determines that such time is necessary for the installation of controls and that steps will be taken during that period to assure protection to health from imminent endangerment. We conclude that 2 years are necessary to complete the installation of the enhanced local capture system and other controls. In the period between the effective date of this rule and the compliance date, existing sources will need to continue to comply with the requirements specified in 40 CFR 63.1650 through 40 CFR 63.1660. New sources must comply with the all of the standards immediately upon the effective date of the standard, June 30, 2015, or upon startup, whichever is later.

G. What are the requirements for submission of performance test data to the EPA?

As we proposed, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is finalizing the requirement for owners and operators of ferroalloys production facilities to submit electronic copies of certain required performance test reports.

Data will be collected by direct computer-to-computer electronic transfer using EPA-provided software. This EPA-provided software is an electronic performance test report tool called the ERT. The ERT will generate an electronic report package which will be submitted to the Compliance and Emissions Data Reporting Interface (CEDRI) and then archived to the EPA's Central Data Exchange (CDX). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html* and CEDRI can be accessed through the CDX Web site (*http://www.epa.gov/cdx*).

The requirement to submit performance test data electronically to the EPA does not create any additional performance testing and will apply only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site. The EPA believes, through this approach, industry will save time in the performance test submittal process. Additionally, this rulemaking benefits industry by reducing recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be kept in hard copy.

State, local, and tribal agencies will benefit from more streamlined and accurate review of performance test data that will become available through WebFIRE. The public will also benefit. Having these data publicly available enhances transparency and accountability. For a more thorough discussion of electronic reporting of performance tests using direct computer-to-computer electronic transfer and using EPA-provided software, see the discussion in the preamble of the proposal.

In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, state, local, tribal agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories and air quality regulations and enhancing the public's access to this important information.

IV. What is the rationale for our final decisions and amendments for the Ferroalloys Production source category?

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the comment summary and response document, which is available in the docket.

A. Residual Risk Review for the Ferroalloys Production Source Category

1. What did we propose pursuant to CAA section 112(f) for the Ferroalloys Production source category?

Pursuant to CAA section 112(f), we conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the October 6, 2014, supplemental proposal for the Ferroalloys Production NESHAP (79 FR 60238). The results of the risk assessment for the 2014 supplemental proposal are presented briefly below in Table 2 and in more detail in the residual risk document, *Residual Risk Assessment for the Ferroalloys Source Category in Support of the September 2014 Supplemental Proposal*, which is available in the docket for this rulemaking.

Based on actual emissions estimates for the Ferroalloys Production source category supplemental proposal, the maximum individual risk (MIR) for cancer was estimated to be up to 20-in-1 million driven by emissions of chromium compounds, PAHs, and nickel compounds. The maximum chronic non-cancer target organ-specific hazard index (TOSHI) value was estimated to be up to 4 driven by fugitive emissions of manganese. The maximum off-site acute hazard quotient (HQ) value was estimated to be 1 for arsenic compounds, hydrogen fluoride (HF), and formaldehyde. The total estimated national cancer incidence from this source category, based on actual emission levels, was 0.002 excess cancer cases per year, or one case in every 500 years.

Based on MACT-allowable emissions estimated for the Ferroalloys Production source category supplemental proposal, the MIR was estimated to be up to 100-in-1 million driven by emissions of arsenic and cadmium compounds from the MOR process baghouse outlet. The maximum chronic non-cancer TOSHI value was estimated to be up to 40 driven by emissions of manganese from the MOR process. The total estimated national cancer incidence from this source category, based on MACT-allowable emission levels, was 0.005 excess cancer cases per year, or one case in every 200 years.

We also found there were emissions of four persistent and bioaccumulative HAP (PB–HAP) with an available RTR multipathway screening value, and the reported emissions of these four HAP (cadmium compounds, dioxins/furans, Hg compounds, and PAH) were greater than the Tier 1 multipathway screening values for these compounds for both facilities at the time of the supplemental proposal. We conducted a Tier 2 multipathway screen for both facilities, and conducted a refined multipathway assessment for one facility in the source category. Results of the refined multipathway assessment predict a potential lifetime cancer risk of 10-in-1 million to the maximum exposed individual due to exposure to dioxins and PAHs. The non-cancer HQ was predicted to be below 1 for cadmium compounds and 1 for Hg compounds.

However, as explained in the *Revised Development of the Risk and Technology Review (RTR) Emissions Dataset for the Ferroalloys Production Source Category for the 2014 Supplemental Proposal* document, it is important to note that about 75 percent of the emissions test results for dioxins were below the detection limit. To be conservative, in our calculations of emissions estimates, we assumed all the test results that were recorded as below detection were one half the detection limit. Therefore, there are considerable uncertainties in estimated emissions for dioxins. Nevertheless, since we assumed emissions were at the level of one half the detection limit in all these cases where emissions were not even detected, we believe our emissions estimates are conservative (*i.e.*, more likely to be overestimates rather than underestimates of the true emissions).

Emissions of the four PB–HAP and two environmental HAP (HCl and HF) were reported by ferroalloys facilities. Tier 1 results for PB–HAP indicate that concentrations of cadmium compounds and dioxins are below the ecological benchmarks. Mercury compounds and PAHs concentrations were greater than the benchmark so a Tier 2 screen was conducted. For PAH and methylmercury, none of the individual modeled concentrations for any facility exceeded any of the ecological benchmarks. For mercuric chloride, the weighted average modeled concentrations for all soil parcels were well below the soil benchmarks. For HCl and HF, the average modeled concentrations around each facility did not exceed any ecological benchmarks.

For the supplemental proposal, we weighed all health risk factors in our risk acceptability determination and we proposed that the residual risks from the Ferroalloys Production source category are unacceptable.

TABLE 2—FERROALLOYS INHALATION RISK ASSESSMENT RESULTS IN THE OCTOBER 2014 SUPPLEMENTAL PROPOSAL

Maximum individual cancer risk (in 1 million) [a]		Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]		Maximum screening acute non-cancer HQ [d]
Actual emissions level	MACT-allowable emissions level [c]			Actual emissions level	MACT-allowable emissions level	
20	100	>= 1-in-1 million: 31,000 ...... >= 10-in-1 million: 400 .... >= 100-in-1 million: 0	0.002	4	40	HQ_{REL} = 1 (arsenic compounds, formaldehyde, hydrofluoric acid).

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Ferroalloys Production source category for both actual and allowable emissions is the neurological system. The estimated population at increased levels of noncancer hazard is 1,500 based on actual emissions and 11,000 based on allowable emissions.

[c] The development of allowable emission estimates can be found in the memorandum titled *Revised Development of the RTR Emissions Dataset for the Ferroalloys Production Source Category for the 2014 Supplemental Proposal*, which is available in the docket.

[d] See section III.A.3 of the supplemental proposal or the risk assessment document supporting the supplemental proposal for explanation of acute dose-response values. Acute assessments are not performed on allowable emissions.

As described above, to address the unacceptable risks in the supplemental proposal, we proposed tighter PM emission limits for the stacks, which significantly reduce risks due to allowable emissions. To reduce risks due to process fugitive emissions, we proposed facilities must achieve effective enhanced capture of process fugitive emissions using a system of primary hoods (that capture process fugitive emissions near the source) and/or secondary capture of fugitives (which would capture remaining fugitive emissions near the roof-line). As described in the supplemental proposal, we estimated that these controls would reduce the MIR cancer risk estimate to 10-in-1 million and that the chronic noncancer hazard index (HI) would be reduced to an HI of 1. Acute screening and multipathway results were also reduced. In the supplemental proposal, we concluded that these risks, after the implementation of proposed controls, were acceptable.

We then considered whether the Ferroalloys Production NESHAP provides an ample margin of safety to protect public health and whether more stringent standards are necessary to prevent an adverse environmental effect, taking into consideration costs, energy, safety, and other relevant factors. In considering whether the standards should be tightened to provide an ample margin of safety to protect public health, we considered the same risk factors that we considered for our acceptability determination and also considered the costs, technological feasibility, and other relevant factors related to emissions control options that might reduce risks associated with emissions from the source category. Based on our ample margin of safety analysis for the supplemental proposal, we did not identify any additional cost-effective controls to further reduce risks beyond the requirements we proposed to achieve acceptable risks. Therefore, we proposed that additional HAP emissions controls are not necessary to provide an ample margin of safety. Based on the results of our screening analysis for risks to the environment, we also proposed that more stringent standards are not necessary to prevent an adverse environmental effect.

2. How did the risk review change for the Ferroalloys Production source category?

Information received by the EPA shortly before and during the supplemental proposal comment period included additional PAH and Hg test data that were not included in the supplemental proposal risk assessment due to timing and the need to review the data. We described the data in the supplemental proposal and asked for comment on the use of these data. After completion of the data review, these data were included in the risk assessment for the final rule. Therefore, PAH and Hg emissions estimates were revised for the final rule assessment. Some revisions were also made for other HAP emissions. These changes are discussed further in section IV of this preamble.

With the exception of the revised emissions described above, the risk assessment supporting the final rule was conducted in the same manner, using the same models and methods, as that conducted for the supplemental proposal. The documentation for the final rule risk assessment can be found in the document titled *Residual Risk Assessment for the Ferroalloys Source Category in Support of the 2015 Risk and Technology Review Final Rule*, which is available in the docket for this rulemaking.

a. Inhalation Risk Assessment Results. Table 3 provides an overall summary of the results of the inhalation risk assessment supporting the final rule.

TABLE 3—FERROALLOYS INHALATION RISK ASSESSMENT RESULTS IN THE 2015 FINAL RULE

Maximum individual cancer risk (in 1 million) [a]		Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]		Maximum screening acute non-cancer HQ [d]
Actual emissions level	MACT-allowable emissions level [c]			Actual emissions level	MACT-allowable emissions level	
20	100	>= 1-in-1 million: 41,000 >= 10-in-1 million: 90 >= 100-in-1 million: 0	0.003	4	40	HQ_{REL} = 1 (hydrofluoric acid, arsenic compounds).

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Ferroalloys Production source category for both actual and allowable emissions is the neurological system. The estimated population at increased levels of noncancer hazard is 1,300 based on actual emissions and 11,000 based on allowable emissions.

[c] The development of allowable emission estimates can be found in the memorandum titled *Revised Development of the RTR Emissions Dataset for the Ferroalloys Production Source Category for the 2014 Supplemental Proposal*, which is available in the docket.

[d] See section III.A.3 of the supplemental proposal or the risk assessment document supporting the supplemental proposal for explanation of acute dose-response values. Acute assessments are not performed on allowable emissions.

The inhalation risk modeling performed to estimate risks based on actual and allowable emissions for the final rule relied primarily on updated emissions estimates based on data received through two Information Collection Requests (ICRs), additional data submitted by the companies voluntarily, and revised calculations as described further in the *Revised Development of the Risk and Technology Review (RTR) Emissions Dataset for the Ferroalloys Production Source Category for the 2015 Final Rule*, which is available in the docket for this action.

The results of the chronic baseline inhalation cancer risk assessment indicate that, based on updated estimates of actual emissions, the cancer MIR posed by the Ferroalloys Production source category is 20-in-1 million, with chromium compounds, PAHs, and nickel compounds from tapping fugitives, furnace fugitives, and furnace stacks accounting for more than 70 percent of the MIR. The total estimated cancer incidence from ferroalloys production sources based on updated actual emission levels is 0.003 excess cancer cases per year, or one case every 333 years, with emissions of PAH, chromium compounds, and cadmium compounds contributing 49 percent, 15 percent, and 12 percent, respectively, to this cancer incidence. In addition, we note that approximately 90 people are estimated to have cancer risks greater than or equal to 10-in-1 million, and approximately 41,000 people are estimated to have risks greater than or equal to 1-in-1 million because of actual emissions from this source category. These results, based on updated actual emissions, are very similar to those presented in the supplemental proposal.

When considering the updated MACT-allowable emissions, the maximum individual lifetime cancer risk is estimated to be up to 100-in-1 million, driven by emissions of arsenic and cadmium compounds from the MOR process baghouse outlet. The estimated cancer incidence is estimated to be 0.006 excess cancer cases per year or one excess case in every 167 years. Approximately 3,300 people are estimated to have cancer risks greater than or equal to 10-in-1 million and approximately 120,000 people are estimated to have cancer risks greater than or equal to 1-in-1 million considering updated allowable emissions from ferroalloys facilities. These results, based on updated MACT-allowable emissions, are very similar to those presented in the supplemental proposal.

The maximum modeled chronic non-cancer HI (TOSHI) value for the source category based on updated actual emissions is estimated to be 4, with manganese emissions from tapping fugitives accounting for more than 50 percent of the HI. Approximately 1,300 people are estimated to have exposure to HI levels greater than 1 as a result of updated actual emissions from this source category. When considering updated MACT-allowable emissions, the maximum chronic non-cancer TOSHI is estimated to be 40, driven by manganese emissions from the MOR process baghouse outlet. Approximately 12,000 people are estimated to have potential exposure to TOSHI levels greater than 1 considering updated allowable emissions from these ferroalloys facilities. These results, for both updated actual and MACT-allowable emissions, are very similar to those presented in the supplemental proposal.

b. Acute Risk Results. Based on the updated emissions described above, our screening analysis for worst-case acute impacts based on actual emissions indicates the potential for hydrofluoric acid and arsenic compounds to have HQ results of 1, based on their respective REL values. Both facilities have estimated acute HQs of 1 for these pollutants. Acute HQs for other pollutants (*e.g.*, hydrochloric acid) are less than one. These acute results, based on updated emissions, are very similar to those presented in the supplemental proposal.

All the HAP in this analysis have worst-case acute HQ values of 1 or less, indicating that they carry no potential to pose acute concerns. In characterizing the potential for acute non-cancer impacts of concern, it is important to remember the upward bias of these exposure estimates (*e.g.*, worst-case meteorology coinciding with a person located at the point of maximum concentration during the hour) and to consider the results along with the conservative estimates used to develop peak hourly emissions as described earlier, as well as the screening methodology. More discussion of our acute screening methods can be found in the supplemental proposal or in the risk assessment document, *Residual Risk Assessment for the Ferroalloys Production Source Category in Support of the 2015 Final Rule,* which are available in the docket.

c. Multipathway Risk Screening Results. Results of the worst-case Tier I screening analysis indicate that PB–HAP emissions (based on updated estimates of actual emissions) from one or both facilities in this source category exceed the screening emission rates for cadmium compounds, Hg compounds, dioxins, and PAHs. For the compounds and facilities that did not screen out at Tier I, we conducted a Tier II screen.

Based on the Tier II screening analysis, no facility emits cadmium compounds above the Tier II screening levels. One facility emits Hg compounds above the Tier II screening levels and exceeds that level by a factor of 8. Both facilities emit chlorinated dibenzodioxins and furans (CDDF) as 2,3,7,8-tetrachlorodibenzo-p-dioxin toxicity equivalent (TEQ) above the Tier II screening levels and the facility with the highest emissions of dioxins exceeds its Tier II screening level by a factor of 10. Both facilities emit POM as benzo(a)pyrene TEQ above the Tier II screening levels and the facility with the highest emissions exceeds its screening level by a factor of 50. These multipathway screening results, based on updated emissions, are very similar to those presented in the supplemental proposal. More information about our multipathway screening approach can be found in the supplemental proposal or in the risk assessment document, *Residual Risk Assessment for the Ferroalloys Production Source Category in Support of the 2015 Final Rule,* which are available in the docket.

d. Multipathway Refined Risk Results. A refined multipathway analysis was conducted for one of the two facilities in this source category using the TRIM.FaTE model and the updated emissions as described above. The facility, Eramet Marietta Incorporated, in Marietta, Ohio, was selected based upon its close proximity to nearby lakes, and farms as well as having the highest potential multipathway risks for three of the four PB–HAP based on the Tier II analysis. In addition, it was selected for a refined multipathway assessment in the supplemental proposal. These three PB–HAP were cadmium, Hg, and PAHs. Even though neither facility exceeded the Tier II screening levels for cadmium, Eramet had the higher value. Eramet also emits dioxins, but the other facility had a higher exceedance of its Tier II screening level. The refined analysis was conducted on all four PB–HAP using updated emissions as described above. The refined analysis for this facility showed that the Tier II screen for each pollutant over-predicted the potential risk when compared to the refined analysis results.

Overall, the refined analysis predicts a potential lifetime cancer risk of 20-in-1 million to the maximum most exposed individual due to exposure to dioxins and PAHs. The non-cancer HQ is predicted to be below 1 for cadmium compounds and 1 for Hg compounds. These results, based on updated emissions, are very similar to those presented in the supplemental proposal.

Further details on the refined multipathway analysis can be found in Appendix 10 of the *Residual Risk Assessment for the Ferroalloys Production Source Category in Support of the 2015 Final Rule,* which is available in the docket.

e. Environmental Risk Screening Results. As described in section III.A of the supplemental proposal preamble (79 FR 60238), we conducted an environmental risk screening assessment for the Ferroalloys Production source category. In the Tier I screening analysis for PB–HAP (other than lead, which was evaluated differently as noted in section III.A of the supplemental proposal preamble, 79 FR 60238), the individual modeled Tier I concentrations for one facility in the source category exceeded some sediment, fish-avian piscivorus, and surface soil benchmarks for PAHs, methylmercury, and mercuric chloride. Therefore, we conducted a Tier II assessment.

In the Tier II screening analysis for PAHs and methylmercury, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the lowest-observed-adverse-effect level or the no-observed-adverse-effect level). For mercuric chloride, soil benchmarks were exceeded for some individual modeled points that collectively accounted for 11 percent of the modeled area. However, the weighted average modeled concentration for all soil parcels was well below the soil benchmarks. For lead, we did not estimate any exceedances of the secondary lead National Ambient Air Quality Standards (NAAQS).

For HCl, each individual concentration (*i.e.*, each off-site data point in the modeling domain) was below the ecological benchmarks for all facilities. The average modeled HCl concentration around each facility (*i.e.*, the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmark. For HF, some individual modeled points exceeded the ecological benchmark but accounted for less than 0.02 percent of the modeled area. The average modeled HF concentration around each facility (*i.e.*, the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmarks. These results, based on updated emissions, are very similar to those presented in the supplemental proposal.

f. Facility-Wide Risk Assessment Results. As in the supplemental proposal, for both facilities in this source category, there are no other HAP emissions sources present beyond those included in the source category. Therefore, we conclude that the facility-wide risk is the same as the source category risk and that no separate facility-wide analysis is necessary.

g. Demographic Analysis Results. To examine the potential for any environmental justice (EJ) issues that might be associated with the source category, we updated the demographic analysis that was conducted for the supplemental proposal, using the risk results based on the updated emissions. A demographic analysis is an assessment of risks to individual demographic groups of the population close to the facilities. In this analysis, we evaluated the distribution of HAP-related cancer risks and noncancer hazards from the Ferroalloys Production source category across different social, demographic, and economic groups within the populations living near facilities identified as having the highest risks. The methodology and the results of the demographic analyses are included in a technical report, *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Ferroalloys Facilities,* which is available in the docket for this action.

The results of the demographic analysis are summarized in Table 4 below. These results, for various demographic groups, are based on the estimated risks from actual emissions levels for the population living within 50 kilometers (km) of the facilities.

TABLE 4—FERROALLOYS PRODUCTION DEMOGRAPHIC RISK ANALYSIS RESULTS FOR 2015 FINAL RULE

	Nationwide	Population with cancer risk at or above 1-in-1 million due to Ferroalloys Production	Population with chronic hazard index above 1 due to Ferroalloys Production
Total Population	312,861,265	40,748	1,348
Race by Percent			
White	72	97	99
All Other Races	28	3	1
Race by Percent			
White	72	97	99
African American	13	1	0
Native American	1	0	0
Other and Multiracial	14	2	1
Ethnicity by Percent			
Hispanic	17	1	1
Non-Hispanic	83	99	99
Income by Percent			
Below Poverty Level	14	15	6
Above Poverty Level	86	85	94
Education by Percent			
Over 25 and without High School Diploma	15	11	10
Over 25 and with a High School Diploma	85	89	90
Age by Percent			
Ages 0 to 17	24	21	22
Ages 18 to 64	63	61	59
Ages 65 and up	13	18	19

The results of the Ferroalloys Production source category demographic analysis indicate that emissions from the source category expose approximately 41,000 people to a cancer risk at or above 1-in-1 million and approximately 1,300 people to a chronic non-cancer TOSHI greater than 1 (we note that many of those in the first risk group are the same as those in the second). The percentages of the at-risk population in each demographic group (except for ages 65 and up) are similar to or lower than their respective nationwide percentages. These results are very similar to those presented in the supplemental proposal.

3. What key comments did we receive on the risk review, and what are our responses?

Several comments were received regarding the risk assessment for the Ferroalloys Production source category. The following is a summary of some of the more significant comments and our responses to those comments. Other comments received and our responses to those comments can be found in the document titled *National Emission Standards for Hazardous Air Pollutant Emissions: Ferroalloys Production Summary of Public Comments and the EPA's Responses on Proposed Rule (76 FR 72508, November 23, 2011) and Supplemental Proposal (79 FR 60238, October 6, 2014)*, which is available in the docket for this action (EPA–HQ–OAR–2010–0895).

Comment: Several comments were received on the reference value used in the risk assessment to evaluate chronic noncancer effects due to exposure to manganese. In the 2011 proposal, we used the Integrated Risk Information System (IRIS) reference concentration (RfC), and we received negative comments regarding that value not being the ‘‘best available science.’’ We evaluated the available values and, in accordance with our prioritized dose-response values and Scientific Advisory Board (SAB) comments, we used the Agency for Toxic Substances and Disease Registry (ATSDR) minimum risk level (MRL) for manganese in the risk assessment for the 2014 supplemental proposal. We received mixed comments in response to the supplemental proposal. Some comments were negative regarding our use of the ATSDR MRL, while others were generally supportive of our use of the MRL compared to the IRIS value, yet still thought the MRL was not the appropriate reference value to use in the assessment.

Regarding use of the IRIS RfC for manganese in the 2011 proposal risk assessment, commenters stated that the manganese RfC was outdated, did not constitute the best available science (including use of benchmark dose statistical analyses or physiologically-based pharmacokinetic models), and substantial research has been conducted since the 1993 IRIS RfC was last updated. The commenters refer to their own calculations and studies and developed their own reference value for manganese and state that the EPA should use that value. Regarding use of the ATSDR MRL for manganese in the 2014 supplemental proposal risk assessment, the same commenters stated that the manganese MRL was an improvement over the IRIS RfC, but was still not the best available science because, in their review, ATSDR did not apply physiologically-based pharmacokinetic models. The commenters again refer to their own calculations and studies developing a reference value for manganese and state that EPA should use that value. Another commenter disagrees with the use of the ATSDR MRL because the EPA has not provided sufficient rationale for using a less-protective value. Instead, this commenter recommended that we continue to use the IRIS RfC value.

Response: We agree that there were newer information and assessments available at the time of the 2011 proposal and also for the 2014 supplemental proposal, some of which may use the currently preferred approach for developing dose-response values (i.e., the benchmark dose approach). However, we only use reference values which meet certain criteria in regards to how they are derived (using EPA guidelines or similar), derived by credible sources with health-protective goals similar to those of the EPA, using peer-review procedures also similar to the level applied to the EPA values, and with an open public comment process. We have a tiered priority list for sources of chronic dose-response information, which meet these criteria (as described in the supplemental proposal, 79 FR 60238). The tiered prioritized list has been through a SAB review and was favorably received.

In the risk assessment for the 2011 proposal, we used the IRIS RfC for chronic exposure to manganese and received numerous comments regarding use of that value. In response to those comments, we considered the existing peer-reviewed health effect reference values for chronic inhalation exposure to manganese from other federal, state, and international agencies and organizations. We developed a reference value array document[2] providing additional details for the available values. We noted that the ATSDR MRL value available for the 2011 proposal was a draft value. The ATSDR MRL was subsequently finalized in 2012.

In our consideration of available reference values, we did not include some values specifically noted in public comments. The level of peer review for non-governmental scientific publications is qualitatively different than the governmental processes used to derive the values described in our tiered prioritized list, and some of the values in the manganese reference value array document. The information provided by these additional references from the commenter(s) may prove useful in an IRIS reassessment for manganese, and we agree that the physiologically-based models, along with all other relevant available peer-reviewed literature, will be considered in any IRIS reassessment of manganese. Yet, a direct application of any of these values instead of an established value in our tiered list of prioritized dose-response values would be inconsistent with the EPA policy as implemented in the RTR Program, and with recommendations from the SAB.

After considering the values in our tiered list of prioritized dose-response values, and consistent with Agency policy supported by SAB, we decided to rely on the 2012 ATSDR MRL value for the 2014 supplemental proposal. Both the 1993 IRIS RfC and the 2012 ATSDR MRL were based on the same study (Roels et al., 1993). In developing their assessment, ATSDR used updated dose-response modeling methodology (benchmark dose approach) and considered recent pharmacokinetic findings to support their selection of uncertainty values in the MRL derivation.

4. What is the rationale for our final approach and final decisions for the risk review?

As noted in section II.A.1 of this preamble, the EPA sets standards under CAA section 112(f)(2) using ‘‘a two-step standard-setting approach, with an analytical first step to determine an ‘acceptable risk’ that considers all health information, including risk estimation uncertainty and includes a presumptive limit on maximum individual lifetime risk (MIR) of approximately 1 in 10 thousand.’’[3] (54 FR 38045, September 14, 1989).

a. Acceptability Determination. As in the supplemental proposal, the EPA concludes that the risks are unacceptable for the following reasons. First, the EPA considered the fact that the noncancer hazard HQ ranges from 4 based on actual emissions to 40 based on allowable emissions. The EPA has not established under section 112 of the CAA a numerical range for risk

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[2] U.S. EPA. Mn and BTEX Reference Value Arrays (Final Reports). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-12/047F, 2013.

[3] 1-in-10 thousand is equivalent to 100-in-1 million. The EPA currently describes cancer risks as 'n-in-1 million.'

acceptability for noncancer effects as it has with carcinogens, nor has it determined that there is a bright line above which acceptability is denied. However, the Agency has established that, as exposure increases above a reference level (as indicated by a HQ or TOSHI greater than 1), confidence that the public will not experience adverse health effects decreases and the likelihood that an effect will occur increases. For the Ferroalloys Production source category, the potential for members of the public to be exposed to manganese at concentrations up to 40 times the MRL reduces the Agency's confidence that the public is protected from adverse health effects and diminished the Agency's ability to determine that such exposures are acceptable. Second, the EPA considered the fact that the cancer risk estimate for actual emissions is 20-in-1 million and up to 100-in-1 million for allowable emissions. While 20-in-1 million is well within the acceptable range, risks from allowable emissions are at the upper end of the range of acceptability. This fact, combined with the fact that the noncancer hazard is up to 40 times the MRL and the refined multipathway HQ for Hg is at the RfD, leads the Agency to conclude that the risk from this source category is unacceptable.

b. What is EPA requiring in the final rule to address the unacceptable risks? As mentioned above, to address the unacceptable risks, we are promulgating tighter PM emission limits for the stacks, which significantly reduces risks due to allowable emissions. Furthermore, to reduce risks due to process fugitive emissions, we are promulgating a requirement that facilities must achieve effective enhanced capture of process fugitive emissions using a system of primary hoods (that capture process fugitive emissions near the source) and/or secondary capture of fugitives (which would capture remaining fugitive emissions near the roof-line). Facilities must install, operate, and maintain a process fugitives capture system that is designed to capture and control 95 percent or more of the process fugitive emissions. We are also promulgating an opacity limit of 8 percent to ensure process fugitive emissions are effectively captured and controlled. Facilities will need to meet an average opacity of 8 percent for the entire furnace cycle (about 90–120 minutes) with a maximum opacity of no more than 20-percent opacity for any 12-minute period. Moreover, facilities will need to monitor various control parameters (such as fan speed, amperage, pressure drops, and/or damper positioning) to ensure the process fugitive capture systems and controls are working properly.

c. Remaining Risks After Implementation of the Requirements to Address Unacceptable Risks. To determine the remaining risks after implementation of the lower stack PM emissions limits and requirements to effectively control process fugitives (described above), we conducted a post control risk assessment, which is described in detail in the document titled *Residual Risk Assessment for the Ferroalloys Source Category in Support of the 2015 Final Rule,* which is available in the docket for this rulemaking.

Based on this post control risk assessment, we conclude that after the requirements described above to address unacceptable risks are implemented, the risks to public health will be substantially reduced.

For example, the results of the post-control chronic inhalation cancer risk assessment indicate that the maximum individual lifetime cancer risk posed by these two facilities, after the implementation of the promulgated controls, will be no higher than 10-in-1 million, with an estimated reduction in cancer incidence to 0.002 cases per year. In addition, the number of people estimated to have a cancer risk greater than or equal to 1-in-1 million would be 26,000. The results of the post-control risk assessment also indicate that the maximum chronic noncancer inhalation TOSHI value would be reduced to 1. The number of people estimated to have a TOSHI greater than 1 would be reduced to 0. We also estimate that after the implementation of controls, the maximum worst-case acute HQ value would be less than 1 (based on REL values).

Considering post-control emissions of multipathway HAP, Hg emissions would be reduced by approximately 3 pounds per year (lbs/yr), lead would be reduced by about 1,600 lbs/yr, polycyclic organic matter (POM) emissions would be reduced by approximately 3,600 lbs/yr, cadmium would be reduced by about 150 lbs/yr, and dioxins and furans would be reduced by about 0.002 lbs/yr from the baseline emission rates.

d. Ample Margin of Safety Analysis. Under the ample margin of safety analysis, we again considered all of the health factors evaluated in the acceptability determination and evaluated the cost and feasibility of available control technologies and other measures (including the controls, measures, and costs reviewed under the technology review) that could be applied in this source category to further reduce the risks due to emissions of HAP identified in our risk assessment.

As described above, we estimate that the actions finalized under CAA section 112(f)(2) to address unacceptable risks will reduce the MIR to 10-in-1 million. The cancer incidence will be reduced to 0.002 cases per year and the number of people estimated to have cancer risks greater than 1-in-1 million will be reduced to 26,000 people. The chronic noncancer inhalation TOSHI will be reduced to 1 and the number of people exposed to a TOSHI level greater than 1 will be reduced to 0. In addition, the potential multipathway impacts will be reduced.

Based on all of the above information, we conclude that the risks will be acceptable after implementation of the lower stack limits for PM and the control requirements to reduce process fugitive emissions, as we concluded in the supplemental proposal. Based on our research and analysis, we did not identify any cost-effective controls beyond those described above that would achieve further reduction in risk. While in theory, the 2011 proposed approach of total enclosure with negative pressure would provide some additional risk reduction, the additional risk reduction is minimal and, similar to our assessment and conclusions described in the supplemental proposal, we continue to believe the total enclosure approach would not be economically feasible and may not be technically feasible for these facilities. No other technology advances were identified during the comment period. Therefore, we are not promulgating any additional requirements under the ample margin of safety analysis beyond the requirements being finalized to address unacceptable risks (as described above). We conclude that the controls to achieve acceptable risks will also provide an ample margin of safety to protect public health.

B. Technology Review for the Ferroalloys Production Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Ferroalloys Production source category?

Pursuant to CAA section 112(d)(6), we conducted a technology review, which focused on identifying and evaluating developments in practices, processes, and control technologies for the emission sources in the Ferroalloys Production source category. For the 2011 proposal (76 FR 72508), we identified developments in practices, processes or control technologies for PM emissions from stacks (as a surrogate for metal HAP) and for process fugitive metal HAP emissions. Based on the comments received from the public and information received through a 2012 ICR, we revised both the technology review and risk assessment for the Ferroalloys Production source category, which were described in detail in the 2014 supplemental proposal (79 FR 60238).

a. PM Emission Limits From Stacks. For PM stack emissions limits, we determined for the 2011 proposal that the test data received from the two facilities indicate that all five furnaces that are in operation have PM emission levels that are well below their respective emission limits in the 1999 MACT rule, which were based on size and product being produced. The test data received from the facilities also indicate that the PM emission levels for MOR and crushing and sizing are well below their respective emission limits in the 1999 MACT rule. These findings demonstrate that add-on particulate control technologies (Venturi scrubber, positive pressure fabric filter, negative pressure fabric filter) used to control emissions from the sources are effective in reducing PM (used as a surrogate for metal HAP). Based on these findings, in 2011 we proposed a PM limit of 24 mg/dscm corrected to 2 percent carbon dioxide (CO_2) for existing furnaces.

We received additional test data after the 2011 proposal and re-evaluated the PM limit using available PM emissions test data and consideration of variability across these data. Based on this analysis, we determined that it was appropriate to propose a revised PM limit of 25 mg/dscm for existing furnaces. No additional add-on control is expected to be required by the facilities to meet this revised existing source limit. To demonstrate compliance, we proposed these sources would be required to conduct periodic performance testing and develop and operate according to a baghouse operating plan or continuously monitor Venturi scrubber operating parameters. We also proposed that furnace baghouses would be required to be equipped with bag leak detection systems (BLDS).

For the 2011 proposal, the proposed new source PM standard was determined by evaluating the available data from the best performing furnace (which was determined to be furnace #2 at Felman). The proposed new source limit was determined to be 9.3 mg/dscm. We received additional test data after the 2011 proposal and re-evaluated the new source limit using the available test data. The revised new source PM standard for furnaces for the 2014 supplemental proposal was determined by evaluating the available data from the best performing furnace (which was again determined to be furnace #2 at Felman). The new source MACT limit was determined to be 4.0 mg/dscm based on data from furnace #2 and was proposed as the MACT emissions limit for PM from new and reconstructed source furnace stacks in the 2014 supplemental proposal.

The PM emission limit for the local ventilation control device outlet was also re-evaluated using compliance test data and test data from the 2012 ICR. A local ventilation control system is used to capture tapping, casting, or ladle treatment emissions and direct them to a control device other than one associated with the furnace. The 2011 proposal included a proposed PM limit for the local ventilation control device that was based on PM data from the furnaces. After the 2011 proposal, we received test data from three different emissions tests (for a total of nine test runs) specifically for this local ventilation source. We determined these data were more appropriate for the development of a limit for this source than the furnace data we had used for the 2011 proposal. There is currently only one local ventilation control device outlet emissions source in this source category. Using the new data for the one existing local ventilation source, we calculated a revised emissions limit of 4.0 mg/dscm and determined that this was an appropriate emissions limit for this source. Therefore, we proposed an emissions limit of 4.0 mg/dscm for existing, new, and reconstructed local ventilation control device emissions sources in the supplemental proposal.

For crushing and screening operations, we proposed an emission limit of 13 mg/dscm for new and existing crushing and sizing operations in the 2011 proposal. We did not receive any additional data for this emission source and, therefore, made no revisions to this proposed limit in the 2014 supplemental proposal.

The MOR operation is a unique process that is operated by only one facility (Eramet). We calculated a proposed emission limit of 3.9 mg/dscm in the 2011 proposal that would apply to both new and existing MOR operation sources. We did not receive any additional data for this emission source and, therefore, made no revisions to this proposed limit in the 2014 supplemental proposal.

b. Emission Standards for Process Fugitives. For process fugitive metal HAP emissions, we identified two potential developments in practices and control techniques. One option would require facilities to install and operate enhanced capture of process fugitive emissions using a combination of primary hoods and ductwork in close proximity to the emission sources, such as tapping or casting and/or secondary hoods located near the roofline. Another option would be to require full enclosure of the furnace building(s) with negative pressure and evacuate the process fugitive emissions to a control device(s). In the 2011 proposal, we proposed that the full furnace building enclosure option represented an advance in emission control measures since the Ferroalloys Production NESHAP was originally promulgated in 1999.

For day-to-day continuous monitoring to demonstrate compliance with the proposed full building enclosure requirements, the 2011 proposal relied mainly on requiring monitoring differential pressure to ensure facilities maintained a negative pressure of at least 0.007 inches of water and that emissions within the facilities would need to be vented to PM control devices. This was to be supplemented by operation and work practice standards that required preparation of a process fugitive emissions ventilation plan for each shop building. In the 2011 proposal, we also proposed a requirement that emissions exiting from a shop building may not exceed more than 10-percent opacity for more than one 6-minute period, to be demonstrated every 5 years as part of the periodic required performance tests.

We received significant comments in response to the 2011 proposal. Commenters claimed that we had significantly underestimated the costs for full building enclosure and that it would not be feasible for these facilities. After reviewing and considering the comments along with other information, we decided to re-evaluate the proposed requirement for negative pressure ventilation and consider other options.

Based on our re-evaluation, for the 2014 supplemental proposal, we concluded that the full-building enclosure option may not be feasible and would have significant economic impacts on the facilities. However, we concluded that an option based on enhanced local capture and control of process fugitive emissions using a combination of primary and secondary hoods is a feasible and cost-effective approach to achieve significant reductions in process fugitive HAP emissions. Therefore, in the 2014 supplemental proposal, we proposed that facilities would need to install and operate a local capture system using a combination of primary and/or secondary hoods that is designed to achieve at least 95-percent capture and control of process fugitive emissions.

With the move to the proposed enhanced local capture alternative in the 2014 supplemental proposal, we no longer had a day-to-day continuous requirement of monitoring negative pressure. Instead, in the 2014 supplemental proposal, continuous compliance demonstration would be based mainly on meeting an opacity limit, monitoring ventilation parameters (such as fan speed, amperage, and/or damper positioning), and documenting the design of the system to achieve 95-percent capture. Since opacity monitoring would be a primary method to demonstrate continuous compliance, we proposed that facilities would need to meet an average opacity of 8 percent for an entire furnace cycle (about 90–120 minutes) with a maximum opacity of no more than 20 percent opacity for any 12-minute period. Furthermore, we proposed facilities would need to monitor opacity for a full furnace cycle (about 90–120 minutes) at least once per week per furnace building. We also proposed that, if the average opacity reading from the shop building is greater than 8-percent opacity during an observed furnace process cycle, an additional two more furnace process cycles must be observed such that the average opacity during the entire observation period is less than 7-percent opacity. A furnace process cycle means the period in which the furnace is tapped to the time in which the furnace is tapped again and includes periods of charging, smelting, tapping, casting, and ladle raking.

Regarding the design requirements, in the supplemental proposal, we proposed that the facilities in this source category must install, operate, and maintain a process fugitives capture system that is designed to collect 95 percent or more of the process fugitive emissions from furnace operations, casting MOR process, ladle raking, and slag skimming and crushing and screening operations and convey the collected emissions to a control device that meets specified emission limits and the proposed opacity limits. We proposed that this plan be submitted to the permitting authority, incorporated into the source's operating permit and updated every 5 years or when there is a significant change in variables that affect process fugitive emissions ventilation design. We proposed that this list of design criteria, coupled with the requirement for frequent opacity observations and operating parameter monitoring, would ensure process fugitive emissions are effectively controlled and would result in enforceable requirements.

More information concerning our proposed technology review can be found in the memoranda titled, *Revised Technology Review for the Ferroalloys Production Source Category, and Cost Impacts of Control Options Considered for the Ferroalloys Production NESHAP to Address Fugitive HAP Emissions,* which are available in the docket, and in the preamble to the 2014 supplemental proposed rule, 79 FR at 60271 to 60273.

2. How did the technology review change for the Ferroalloys Production source category?

For the October 6, 2014, supplemental proposal, we solicited comment regarding the use of new technologies to provide continuous or near continuous long term approaches to monitoring emissions from industrial sources for the Ferroalloy Production source category. After considering comments received and after evaluating the technologies further, we are replacing the weekly Method 9 opacity requirement with a weekly requirement to measure opacity using ASTM D7520–13 and DCOT to demonstrate compliance with the process fugitives standards. The final rule amendments require facilities to use the DCOT to measure opacity at least once per week for each of the furnace and MOR buildings to demonstrate compliance with the opacity limits. However, as mentioned above, facilities will have the opportunity to reduce the frequency of opacity readings to monthly after 26 consecutive weeks of compliant weekly readings. The facilities would still be required to meet an average opacity standard of 8-percent opacity for the furnace cycle (90–120 minutes) and at no time during operation may any two consecutive 6-minute block opacity readings be greater than 20-percent opacity. The cost of implementing the DCOT system is estimated to be approximately $200,000 per year for the source category with weekly readings. However, these costs decrease to about $90,000 per year for the source category if they do monthly readings per furnace building. All other requirements we proposed under CAA section 112(d)(6) in the supplemental proposal have not changed.

3. What key comments did we receive on the technology review, and what are our responses?

Several comments were received regarding the technology review for the Ferroalloys Production source category. The following is a summary of the more significant comments and our responses to those comments. Other comments received and our responses to those comments can be found in the document titled *National Emission Standards for Hazardous Air Pollutant Emissions: Ferroalloys Production Summary of Public Comments and the EPA's Responses on Proposed Rule (76 FR 72508, November 23, 2011) and Supplemental Proposal (79 FR 60238, October 6, 2014),* which is available in the docket for this action (EPA–HQ–OAR–2010–0895).

Comment: One commenter supported the EPA's decision to re-evaluate the feasibility and cost-effectiveness of the controls that the Agency proposed in its 2011 proposal. However, the commenter objects to the EPA's conclusion that an alternative system involving both primary and secondary capture is available and represents an ''advancement in technology'' pursuant to CAA section 112(d)(6). The commenter states that this type of system does not currently exist in practice at any ferroalloy operation. They explain that, in theory, such a system appears likely to provide some degree of additional reductions. However, the commenter notes some of the specific potential control methods mentioned by the EPA have already been proven not to work. As an example, the commenter states that curtains have previously been installed in an attempt to contain additional furnace emissions, but the curtains burned up due to the extreme heat in only a few weeks. The commenter, therefore, objects both to the characterization of these additional controls as a currently available ''advancement in technology,'' and to the EPA's conclusion that the cost of almost $100,000 per ton of HAP reductions for these additional controls is cost effective.

Response: In their supplemental comments on the 2011 proposed rule, industry representatives provided suggested alternative designs to address fugitive emissions from the furnace buildings. The designs suggested by the industry representatives included improving the existing primary hooding and capture systems close to the emissions sources and/or adding secondary capture to ensure effective capture and control of process fugitive emissions. The use of a primary hooding and exhaust system in conjunction with general secondary hooding and exhaust system was estimated to provide a total capture of 95 percent of process fugitive emissions, including emissions from the tapping, casting, crushing/screening, and skimming/slag raking processes.

We reviewed these designs and discussed the designs with ventilation experts. The ventilation experts agreed that the suggested primary system along with secondary capture could achieve 95 percent reduction of process fugitive emissions from the buildings. They noted that many of the designs and improvements were based on the elements of good ventilation systems that are used in other industries to capture and control fugitive emissions. Because these designs have been only partially deployed in this industry, they constitute a relevant development in technology beyond what is required by the current rule. We view the successful deployment of these technologies in other industries and the expert judgement of industrial ventilation experts as establishing that the technologies are technically available for transfer to the Ferroalloy Production source category.

As part of our technology review, we evaluated the costs and effectiveness of a regulatory option that is based on the general emission control scenario suggested by the industry representatives which would include a system of primary and/or secondary hooding designed to capture 95 percent of process fugitive emissions. The process fugitive emissions would be captured by the primary and/or secondary hoods and routed to PM control devices. This option for the control of process fugitive emissions under CAA section 112(d)(6) is exactly the same option that we are promulgating under CAA section 112(f)(2) to capture and control fugitives (described in section IV.A of this preamble). We estimate that the total capital cost including monitoring would be about $40.3 million, the total annualized costs would be about $7.7 million per year, and that it would achieve 77 tpy reduction of HAP, mostly manganese and other HAP metals (e.g., cadmium compounds, chromium compounds, nickel compounds) and also achieve about 229 tpy reduction of PM. Based on our evaluation, we conclude that installing and operating such a system is a feasible and cost-effective approach to achieve significant reductions in process fugitive HAP emissions and will achieve almost as much reductions as the full building enclosure option (229 vs. 252 tons PM reductions). In light of the technical feasibility and cost effectiveness of this enhanced fugitive capture option (that includes a combination of primary capture and/or secondary capture designed to capture and control 95 percent of process fugitive), we are promulgating this option under the authority of section 112(d)(6) of the CAA. The control requirements and compliance requirements under this CAA section 112(d)(6) option are the exact same requirements we are promulgating under CAA section 112(f)(2) to address unacceptable risks for process fugitive emissions (described in section IV.A of this preamble). As described in that section, facilities must install, operate, and maintain a process fugitives capture system that is designed to capture 95 percent or more of the process fugitive emissions. Facilities will also need to meet an average opacity of 8 percent for each furnace cycle (about 90–120 minutes) with a maximum opacity of no more than 20 percent opacity for any two consecutive 6-minute block opacity readings (12-minute period). To demonstrate compliance, facilities will need to initially monitor opacity for a full furnace cycle (about 90–120 minutes) at least once per week per furnace building using the DCOT. Moreover, facilities will need to monitor various control parameters (such as fan speed, amperage, pressure drops, and/or damper positioning) to ensure the fugitive capture system and controls are working properly.

Comment: One commenter states that the only notable development that occurred in ferroalloys emission practices, processes, and control technologies since the 1999 NESHAP took effect is the installation of scrubbers and baghouses. Since scrubbers and baghouses have demonstrably different performance in controlling particulate emissions, the commenter claims that developments since 1999 warrant separate particulate emission limits based on the type of control device involved. The commenter states that the EPA did not acknowledge this development and proposed a single stack particulate limit for all furnaces. The commenter provided proposed PM limits of 27 mg/dscm for wet particulate scrubbers and 6.2 mg/dscm for baghouses, and notes that these limits would actually reduce the total allowable particulate emissions from their facility in comparison to the EPA's proposed single limit of 25 mg/dscm.

Response: Section 112 of the CAA grants the EPA discretion to establish ''categories and subcategories'' of sources to be regulated under CAA section 112, and further allows the EPA to ''distinguish among classes, types and sizes of sources within a category or subcategory'' when establishing MACT standards. However, we believe it is not appropriate to establish subcategories based on type of control technology used by these emission sources.

In the case of the PM emissions from the ferroalloy furnaces, we believe if it was appropriate, we could subcategorize based on the size of the furnace or the product being produced in that furnace. However, we determined that there was no statistical difference in PM emissions based on the size of the individual furnaces or by the product being produced in those furnaces. Therefore, we decided it was not appropriate to subcategorize for PM emissions and instead established a single PM limit for all of the furnaces, regardless of size or product being produced.

Comment: One commenter believes that the EPA's proposed requirements to reduce process fugitive emissions under CAA section 112(d)(6) are not based on control practices in use in the ferroalloys industry, but rather simply reflect a decision by the EPA that the sources at Eramet and Felman should be subject to additional requirements. By putting the enhanced fugitive control requirements under CAA section 112(d)(6), the commenter believes that the EPA dispenses with any attempt to justify the requirements as cost effective, as would be required to impose for ''beyond the MACT floor'' standards under CAA section 112(d)(2), and the EPA dispenses with any attempt to present a risk-based justification for the requirements, as would be required under CAA section 112(f)(2).

Response: As an initial matter, we note the process fugitive control requirements are justified as risk-based requirements under CAA section 112(f)(2). See section IV.A of this preamble. Therefore, the premise of this comment is factually incorrect. That said, the requirements of this rule also are justified under CAA section 112(d)(6). Under CAA section 112(d)(6), we are required to review emission standards no less frequently than every 8 years and revise them ''as necessary (taking into account developments in practices, processes, and control technologies).'' The ferroalloys industry already includes some of the controls envisioned under this control scenario. For example, all 5 furnaces in the source category in the U.S. already have some type of primary hooding to capture some process fugitive emissions from tapping and/or casting operations. In fact, one of the five furnaces in the U.S. already achieves good capture of tapping emissions with their current configuration. Furthermore, effective primary and secondary capture systems are currently used in other metals industries (e.g., steel production, secondary lead production) to effectively capture and control process fugitives.

Moreover, as described above, representatives from the ferroalloys companies have provided suggestions as to how such a system could be designed, installed and operated to achieve 95-percent capture of fugitives. Therefore, we conclude such a system is technically feasible. Furthermore, as we described above, we conclude these controls would be cost effective ($91,000 per ton of HAP metal reduced). Therefore, we conclude it is appropriate to promulgate this control option under section 112(d)(6) of the CAA.

4. What is the rationale for our final approach for the technology review?

a. PM Emissions Limits from Stacks. The available test data from the five furnaces located at the two facilities indicate that all of these furnaces have PM emission levels that are well below their respective emission limits in the 1999 MACT rule. These findings demonstrate that the add-on emission control technologies (Venturi scrubber, positive pressure fabric filter, negative pressure fabric filter) used to control emissions from the furnaces are effective in reducing particulate matter (used as a surrogate for metal HAP).

The PM emissions, used as a surrogate for metal HAP, that were reported by the industry in response to the 2010 ICR, were far below the level specified in the current NESHAP, indicating improvements in the control of PM emissions since promulgation of the current NESHAP. We re-evaluated the data received in 2010, along with additional data received in 2012 and 2013, to determine whether it is appropriate to promulgate revised emissions limits for PM from the furnace process vents. More details regarding the available PM data and this re-evaluation are provided in the *Revised Technology Review for the Ferroalloys Production Source Category for the Supplemental Proposal,* which is available in the docket. Unlike PAH and Hg stack data, we did not see significant differences in emissions based on product produced (*e.g.,* FeMn or SiMn). Therefore, we are not promulgating separate PM stack limits based on product type.

Based on this analysis, we determined it is appropriate to finalize the revised existing source furnace stack PM emissions limit of 25 mg/dscm, which is the same limit we proposed in the supplemental proposal. No additional add-on controls are expected to be required by the facilities to meet the revised existing source limit of 25 mg/dscm. However, this revised limit will result in significantly lower ''allowable'' PM emissions from the source category compared to the level of emissions allowed by the 1999 MACT rule and would help prevent any emissions increases. To demonstrate compliance, these sources will be required to conduct periodic performance testing and develop and operate according to a baghouse operating plan or continuously monitor Venturi scrubber operating parameters. Also furnace baghouses will be required to be equipped with BLDS.

The final PM standard for new and reconstructed furnaces is 4.0 mg/dscm and was determined by evaluating the available data from the best performing furnace (which was determined to be furnace #2 at Felman).

As described above, the PM emission limit for the local ventilation control device outlet was re-evaluated for the supplemental proposal using compliance test data and test data from the 2012 ICR. We did not receive any additional data since the supplemental proposal for this source. Using all the available data for the one existing local ventilation source, we calculated an emissions limit of 4.0 mg/dscm, which is the exact same limit we proposed in the supplemental proposal. We conclude that this is still an appropriate emissions limit for this source. Therefore, we are promulgating this emissions limit of 4.0 mg/dscm for existing, new, and reconstructed local ventilation control device emissions sources. In addition, we are promulgating a PM limit of 3.9 mg/dscm for any new, reconstructed, or existing MOR process, and a PM limit of 13 mg/dscm for any new, reconstructed, or existing crushing and screening equipment, which are consistent with what we proposed in our November 23, 2011, proposal.

Furthermore, as mentioned in section III of this preamble, we are promulgating a PM limit of 3.9 mg/dscm for any new, reconstructed, or existing MOR process, and a PM limit of 13 mg/dscm for any new, reconstructed, or existing crushing and screening equipment.

2. Standards for Process Fugitive Metal HAP Emissions

In the 2011 proposal, we proposed a requirement for sources to enclose the furnace building, collect fugitive emissions such that the furnace building is maintained under negative pressure, and duct those emissions to control devices. As described above, commenters on the 2011 proposal disagreed with our assessment.

Commenters also raised concerns about worker safety and comfort in designing and operating full enclosure systems. We believe that such issues can be overcome with proper ventilation design and installation of air conditioning systems and other steps to ensure these issues are not a problem. However, after further review and evaluation, we conclude that it would be quite costly for these facilities to become fully enclosed with negative pressure and achieve the appropriate ventilation and conditioning of indoor air.

We re-evaluated the costs and operational feasibility associated with the full building enclosure with negative pressure. We consulted with ventilation experts who have worked with hot process fugitives similar to those found in the ferroalloys industry (*e.g.,* electric arc furnace steel mini-mills and secondary lead smelters). We determined that substantially more air flow, air exchanges, ductwork, fans and control devices and supporting structural improvements would be needed (compared to what we had estimated in the 2011 proposal) to achieve negative pressure and also ensure adequate ventilation and air quality in these large furnace buildings. Therefore, as explained in the supplemental proposal, we determined that the proposed negative pressure approach presented in the 2011 proposal would be much more expensive than what we had estimated in 2011 and may not be feasible for these facilities.

As mentioned above, for the supplemental proposal, we also evaluated another option based on enhanced capture of the process fugitive emissions using a combination of effective local capture with primary hooding close to the emissions sources and/or secondary capture of remaining fugitives with roof-line capture hoods and control devices. These buildings are currently designed such that fugitive emissions that are not captured by the primary hoods flow upward with a natural draft to the open roof vents and are vented to the atmosphere uncontrolled. Under our enhanced control scenario, the primary capture close to the emissions sources would be significantly improved with effective local hooding and ventilation and the remaining fugitive emissions (that are not captured by the primary hoods) would be drawn up to the roof-line and captured with secondary hooding and vented to control devices.

In cases where additional collection of fugitives from the roof areas is needed to comply with the rule, fume collection areas may be isolated via baffles (so the area above the furnace where fumes collect may be kept separated from ''empty'' spaces in large buildings) and roof openings over fume collection areas can be sealed and fumes directed to control devices. The fugitive emission capture system should achieve inflow at the building floor, but outflow toward the roof where most of the remaining fugitives would be captured by the secondary hooding. We concluded that a rigorous, systematic examination of the ventilation requirements throughout the building is the key to developing a fugitive emission capture system (consisting of primary hoods, secondary hoods, enclosures, and/or building ventilation ducted to PM control devices) that can be designed and operated to achieve very low levels of fugitive emissions. Such an evaluation considers worker health, safety, and comfort and it is designed to optimize existing ventilation options (fan capacity and hood design). Thus, we concluded that an enhanced capture system based on these design principles does represent an advancement in technology. We estimate that this type of control system could capture 95 percent of the process fugitive emissions and vent those emissions to PM control devices. This enhanced local capture option is described in more detail in the *Revised Technology Review for the Ferroalloys Production Source Category* and in the *Cost Impacts of Control Options to Address Fugitive HAP Emissions for the Ferroalloys Production NESHAP Supplemental Proposal* documents, which are available in the docket.

Under this control option, the cost elements vary by plant and furnace and include the following:

- Curtains or doors surrounding furnace tops to contain fugitive emissions;
- Improvements to hoods collecting tapping emissions;
- Upgrade fans to improve the airflow of fabric filters controlling fugitive emissions;
- Addition of ''secondary capture'' or additional hoods to capture emissions from tapping platforms or crucibles;
- Addition of fugitives capture for casting operations;
- Improvement of existing control devices or addition of fabric filters; and
- Addition of rooftop ventilation, in which fugitive emissions escaping local capture are collected in the roof canopy over process areas through addition of partitions, hoods, and then directed through ducts to control devices.

We estimate the total capital costs of installing the required ductwork, fans and control devices under the enhanced capture option (which is described above and in more detail in the *Cost Impacts of Control Options to Address Fugitive HAP Emissions for the Ferroalloys Production NESHAP Supplemental Proposal* document) to be $40.3 million and the total annualized cost to be $7.7 million for the two plants. The total estimated HAP reduction for the enhanced capture option is 77 tpy at a cost per ton of $103,000 ($52 per pound). We also estimate that this option would achieve PM emission reductions of 229 tpy, resulting in cost per ton of PM removed of $34,600 per ton and achieve particulate matter 2.5 microns and less ($PM_{2.5}$) emission reductions of 48 tons per year, resulting in a cost per ton of $PM_{2.5}$ removal of $165,000 per ton. We believe these controls for process fugitive HAP emissions (described above), which are based on enhanced capture (with primary and secondary hooding) are feasible for the Ferroalloys Production source category from a technical standpoint and are cost effective. These cost effectivenesses are in the range of cost effectiveness for PM and HAP metals from other previous rules. However, it is important to note that there is no bright line for determining acceptable cost effectiveness for HAP metals. Each rulemaking is different and various factors must be considered. Some of the other factors we consider when making decisions whether to establish standards beyond-the-floor (BTF) under CAA section 112(d)(2) or under CAA section 112(d)(6) include, but are not limited to, the following: which of the HAP metals are being reduced and by how much; total capital costs; annual costs; and costs compared to total revenues (*e.g.*, costs to revenue ratios).

As described in the supplemental proposal, we also re-evaluated the option based on full building enclosure with negative pressure.

Based on those analyses, we concluded in the supplemental proposal and conclude again in this action that the full-building enclosure option with negative pressure may not be feasible and would have significant economic impacts on the facilities (including potential closure for one or more facilities). Therefore, we are not promulgating an option based on full building enclosure with negative pressure.

However, consistent with the supplemental proposal, we conclude that the enhanced local capture option is a feasible and cost-effective approach to achieve significant reductions in fugitive HAP emissions and will achieve almost as much reductions as the full-building enclosure option (229 vs. 252 tons PM reductions) and, thus, achieving most of the emission reductions at significantly lower costs. In light of the technical feasibility and cost effectiveness of the enhanced capture option, we are promulgating the enhanced capture option under the authority of section 112(d)(6) of the CAA.

Regarding monitoring requirements, as described above, in the 2011 proposal, we proposed that facilities would need to conduct day-to-day continuous monitoring of differential pressure to comply with the proposed full building enclosure with negative pressure requirements.

With the move to the enhanced local capture alternative option, there is no longer any requirement to monitor negative pressure. Under this option, the main ongoing compliance requirements will be based on opacity readings and parametric monitoring. Therefore, since opacity is a main method of monitoring compliance for process fugitive emissions controls, we believe that frequent opacity monitoring is necessary, as reflected in the supplemental proposal. Furthermore, as we explained in the supplemental proposal, we believe an average opacity limit of 8 percent is appropriate to ensure effective capture and control of process fugitive emissions over the entire furnace cycles and that a maximum opacity of 20 percent for any 2 consecutive 6-minute periods is appropriate to prevent spikes in fugitive emissions. Therefore, we are promulgating an average opacity limit of 8 percent and a maximum opacity limit of 20 percent for any 2 consecutive 6-minute periods.

Regarding opacity monitoring, we are promulgating a requirement that facilities conduct opacity observations at least once per week for a full furnace cycle for each operating furnace and each MOR operation using the DCOT instead of Method 9. We believe the DCOT is appropriate for the final rule because it provides more objective and better substantiated opacity readings. However, as described above, we are allowing an opportunity for facilities to decrease frequency of opacity monitoring to monthly after 26 compliant weekly readings.

Similar to the supplemental proposal, we are also finalizing the requirement that, if the average opacity reading from the shop building is greater than 8-percent opacity during an observed furnace process cycle, an additional two more furnace process cycles must be observed such that the average opacity during the entire observation period is less than 7-percent opacity. A furnace process cycle means the period in which the furnace is tapped to the time in which the furnace is tapped again and includes periods of charging, smelting, tapping, casting, and ladle raking.

As mentioned above, we are also promulgating the requirement that at no time during operation may any two consecutive 6-minute block opacity readings be greater than 20-percent opacity.

We believe that the source should demonstrate that the overall design of the ventilation system is adequate to achieve the final standards. Therefore, we are promulgating the requirement that facilities in this source category must install, operate, and maintain a process fugitives capture system that is designed to collect 95 percent or more of the process fugitive emissions from furnace operations, casting MOR process, ladle raking and slag skimming and crushing, and screening operations, and convey the collected emissions to a control device that meets specified emission limits and the opacity limits. We are also requiring continuous monitoring of key ventilation operating system parameters and periodic inspections of the ventilation systems to ensure that the ventilation systems are operating as designed.

We believe that if the facilities design the capture and control systems according to the most recent (at the time of construction) ventilation design principles recommended by the American Conference of Governmental Industrial Hygienists (ACGIH), including detailed schematics of the ventilation system design, addressing variables that affect capture efficiency such as cross drafts and describes protocol or design characteristics to minimize such events and identifies monitoring and maintenance steps, the plan will be capable of ensuring the system is properly designed and continues to operate as designed. Therefore, we are promulgating the requirement that facilities develop such a plan and submit this plan to the permitting authority. The plan must also be incorporated into the source's operating permit and updated every 5 years or when there is a significant change in variables that affect process fugitive emissions ventilation design. This design plan, coupled with the requirement for frequent opacity observations and operating parameter monitoring, will ensure fugitive emissions are effectively controlled and will result in enforceable requirements. We recognize that other design requirements and/or more frequent opacity observations may yield more compliance certainty, but incur greater costs and not result in measurable decreases in emissions.

We believe the additional PM data we received justifies the revised PM stack emission limits we are promulgating under the authority of section 112(d)(6) of the CAA. We also believe the enhanced capture and control is a development in technology that is feasible and cost effective, so we are promulgating the enhanced local capture and control option under the authority of section 112(d)(6) of the CAA. Furthermore, we believe it is appropriate to promulgate the DCOT to ensure adequate furnace capture and control.

C. CAA Section 112(d)(2) & (3) Revisions for the Ferroalloys Production Source Category

1. What did we propose pursuant to CAA section 112(d)(2) & (3) for the Ferroalloys Production source category?

In the November 23, 2011, proposal, we proposed a formaldehyde emission limit of 201 μg/dscm for any new, reconstructed, or existing electric arc furnace.

In the October 6, 2014, supplemental proposal, we proposed the following:

- HCL emission limit of 180 μg/dscm for new or reconstructed electric arc furnaces and 1,100 μg/dscm for existing electric arc furnaces;
- Hg emission limit of 17 μg/dscm for new or reconstructed electric arc furnaces producing FeMn, and 170 μg/dscm for existing electric arc furnaces producing FeMn;
- Hg emission limit of 4 μg/dscm for new or reconstructed electric arc furnaces producing SiMn and 12 μg/dscm for existing electric arc furnaces producing SiMn;
- PAH emission limit of 880 mu;g/dscm for new or reconstructed electric arc furnaces producing FeMn and 1,400 μg/dscm for existing electric arc furnaces producing FeMn; and
- PAH emission limit of 72 μg/dscm for new or reconstructed electric arc furnaces producing SiMn and 120 μg/dscm for existing electric arc furnaces producing SiMn.

2. How did the CAA section 112(d)(2) & (3) revisions change for the Ferroalloys Production source category?

In mid-August 2014, a few weeks prior to the signature of the supplemental proposal, we received a test report with Hg and PAH data, which we were unable to incorporate into the proposed limits in the supplemental proposal, in part because of the timing and in part because we had not completed our review and technical analysis of the data. We noted receipt of the data and invited comment on it in the supplemental proposal, and made the data available for review. We committed to considering these data in the final rule based on public comment and our technical analysis. In addition to the pre-supplemental proposal data, another Hg and PAH test report was received during the comment period. The new test data for FeMn production received in August 2014 and during the comment period had much higher PAH concentrations than the data that were previously provided. The new PAH test data for SiMn production were only slightly higher than previous data received from the facilities. The new Hg data for both FeMn and SiMn production were comparable to the test data that we used to develop the proposed limits for the supplemental proposal.

For this action, we re-evaluated the PAH and Hg emission limits to include the new test data. The 99-percent upper prediction limit (UPL) calculation using all the available reliable data for PAH emissions results in an emissions limit of 12,000 μg/dscm for existing furnaces producing FeMn and 130 μg/dscm for existing furnaces producing SiMn.

With regard to new source limits, as mentioned previously, there are only two furnaces in the source category that produce FeMn, and both furnaces are located at Eramet. The units are similar in design and process the same types of raw materials, and we, therefore, expect little or no difference in the performance of these units. The available emissions data, which show that the two units mean emissions are only 2-percent different, support this hypothesis. We conclude, based on the similarities in the units and the available data, that these two furnaces achieve the same degree of control of PAH emissions with their current control devices. Accordingly, we consider these two units to be equal performers with regard to PAH emissions and therefore, we used all the data from both units to calculate the new source emissions limit. Using the 99-percent UPL calculation, we derive an emissions limit of 11,500 µg/dscm for new furnaces producing FeMn.

For SiMn, there were no changes to the best performing source and the PAH limit of 72 µg/dscm proposed in the supplemental proposal is the same limit selected for the final rule for new furnaces producing SiMn.

The 99-percent UPL for PAHs for FeMn production is about 8 times higher than the proposed PAH limit for FeMn in the supplemental proposal, whereas the 99-percent UPL for PAHs for SiMn production is comparable to the proposed limit in the supplemental proposal. The new data show there is substantial variability in PAH emissions from the furnaces, especially during FeMn production.

As mentioned in section III.E of this preamble, due to the large variation in PAH emissions from furnace stacks during FeMn production, we are requiring quarterly compliance tests for PAHs (i.e., four PAH compliance tests per year) for furnaces while producing FeMn, with an opportunity for facilities to apply for decreased frequency of such compliance testing from their permit authority after the first year and after four or more successful PAH compliance tests have been completed and submitted to the permit authority.

We expect that any application submitted by an affected source to request reduced frequent compliance testing for PAHs should include information regarding the four or more compliant test results and what factors or conditions are contributing to the quantity and variation of PAH emissions. For example, the application could include, among other things, information about the amounts and types of input materials, types of electrodes used, electrode consumption rates, furnace temperature and other furnace, process or product information that may be affecting the PAH emissions.

The re-evaluation of the Hg test data, which includes the new test data, produced a 99-percent UPL of 130 µg/dscm for existing furnaces producing FeMn and 12 µg/dscm for existing furnaces producing SiMn. For new sources, the new test data did not affect the 99-percent UPL of 4 µg/dscm for new furnaces producing SiMn.

With regard to the new source limit in the supplemental proposal for Hg for furnaces producing FeMn, the proposed new source limit was based on BTF controls using activated carbon injection (ACI), and assuming 90-percent reduction. We continue to conclude that it is appropriate to require BTF controls for new FeMn sources consistent with the supplemental proposal (assuming 90-percent reduction). Therefore, we calculate that the new source limit for the final rule for Hg for furnaces producing FeMn will be 13 µ g/dscm (i.e., 130 µ g/dscm minus 90-percent control). These UPL values are generally consistent with, but a bit lower than, the proposed limits in the supplemental proposal.

3. What key comments did we receive on the CAA section 112(d)(2) & (3) proposed revisions, and what are our responses?

Several comments were received regarding the CAA section 112(d)(2) & (3) proposed revisions for the Ferroalloys Production source category. The following is a summary of these comments and our responses. Other comments received and our responses can be found in the document titled *National Emission Standards for Hazardous Air Pollutant Emissions: Ferroalloys Production Summary of Public Comments and the EPA's Responses on Proposed Rule (76 FR 72508, November 23, 2011) and Supplemental Proposal (79 FR 60238, October 6, 2014)*, which is available in the docket for this action (EPA–HQ–OAR–2010–0895).

Comment: Commenters claimed the EPA was establishing MACT floors for the newly regulated HAP based on limited data. The commenters noted that for many of these pollutants, there is limited understanding of the mechanism of their generation in the process and the variability in the level of their occurrence. As a result, it is essential that EPA use all reasonably available data in establishing these standards.

The commenters noted the EPA excluded PAH data for both SiMn and FeMn production, that showed higher levels of emissions. They believe the exclusion of these data led to calculation of a proposed MACT floor for PAH that is below the level that can be demonstrably achieved by the best performing sources.

The commenters argued that the EPA should reconsider its decision not to include these data in calculation of the MACT floor. One commenter noted that additional testing to better characterize variability, particularly for PAH, was being performed prior to the comment period for the supplemental proposal and encouraged the EPA to consider these additional data in calculating the MACT floor levels for the final standard.

Response: We have received multiple test reports from the industry during the development of the supplemental proposal and during the comment period for the supplemental proposal. Each test report received was reviewed to determine if the test met the quality assurance/quality control (QA/QC) requirements for this RTR. Only test data that met these requirements were used to estimate emissions used for determining residual risk from the emissions sources and for determining the MACT floor limits. Most data we received passed the QA/QC process and were judged to be valid data and were used in our risk analyses and MACT floor calculations, including data received shortly before publication of the supplemental proposal and data received during the comment period. The final rule MACT floor limits include the updated data. However, a few tests we received previously did not meet the QA/QC requirements and, therefore, were not used in these analyses. For further explanation of the data evaluation, see the *Revised Development of the Risk and Technology Review (RTR) Emissions Dataset for the Ferroalloys Production Source Category for the 2015 Final Rule* document, which is available in the docket.

Even though some of the test data received did not meet the QA/QC requirements for this RTR, we believe we still have a robust set of test data for most of the HAP and the majority of the MACT floor analyses are based on multiple tests from each of the facilities.

Comment: One commenter believes the EPA has not demonstrated that ACI on new furnaces will provide any benefits. The commenter notes that the EPA estimated that Eramet emits only an estimated 274 pounds of Hg per year, and Hg emissions do not contribute to multipathway exposures exceeding an HQ of 1. Thus, reducing Hg emissions would not address any existing risks.

If no added cost was involved, lowering Hg emissions might be a worthwhile objective. But, the fact is that cost is a relevant concern under CAA section 112(d)(2) and, as discussed below, achieving the proposed new source standards would be prohibitively expensive.

The commenter states that the EPA justifies its conclusion that ACI is affordable for new sources based on the assumption that any new source will be built with a baghouse. As a threshold matter, the EPA's assertion that ACI is cost effective when applied to baghouse-controlled sources is contradicted by its own supporting memorandum. According to Table 6–3 of the Memorandum from Bradley Nelson, EC/R, Inc. to Phil Mulrine, EPA OAQPS/SPPD/MICG on *Mercury Control Options and Impacts for the Ferroalloys Production Industry* (Aug. 29, 2014), adding ACI is 5 times more expensive to add to a baghouse than to a scrubber, and operational costs are 3 times higher. The table, thus, indicates that the cost per pound of Hg removed would be higher, not lower, for EMI's baghouse-controlled source, and EPA's estimated marginal cost is $22,195 per pound, almost twice the cost presented by the EPA in the preamble to the 2014 proposal. Since this is based on an unrealistic removal rate, the unit cost would actually be at least $44,000 per pound of Hg removed.

Second, the commenter states that the sole economic justification for ACI is the EPA's substantially understated unit cost of $17,600 for each pound of Hg removed. The EPA's cost-per-pound metric is completely untethered to any cost-benefit analysis. To say how much it will cost to remove a pound of Hg provides no practical basis for assessing the relative value of removing that pound of Hg or the relative ability of a ferroalloys producer to absorb that cost. The docket contains no demonstration, much less substantial evidence, that the lower cost would nevertheless be affordable by EMI.

Finally, the commenter notes that the facility is captive to the pricing structure imposed by low-cost foreign ferroalloy producers who will not be subject to the requirements of this rule. Accordingly, foreign producers prevent the facility from passing on costs such as this to customers via higher prices. Before that facility can construct a new furnace, it would have to determine that the new furnace would produce a positive return large enough to cover the cost of constructing and operating that additional furnace, while charging the same price charged by producers not incurring the added costs of ACI. The EPA provides no explanation for why it believes this would be possible and our analysis strongly suggests that it would not be possible.

The commenter states that the net result is that the proposed new source standard effectively prevents EMI from increasing FeMn production in the future via a new furnace and ensures that when the existing furnaces require replacement, they will not be replaced with furnaces capable of producing FeMn. The EPA's proposed new source standard is inconsistent with EPA's recognition in the 2014 proposal that EMI is the sole U.S. source of FeMn for domestic steel production, and its judgment that ACI should not be immediately required, in part, because such a requirement would likely force EMI out of business. The proposed Hg "beyond-the-MACT-floor standard" produces the same result that the EPA agrees should be avoided, only at a later date.

Response: Activated carbon injection in conjunction with fabric filter technology has been successfully used to reduce emissions of Hg from a number of different industries. In addition, the use of brominated carbon has been used to oxidize the Hg allowing even greater control effectiveness for Hg.

The determination of the Hg limits for new or major reconstructed furnaces is based on the assurance that such sources would be constructed to include a baghouse as the primary PM control device (in order to comply with the proposed lower new source limits for PM) and then they could add ACI after the baghouse for Hg control along with a polishing baghouse and would achieve at least 90-percent reduction of Hg.

In the supplemental proposal, the estimated costs for beyond the floor controls for mercury for new and reconstructed sources were based on the costs of installing and operating brominated ACI and a polishing baghouse. Based on this, in the supplemental proposal, we estimated that the cost effectiveness of BTF controls for a new and major reconstructed FeMn production source would be about $12,000/lb. This cost effectiveness estimate is well within the range of cost effectiveness levels we have decided were reasonable in other rules. Furthermore, no other significant economic factors were identified that would indicate that these limits would be inappropriate or infeasible for new sources. Therefore, in the supplemental proposal, we concluded that BTF controls would be cost-effective and feasible for any new or major reconstructed furnace that produces FeMn.

We received new Hg test data prior to and during the comment period for the supplemental proposal. Using these new test data along with the previous data we re-evaluated the cost of installing ACI to reduce Hg. Similar to the supplemental proposal, we estimated costs for BTF controls for Hg for new and reconstructed sources based on the costs of installing and operating brominated ACI and a polishing baghouse. Based on this re-evaluation, we estimate that the cost effectiveness of installing ACI for a new and major reconstructed FeMn production source would be about $13,600/lb for a furnace producing FeMn 50 percent of the year, and $7,100/lb for a furnace producing FeMn 100 percent of the year.

These cost effectiveness estimates are similar to the estimate we presented in the supplemental proposal for the beyond the floor option for new FeMn furnaces and continue to be within the range of cost effectivenesses we have determined are reasonable for mercury control in other rulemakings. Furthermore, no other significant economic factors were identified that would indicate these limits would be inappropriate or infeasible for new or major reconstructed furnaces that produce FeMn. Therefore, we believe the BTF control option for Hg emissions is economically and technically feasible for new and major reconstructed FeMn furnaces and that these cost effectivenesses are acceptable for any new or major reconstructed furnace that produces FeMn. Additional discussion of the EPA's BTF analyses for mercury are available in the *Final Rule Mercury Control Options and Impacts for the Ferroalloys Production Industry* document and in the *Mercury Control Options and Impacts for the Ferroalloys Production Industry* document (dated August 2014) that EPA published in support of the 2014 supplemental proposal. These documents are available in the docket for this action.

An assessment of the cost effectiveness of emission reductions, along with other economic factors, is an appropriate method for assessing cost impacts in standard setting when CAA section 112 allows cost to be a factor in EPA's decision-making. Nothing in CAA section 112 compels EPA to use cost-benefit analysis in standard-setting decisions. Moreover, to the extent the commenter bases its position that the new source BTF standard for mercury lacks benefits because it does not address "any existing risk," the court of appeals has held that risk is not a consideration when setting MACT standards, as in *Sierra Club* v. *EPA*, 353 F.3d 976, 981 (D.C. Cir. 2004). The emission standards in this rule discharge EPA's CAA section 112(d)(2) duties with respect to Hg emissions from new and existing electric arc furnaces in this source category.

4. What is the rationale for our final approach for the CAA section 112(d)(2) and (3) revisions?

We evaluated and rejected BTF options for the CAA section 112(d)(2) and (3) revisions in the supplemental proposal and proposed MACT floor emissions limits for formaldehyde, HCl, Hg, and PAH for existing sources. We also evaluated and rejected BTF options for new sources for formaldehyde, HCl, and PAHs. For Hg, we also evaluated BTF options for new furnaces. We rejected BTF for new SiMn furnaces. However, we proposed BTF limits for Hg for FeMn furnaces. See the *Revised*

MACT Floor Analysis for the Ferroalloys Production Source Category document and the *Final Rule Mercury Control Options and Impacts for the Ferroalloys Production Industry* document, which are available in the docket.

We are promulgating MACT floor-based limits for the four HAP described above for existing sources under CAA section 112(d)(2) and (3) as described above, which is the same approach as in the supplemental proposal. Regarding new sources, we are promulgating MACT floor limits for new sources for formaldehyde, HCl, and PAHs, and for Hg for new SiMn furnaces. However, we are promulgating a BTF limit for Hg for FeMn furnaces.

The limits for HCl and formaldehyde are exactly the same as proposed. The Hg limits for FeMn and SiMn production and PAH limits for SiMn production changed slightly due to the inclusion of additional data. The only significant change was for the PAH limit for FeMn production, which is about 8 times higher than what we proposed. In our supplemental proposal, we provided notice of receipt of the highest test data (i.e., the data received in August 2014) which when combined with the other data resulted in a higher PAH limit. While these data had not been completely QA/QCed before the supplemental proposal, both the method for calculating a limit and most of the data on which the final limit was calculated were available and addressed in the supplemental proposal. Furthermore, commenters agreed that the final limit should be based on all available valid data. As we stated previously, any changes to the Hg and PAH emissions limits were a result of using all of the available valid data which resulted in a change to the MACT floor calculations. Additional data received during the comment period confirmed a higher PAH limit was justified.

D. What changes did we make to the Ferroalloys Production opacity monitoring requirement?

1. What changes did we propose for the ferroalloys production opacity monitoring requirement?

In the 2014 supplemental proposal, the EPA solicited comment regarding the use of new technologies to provide continuous or near continuous long term approaches to monitoring emissions from industrial sources such as the ferroalloys production facilities within this source category. Specifically, we were seeking comment on the feasibility and practice associated with the use of automated opacity monitoring with ASTM D7520–13, using DCOT at fixed points to interpret visible emissions from roof vents associated with the processes at each facility, and how this technology could potentially be included as part of the requirements in the NESHAP for ferroalloys production sources.

2. How did the opacity monitoring requirements change for the Ferroalloys Production source category?

Based on the information we received during the comment period for the supplemental proposal and after further evaluation of the technology, we believe that the use of DCOT can provide opacity readings comparable to Method 9 and reduce the burden of requiring a person to conduct opacity readings over the furnace cycle. Furthermore, the DCOT provides objective and well-substantiated readings of opacity. The DCOT camera provides an image that the facility could access immediately, with QA/QC done within 45 minutes to validate the image and initial readings. In comparison, it would take a field observer roughly 30 minutes to return from the field and average their manually assembled data such that they can report the average that they recorded over the previous 90 minutes of observations. We view the initial visible recording as sufficient evidence to provide the facility enough reason to initiate, investigate, and correct concerns that may create elevated visual emissions observations, and the 45-minute turnaround time on actual opacity values to be quick enough to provide a facility the confirmation they would need to be assured that they have taken appropriate action.

3. What key comments did we receive on the opacity monitoring requirement, and what are our responses?

Comment: In their supplemental proposal comments, one commenter objects to the significantly increased frequency of opacity observations from once every 5 years to weekly. They note that the Agency states that the frequency is ‘‘appropriate’’ to demonstrate compliance with the process fugitive standard with the enhanced frequency presumably substituting for the continuous negative pressure monitoring obligations from the 2011 proposal.

The commenter believes that this explanation overlooks the stringent continuous monitoring that the proposed rule already requires to ensure that the process fugitives control system meets the 95-percent capture requirement. First, the facility must develop a plan to demonstrate 95-percent capture, and that plan must be approved by the permitting authority. Next, the facility must perform an initial compliance demonstration. The facility must then identify specific parameters, either through the engineering assessment or the initial compliance demonstration, that are indicative of compliance with the opacity standard. Finally, on an ongoing basis, the facility must routinely monitor those parameters.

The commenter notes that an initial compliance demonstration and ongoing monitoring is a standard regulatory approach required in any number of MACT standards. However, none of these other standards require weekly testing to confirm that the parameters and limits are still being met and many other standards require re-testing only every 5 years, or at most annually. They believe that nothing in the current proposal demonstrates why it is necessary or appropriate to deviate from this standard approach here.

Two commenters believe that the proposed weekly opacity testing will impose significant ongoing costs on the facilities for no additional environmental benefit. They believe that the ongoing parametric monitoring is sufficient to ensure compliance on an ongoing basis.

These commenters believe that the weekly opacity reading requirement is overly burdensome, especially for Eramet because they have three shop buildings. They estimate 3–5 hours per building opacity reading for a total of 9–15 hours a week for reading opacity.

Response: We re-evaluated the opacity monitoring requirements in the supplemental proposal and determined that the DCOT and ASTM D7520–13 provided a development that ensures compliance with the fugitive emissions standards, as well as reduces the labor burden on the facilities. After initial setup, the DCOT can measure the opacity during the furnace process cycle without any labor needed. In addition, facilities would not have the cost of annual certification as is the case with Method 9. We estimate that the overall costs of DCOT and ASTM D7520–13 will be approximately the same as what the overall costs would be if facilities used method 9. In addition, due to the baseline unacceptable risk finding being based largely on process fugitive manganese emissions, we believe the frequent opacity readings using the objective and substantiated results of DCOT are warranted to ensure fugitive emissions are effectively captured and controlled. However, after considering comments, we decided to allow facilities an opportunity to reduce the frequency of opacity readings to once per month per furnace building (instead of weekly) if the facility achieves 26 consecutive compliant weekly readings for that furnace building. This reduction in frequency will reduce the cost burden for the facilities. However, if any of the subsequent monthly readings exceed the opacity limit for that furnace building, the facility must return to weekly readings until they achieve another 26 compliant weekly readings, at which time the facility can return to monthly readings.

Comment: One commenter supported the EPA's determination that opacity observations should be measured over a furnace process cycle. However, because all furnaces at the Felman facility are located in the same building, the commenter suggests treating the building as a single opacity source, and that opacity observations be conducted over a time period that captures a full furnace process cycle from each furnace within that building.

Response: We agree with the commenter and have revised the opacity requirements to include opacity determinations from buildings with multiple furnaces. The requirement will treat the building with multiple furnaces as a single opacity source and the opacity readings will be conducted over a time period that will include tapping from each of the furnaces in operation.

Comment: In comments on the supplemental proposal, two commenters state that the EPA should require the use of the best available testing method, digital opacity monitoring. The commenters describe the benefits of the DCOT compared to Method 9 and provide supporting documentation. In particular, one commenter supports the DCOT because it is EPA certified as a valid test method for opacity and approved for its use, the use of a camera creates a good electronic record of the observations, conditions, location, etc., and a number of regulated entities are using this method to assess opacity. The commenter adds that using cameras can save resources, citing a Department of Defense project to reduce Method 9 certification costs. The commenter adds that the EPA should also require opacity determinations to be documented on an electronic form and provided on the Internet in real time for public review.

One commenter adds that the EPA should not allow Method 9 to be used, unless there is a power outage requiring the facility to use Method 9 to assure opacity standard compliance. They also add that instead of Method 9, the EPA should require a source to use either continuous opacity monitor or DCOT.

Response: We evaluated the use of DCOT and the ASTM D7520–13 method and determined that this technology provides the same compliance assurance as Method 9 measurements with approximately the same overall burden on the facilities and the DCOT provides reliable, unbiased opacity readings. Therefore, we are requiring opacity determinations to be made using DCOT and ASTM D7520–13. With regard to the comment suggesting that the DCOT results be documented in an electronic format and provided on the internet in real time, the DCOT results will be recorded in an electronic format. Furthermore, use of the DCOT will improve transparency of opacity monitoring results. However, we do not have a system established to provide these results on the internet in real time. Furthermore, the ERT is not yet configured to be able to accept the DCOT compliance images. Nevertheless, the rule requires the affected sources to maintain electronic records of the DCOT results and submit periodic compliance monitoring reports to the Administrator or permit authority. We believe that the public will be able to obtain copies of the compliance results within a reasonable amount of time by contacting the EPA and/or the permit authority through the appropriate channels.

Comment: One commenter requests a clarification to the proposed regulatory language: That EPA add the phrase ''over a furnace process cycle'' at the end of 40 CFR 63.1623(b)(3). As written in the supplemental proposal, the language requires that opacity emissions not exceed 8 percent, but no averaging time is specified. The proposed subsections, § 63.1623(b)(3)(i) though (iii) stated that the compliance demonstration for this obligation must be determined over the course of an entire furnace process cycle, but they do not clearly state that the limit itself is 8 percent over the entire furnace process cycle, and not, for example, an instantaneous limit, or 8 percent over a 6-minute period. To avoid misunderstanding, this averaging period should be stated clearly as part of the standard itself.

Response: We agree with the commenter and have included language that clarifies the opacity requirement in the final rule.

4. What is the rationale for our final decision for the opacity monitoring requirement?

We are finalizing requirements to measure opacity from the furnace buildings using ASTM D7520–13 and digital camera technology because we conclude this is the best method to ensure reliable and unbiased readings for opacity. We are also finalizing the requirement that facilities need to meet an average opacity standard of no more than 8-percent opacity for each furnace cycle. Furthermore, we are finalizing the requirement that at no time during operation may any two consecutive 6-minute block opacity readings (12-minute period) be greater than 20-percent opacity.

V. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted

A. What are the affected facilities?

Eramet Marietta Incorporated, in Marietta, Ohio and Felman Production LLC, in Letart West Virginia, are the 2 manganese ferroalloys production facilities currently operating in the United States that will be affected by these amendments. We do not know of any new facilities that are expected to be constructed in the foreseeable future. However, there is one other facility that has a permit to produce FeMn or SiMn in an electric arc furnace, but it is not doing so at present. It is possible, however, that this facility could resume production or another non-manganese ferroalloy producer could decide to commence production of FeMn or SiMn. Given this uncertainty, our impact analysis is focused on the two existing sources that are currently operating.

B. What are the air quality impacts?

As noted in the 2011 proposal, emissions of metal HAP from ferroalloys production sources have declined in recent years, primarily as the result of state actions and also due to the industry's own initiative. The final amendments in this rule would cut HAP emissions (primarily particulate metal HAP such as manganese, arsenic, and nickel) by about 60 percent from their current levels. Under the final emissions standards for process fugitives emissions from the furnace building, we estimate that the HAP emissions reductions would be 77 tpy, including significant reductions of manganese.

C. What are the cost impacts?

Under the revised final amendments, each ferroalloys production facility is expected to incur costs for the design, installation and operation of an enhanced local capture system. Each facility also is expected to incur costs associated with the installation of additional control devices to manage the air flows generated by the enhanced capture systems. There would also be capital costs associated with installing new or improved continuous monitoring systems, including installation of BLDS on the furnace baghouses that are not currently equipped with these systems and installation and operation of DCOT systems to monitor opacity.

The revised capital costs for each facility were estimated based on the projected number and types of upgrades required. The specific enhancements for each facility were selected for cost estimation based on estimates directly provided by the facilities based on their engineering analyses and discussions with the EPA. The *Cost Impacts of Control Options to Address Fugitive HAP Emissions for the Ferroalloys Production NESHAP Supplemental Proposal* document includes a complete description of the revised cost estimate methods used for this analysis and is available in the docket.

Cost elements vary by plant and furnace and include the following elements:

- Curtains or doors surrounding furnace tops to contain fugitive emissions;
- Improvements to hoods collecting tapping emissions;
- Upgraded fans to improve the airflow of fabric filters controlling fugitive emissions;
- Addition of ‘‘secondary capture’’ or additional hoods to capture emissions from tapping platforms or crucibles;
- Addition of fugitives capture for casting operations;
- Improvement of existing control devices or addition of fabric filters; and
- Addition of rooftop ventilation, in which fugitive emissions escaping local control are collected in the roof canopy over process areas through addition of partitions and hoods, then directed through roof vents and ducts to control devices.

For purposes of the analysis for the final rule, we assumed that enhanced capture systems and roofline ventilation will be installed for all operational furnaces at both facilities and for MOR operations at Eramet Marietta. The specific elements of the capture and control systems selected for each facility are based on information supplied by the facilities incorporating their best estimates of the improvements to fugitive emission capture and control they would implement to achieve the standards included in the final rule. We estimate the total capital costs of installing the required ductwork, fans, control devices, and monitoring to comply with the enhanced capture system requirements to be $40.3 million and the total annualized cost to be $7.7 million (2012 dollars) for the two plants. We estimate that enhanced capture and control systems required by this rule will reduce metal HAP emissions by 75 tons, resulting in a cost per ton of metal HAP removed to be $106,000 per ton ($53 per pound). The total HAP reduction for the enhanced capture and control systems is estimated to be 77 tpy at a cost per ton of $103,000 per ton ($52 per pound). We also estimate that these systems will achieve PM emission reductions of 229 tpy, resulting in cost per ton of PM removed of $34,600 per ton and achieve $PM_{2.5}$ emission reductions of 48 tpy, resulting in a cost per ton of $PM_{2.5}$ removal of $165,000 per ton.

D. What are the economic impacts?

As a result of the requirements in this final rule, we estimate that the total capital cost for the Eramet facility will be about $25.4 million and the total annualized costs will be about $5.6 million (in 2012 dollars). For impacts to Felman Production LLC, this facility is estimated to incur a total capital cost of $14.9 million and a total annualized costs of just under $2.1 million (in 2012 dollars). In total, these costs could lead to an increase in annualized cost of about 1.9 percent of sales, which serves as an estimate for the increase in product prices, and a decrease in output of as much as 10.1 percent. For more information regarding economic impacts, please refer to the *Economic Impact Analysis* report and the summary of public comments and EPA's responses document which are included in the public docket for this final rule.

E. What are the benefits?

The estimated reductions in HAP emissions (*i.e.*, about 77 tpy) that will be achieved by this action will provide significant benefits to public health. For example, there will be a significant reduction in emissions of HAP metals (especially manganese, arsenic, nickel, chromium, cadmium, and lead). The rule will also achieve some reductions of Hg and PAHs. In addition to the HAP reductions, we also estimate that this final rule will reduce 48 tons in $PM_{2.5}$ emissions as a co-benefit of the HAP reductions annually.

This rulemaking is not an ‘‘economically significant regulatory action’’ under Executive Order 12866 because it is not likely to have an annual effect on the economy of $100 million or more. Therefore, we have not conducted a Regulatory Impact Analysis (RIA) for this rulemaking or a benefits analysis. While we expect that these avoided emissions will result in improvements in air quality and reduce health effects associated with exposure to HAP associated with these emissions, we have not quantified or monetized the benefits of reducing these emissions for this rulemaking. This does not imply that there are no benefits associated with these emission reductions. In fact, our demographic analysis indicates that thousands of people live within 50 kilometers of these two facilities and these people will experience benefits because of the reduced exposure to air toxics due to this rulemaking.

When determining if the benefits of an action exceed its costs, Executive Orders 12866 and 13563 direct the Agency to consider qualitative benefits that are difficult to quantify but essential to consider. Controls installed to reduce HAP would also reduce ambient concentrations of $PM_{2.5}$ as a co-benefit. Reducing exposure to $PM_{2.5}$ is associated with significant human health benefits, including avoided premature mortality and morbidity from cardiovascular and respiratory illnesses. Researchers have associated $PM_{2.5}$ exposure with adverse health effects in numerous toxicological, clinical and epidemiological studies (U.S. EPA, 2009).[4] When adequate data and resources are available and an RIA is required, the EPA generally quantifies several health effects associated with exposure to $PM_{2.5}$ (U.S. EPA, 2012).[5] These health effects include premature mortality for adults and infants, cardiovascular morbidities such as heart attacks, hospital admissions and respiratory morbidities such as asthma attacks, acute bronchitis, hospital and emergency department visits, work loss days, restricted activity days, and respiratory symptoms. The scientific literature also suggests that exposure to $PM_{2.5}$ is also associated with adverse effects on birth weight, pre-term births, pulmonary function and other cardiovascular and respiratory effects (U.S. EPA, 2009), but the EPA has not quantified certain outcomes of these impacts in its benefits analyses. $PM_{2.5}$ also increases light extinction, which is

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[4] U.S. Environmental Protection Agency (U.S. EPA). 2009. *Integrated Science Assessment for Particulate Matter (Final Report).* EPA–600–R–08–139F. National Center for Environmental Assessment—RTP Division. Available on the Internet at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.*

[5] U.S. Environmental Protection Agency (U.S. EPA). 2012. *Regulatory Impact Analysis for the Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter.* Office of Air and Radiation, Research Triangle Park, NC. Available on the Internet at *http://www.epa.gov/ttnecas1/regdata/RIAs/PMRIACombinedFile_Bookmarked.pdf.*

an important aspect of reduced visibility.

The rulemaking is also anticipated to reduce emissions of other HAP, including metal HAP (arsenic, cadmium, chromium (both total and hexavalent), lead compounds, manganese, and nickel) and PAHs. Some of these HAP are carcinogenic (e.g., arsenic, PAHs) and some are toxic and have effects other than cancer (e.g., kidney disease from cadmium, respiratory, and immunological effects from nickel). While we cannot quantitatively estimate the benefits achieved by reducing emissions of these HAP, qualitative benefits are expected as a result of reducing exposures to these HAP. More information about the health effects of these HAP can be found on the IRIS,[6] ATSDR,[7] and California EPA [8] Web pages.

F. What analysis of environmental justice did we conduct?

As explained in section IV.A of this preamble, we assessed the impacts to various demographic groups. The methodology and the results of the analyses are described in the *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Ferroalloys Facilities*, which is available in the docket.

Based on that assessment, we conclude that this final rule will reduce the number of people exposed to elevated risks, from approximately 41,000, to about 26,000 people exposed to a potential cancer risk greater than or equal to 1-in-1 million and from 1,300 to zero people exposed to a potential chronic noncancer hazard level of 1. Based on this analysis, the EPA has determined that these final rule requirements will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations. See Section VI.J of this preamble for more information.

G. What analysis of children's environmental health did we conduct?

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because the Agency does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. The report, *Analysis of Socio-Economic Factors for Populations Living Near Ferroalloys Facilities*, which is available in the docket, shows that, prior to the implementation of the provisions included in this final rule, on a nationwide basis, there are approximately 41,000 people exposed to a cancer risk at or above 1-in-1 million and approximately 1,300 people exposed to a chronic noncancer TOSHI greater than 1 due to emissions from the source category. The percentages for all demographic groups (with the exception of those ages 65 and older, which is only slightly higher than the national average), including children 18 years and younger, are similar to or lower than their respective nationwide percentages. Further, implementation of the provisions included in this action is expected to significantly reduce the number of at-risk people due to HAP emissions from these sources (from approximately 41,000 to about 26,000 for cancer risks and from 1,300 to zero for chronic noncancer hazards), providing significant benefit to all demographic groups.

This rule is expected to reduce environmental impacts for everyone, including children. This action establishes emissions limits at the levels based on MACT, as required by the CAA. Based on our analysis, we believe that this rule does not present a disproportionate risk to children because it increases the level of environmental protection for all affected populations.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to the OMB under the PRA. The ICR document that the EPA prepared has been assigned EPA ICR number 2488.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information requirements in this rulemaking are based on the notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These notifications, reports, and records are essential in determining compliance, and are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to agency policies set forth in 40 CFR part 2, subpart B.

Respondents/affected entities: New and existing ferroalloys production facilities that produce FeMn and SiMn and are either major sources of HAP emissions or are co-located at major sources of HAP.

Respondent's obligation to respond: Mandatory (42 U.S.C. 7414).

Estimated number of respondents: 2.

Frequency of response: Semiannual.

Total estimated burden: 707 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $0.85 million (per year), includes $0.78 million annualized capital or operation & maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are businesses that can be classified as small firms using the Small Business Administration size standards for their respective industries. The agency has determined that neither of the companies affected by this rule is considered to be a small entity. Details of this analysis are presented in the memorandum, *Economic Impact Analysis for Risk and Technology Review: Ferroalloys Production Source*

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[6] U.S. EPA, 2006. Integrated Risk Information System. *http://www.epa.gov/iris/index.html.*

[7] U.S. Agency for Toxic Substances and Disease Registry, 2006. *Minimum Risk Levels (MRLs) for Hazardous Substances. http://www.atsdr.cdc.gov/mrls/index.html.*

[8] CA Office of Environmental Health Hazard Assessment, 2005. *Chronic Reference Exposure Levels Adopted by OEHHA as of December 2008. http://www.oehha.ca.gov/air/chronic_rels.*

Category, which is available in the docket for this action.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments, or on the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. There are no ferroalloys production facilities that are owned or operated by tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the *Residual Risk Assessment for the Ferroalloys Production Source Category in Support of the 2015 Risk and Technology Review Final Rule document*, which is available in the docket for this action, and are discussed in section V.G of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act and 1 CFR Part 51

This final rule involves technical standards. EPA decided to use ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses,'' for its manual methods of measuring the oxygen or carbon dioxide content of the exhaust gas. These parts of ASME PTC 19.10–1981 are acceptable alternatives to EPA Method 3B. This standard is available from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990.

The EPA has also decided to use ASTM D7520–13, Standard Test Method for Determining the Opacity in a Plume in an Outdoor Ambient Atmosphere, for measuring opacity from the shop buildings. This standard is an acceptable alternative to EPA Method 9 and is available from the American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959. See *http://www.astm.org/*.

In addition, the EPA has decided to use California Air Resources Board Method 429, Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources for measuring PAH emissions from the furnace control device. This method is an acceptable alternative to EPA Method 0010 and is available from the California Air Resources Board (CARB), Engineering and Certification Branch, 1001 I Street, P.O. Box 2815, Sacramento, CA 95812–2815. See *http://www.arb.ca.gov/testmeth/vol3/M_429.pdf*.

The EPA has also decided to use EPA Methods 1, 2, 3A, 3B, 4, 5, 5D, 10, 26A, 29, 30B, 316 of 40 CFR part 60, appendix A. No applicable VCS were identified for EPA Methods 30B, 5D, 316.

Under 40 CFR 63.7(f) and 40 CFR 63.8(f) of subpart A of the General Provisions, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in this final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA has determined that the current health risks posed by emissions from this source category are unacceptable. There are up to 41,000 people living in close proximity to the two facilities that are currently subject to health risks which may not be considered negligible (*i.e.*, cancer risks greater than 1-in-1 million or chronic noncancer TOSHI greater than 1) due to emissions from this source category. The demographic makeup of this population is similar to the national distribution for all demographic groups, with the exception of those ages 65 and older, which is slightly higher than the national average. This final rule will reduce the number of people in this group, from approximately 41,000, to about 26,000 people exposed to a cancer risk greater than or equal to 1-in-1 million and from 1,300 to zero people for a chronic noncancer hazard index of 1. The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it increases the level of environmental protection for all affected populations. The results of this evaluation are contained in section IV.A of this preamble. A copy of this methodology and the results of the demographic analysis are included in a technical report, *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Ferroalloys Facilities*, which is available in the docket for this action.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects for 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: May 28, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency is amending title 40, chapter I, part 63 of the Code of Federal Regulations (CFR) as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart A—General Provisions

■ 2. Section 63.14 is amended:

■ a. By revising paragraph (f)(1);

■ b. By redesignating paragraphs (g)(87) through (94) as paragraphs (g)(88) through (95), respectively;

■ c. By adding new paragraph (g)(87);

■ d. By revising paragraph (j) introductory text;

■ e. By redesignating paragraphs (j)(1) through (3) as paragraphs (j)(2) through (4), respectively; and

■ f. By adding new paragraph (j)(1).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(f) * * *

(1) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981, IBR approved for §§ 63.309(k), 63.457(k), 63.772(e) and (h), 63.865(b), 63.1282(d) and (g), 63.1625(b), 63.3166(a), 63.3360(e), 63.3545(a), 63.3555(a), 63.4166(a), 63.4362(a), 63.4766(a), 63.4965(a), 63.5160(d), table 4 to subpart UUUU, 63.9307(c), 63.9323(a), 63.11148(e), 63.11155(e), 63.11162(f), 63.11163(g), 63.11410(j), 63.11551(a), 63.11646(a), and 63.11945, table 5 to subpart DDDDD, table 4 to subpart JJJJJ, tables 4 and 5 of subpart UUUUU, and table 1 to subpart ZZZZZ.

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(g) * * *

(87) ASTM D7520–13, ''Standard Test Method for Determining the Opacity in a Plume in an Outdoor Ambient Atmosphere,'' Approved December 1, 2013, IBR approved for §§ 63.1625(b).

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(j) California Air Resources Board (CARB), 1001 I Street, P.O. Box 2815, Sacramento, CA 95812–2815, Telephone (916) 327–0900, *http://www.arb.ca.gov/*.

(1) Method 429, Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources, Adopted September 12, 1989, Amended July 28, 1997, IBR approved for § 63.1625(b).

* * * * *

Subpart XXX—National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese

■ 3. Sections 63.1620 through 63.1629 are added to read as follows:

* * * * *

§ 63.1620 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a new or existing ferromanganese and/or silicomanganese production facility that is a major source or is co-located at a major source of hazardous air pollutant emissions.

(b) You are subject to this subpart if you own or operate any of the following equipment as part of a ferromanganese and/or silicomanganese production facility:

(1) Electric arc furnace;

(2) Casting operations;

(3) Metal oxygen refining (MOR) process;

(4) Crushing and screening operations;

(5) Outdoor fugitive dust sources.

(c) A new affected source is any of the equipment listed in paragraph (b) of this section for which construction or reconstruction commenced after June 30, 2015.

(d) Table 1 of this subpart specifies the provisions of subpart A of this part that apply to owners and operators of ferromanganese and silicomanganese production facilities subject to this subpart.

(e) If you are subject to the provisions of this subpart, you are also subject to title V permitting requirements under 40 CFR part 70 or 71, as applicable.

(f) Emission standards in this subpart apply at all times.

§ 63.1621 What are my compliance dates?

(a) Existing affected sources must be in compliance with the provisions specified in §§ 63.1620 through 63.1629 no later than June 30, 2017.

(b) Affected sources in existence prior to June 30, 2015 must be in compliance with the provisions specified in §§ 63.1650 through 63.1661 by November 21, 2001 and until June 30, 2017. As of June 30, 2017, the provisions of §§ 63.1650 through 63.1661 cease to apply to affected sources in existence prior to June 30, 2015. The provisions of §§ 63.1650 through 63.1661 remain enforceable at a source for its activities prior to June 30, 2017.

(c) If you own or operate a new affected source that commences construction or reconstruction after November 23, 2011, you must comply with the requirements of this subpart by June 30, 2015, or upon startup of operations, whichever is later.

§ 63.1622 What definitions apply to this subpart?

Terms in this subpart are defined in the Clean Air Act (Act), in subpart A of this part, or in this section as follows:

Bag leak detection system means a system that is capable of continuously monitoring particulate matter (dust) loadings in the exhaust of a baghouse in order to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Capture system means the collection of components used to capture the gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: Duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, fans and roofline ventilation systems.

Casting means the period of time from when molten ferroalloy is removed from the tapping station until the pouring into casting molds or beds is completed. This includes the following operations: Pouring alloy from one ladle to another, slag separation, slag removal and ladle transfer by crane, truck, or other conveyance.

Crushing and screening equipment means the crushers, grinders, mills, screens and conveying systems used to crush, size and prepare for packing manganese-containing materials, including raw materials, intermediate products and final products.

Electric arc furnace means any furnace where electrical energy is converted to heat energy by transmission of current between electrodes partially submerged in the furnace charge. The furnace may be of an open, semi-sealed, or sealed design.

Furnace process cycle means the period in which the furnace is tapped to the time in which the furnace is tapped again and includes periods of charging, smelting, tapping, casting and ladle raking. For multiple furnaces operating within a single shop building, furnace process cycle means a period sufficient to capture a full cycle of charging, smelting, tapping, casting and ladle raking for each furnace within the shop building.

Ladle treatment means a post-tapping process including metal and alloy additions where chemistry adjustments are made in the ladle after furnace smelting to achieve a specified product.

Local ventilation means hoods, ductwork, and fans designed to capture process fugitive emissions close to the area where the emissions are generated (*e.g.*, tap hoods).

Metal oxygen refining (MOR) process means the reduction of the carbon content of ferromanganese through the use of oxygen.

Outdoor fugitive dust source means a stationary source from which hazardous air pollutant-bearing particles are discharged to the atmosphere due to wind or mechanical inducement such as vehicle traffic. Fugitive dust sources include plant roadways, yard areas and outdoor material storage and transfer operation areas.

Plant roadway means any area at a ferromanganese and silicomanganese production facility that is subject to plant mobile equipment, such as forklifts, front end loaders, or trucks, carrying manganese-bearing materials. Excluded from this definition are employee and visitor parking areas, provided they are not subject to traffic by plant mobile equipment.

Process fugitive emissions source means a source of hazardous air pollutant emissions that is associated with a ferromanganese or silicomanganese production facility and is not a fugitive dust source or a stack emissions source. Process fugitive sources include emissions that escape capture from the electric arc furnace, tapping operations, casting operations, ladle treatment, MOR or crushing and screening equipment.

Roofline ventilation system means an exhaust system designed to evacuate process fugitive emissions that collect in the roofline area to a control device.

Shop building means the building which houses one or more electric arc furnaces or other processes that generate process fugitive emissions.

Shutdown means the cessation of operation of an affected source for any purpose.

Startup means the setting in operation of an affected source for any purpose.

Tapping emissions means the gases and emissions associated with removal of product from the electric arc furnace under normal operating conditions, such as removal of metal under normal pressure and movement by gravity down the spout into the ladle and filling the ladle.

Tapping period means the time from when a tap hole is opened until the time a tap hole is closed.

§ 63.1623 What are the emissions standards for new, reconstructed and existing facilities?

(a) *Electric arc furnaces*. You must install, operate and maintain an effective capture system that collects the emissions from each electric arc furnace operation and conveys the collected emissions to a control device for the removal of the pollutants specified in the emissions standards specified in paragraphs (a)(1) through (5) of this section.

(1) *Particulate matter emissions*. (i) You must not discharge exhaust gases from each electric arc furnace operation containing particulate matter in excess of 4.0 milligrams per dry standard cubic meter (mg/dscm) into the atmosphere from any new or reconstructed electric arc furnace.

(ii) You must not discharge exhaust gases from each electric arc furnace operation containing particulate matter in excess of 25 mg/dscm into the atmosphere from any existing electric arc furnace.

(2) *Mercury emissions*. (i) You must not discharge exhaust gases from each electric arc furnace operation containing mercury emissions in excess of 13 micrograms per dry standard cubic meter (μg/dscm) into the atmosphere from any new or reconstructed electric arc furnace when producing ferromanganese.

(ii) You must not discharge exhaust gases from each electric arc furnace operation containing mercury emissions in excess of 130 μg/dscm into the atmosphere from any existing electric arc furnace when producing ferromanganese.

(iii) You must not discharge exhaust gases from each electric arc furnace operation containing mercury emissions in excess of 4 μg/dscm into the atmosphere from any new or reconstructed electric arc furnace when producing silicomanganese.

(iv) You must not discharge exhaust gases from each electric arc furnace operation containing mercury emissions in excess of 12 μg/dscm into the atmosphere from any existing electric arc furnace when producing silicomanganese.

(3) *Polycyclic aromatic hydrocarbon emissions*. (i) You must not discharge exhaust gases from each electric arc furnace operation containing polycyclic aromatic hydrocarbon emissions in excess of 12,000 μg/dscm into the atmosphere from any new or reconstructed electric arc furnace when producing ferromanganese.

(ii) You must not discharge exhaust gases from each electric arc furnace operation containing polycyclic aromatic hydrocarbon emissions in excess of 12,000 μg/dscm into the atmosphere from any existing electric arc furnace when producing ferromanganese.

(iii) You must not discharge exhaust gases from each electric arc furnace operation containing polycyclic aromatic hydrocarbon emissions in excess of 72 μg/dscm into the atmosphere from any new or reconstructed electric arc furnace when producing silicomanganese.

(iv) You must not discharge exhaust gases from each electric arc furnace operation containing polycyclic aromatic hydrocarbon emissions in excess of 130 μg/dscm into the atmosphere from any existing electric arc furnace when producing silicomanganese.

(4) *Hydrochloric acid emissions*. (i) You must not discharge exhaust gases from each electric arc furnace operation containing hydrochloric acid emissions in excess of 180 μg/dscm into the atmosphere from any new or reconstructed electric arc furnace.

(ii) You must not discharge exhaust gases from each electric arc furnace operation containing hydrochloric acid emissions in excess of 1,100 μg/dscm into the atmosphere from any existing electric arc furnace.

(5) *Formaldehyde emissions*. You must not discharge exhaust gases from each electric arc furnace operation containing formaldehyde emissions in excess of 201 μg/dscm into the atmosphere from any new, reconstructed or existing electric arc furnace.

(b) *Process fugitive emissions*. (1) You must install, operate and maintain a capture system that is designed to collect 95 percent or more of the emissions from process fugitive emissions sources and convey the collected emissions to a control device that is demonstrated to meet the applicable emission limit specified in paragraph (a)(1) or (c) of this section.

(2) The determination of the overall capture must be demonstrated as required by § 63.1624(a).

(3) Unless you meet the criteria of paragragh (b)(3)(iii) of this section, you must not cause the emissions exiting from a shop building to exceed an average of 8 percent opacity over a furnace or MOR process cycle.

(i) This 8 percent opacity requirement is determined by averaging the individual opacity readings observed during the furnace or MOR process cycle.

(ii) An individual opacity reading shall be determined as the average of 24 consecutive images recorded at 15-second intervals with the opacity values from each individual digital image rounded to the nearest 5 percent.

(iii) If the average opacity from the shop building is greater than 8 percent opacity during an observed furnace or MOR process cycle, the opacity of two more additional furnace or MOR process cycles must be observed within 7 days and the average of the individual opacity readings during the three observation periods must be less than 8 percent opacity.

(iv) At no time during operation may the average of any two consecutive individual opacity readings be greater than 20 percent opacity.

(c) *Local ventilation emissions.* If you operate local ventilation to capture tapping, casting, or ladle treatment emissions and direct them to a control device other than one associated with the electric arc furnace, you must not discharge into the atmosphere any captured emissions containing particulate matter in excess of 4.0 mg/dscm.

(d) *MOR process.* You must not discharge into the atmosphere from any new, reconstructed or existing MOR process exhaust gases containing particulate matter in excess of 3.9 mg/dscm.

(e) *Crushing and screening equipment.* You must not discharge into the atmosphere from any new, reconstructed, or existing piece of equipment associated with crushing and screening exhaust gases containing particulate matter in excess of 13 mg/dscm.

(f) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.

§ 63.1624 What are the operational and work practice standards for new, reconstructed, and existing facilities?

(a) *Process fugitive emissions sources.* (1) You must prepare, and at all times operate according to, a process fugitive emissions ventilation plan that documents the equipment and operations designed to effectively capture process fugitive emissions. The plan will be deemed to achieve effective capture if it consists of the following elements:

(i) Documentation of engineered hoods and secondary fugitive capture systems designed according to the most recent, at the time of construction, ventilation design principles recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). The process fugitive emissions capture systems must be designed to achieve sufficient air changes to evacuate the collection area frequently enough to ensure process fugitive emissions are effectively collected by the ventilation system and ducted to the control device(s). The required ventilation systems should also use properly positioned hooding to take advantage of the inherent air flows of the source and capture systems that minimize air flows while also intercepting natural air flows or creating air flows to contain the fugitive emissions. Include a schematic for each building indicating duct sizes and locations, hood sizes and locations, control device types, size and locations and exhaust locations. The design plan must identify the key operating parameters and measurement locations to ensure proper operation of the system and establish monitoring parameter values that reflect effective capture.

(ii) List of critical maintenance actions and the schedule to conduct them.

(2) You must submit a copy of the process fugitive emissions ventilation plan to the designated permitting authority on or before the applicable compliance date for the affected source as specified in § 63.1621 in electronic format and whenever an update is made to the plan. The requirement for you to operate the facility according to the written process fugitives ventilation plan and specifications must be incorporated in the operating permit for the facility that is issued by the designated permitting authority under part 70 or 71 of this chapter, as applicable.

(3) You must update the information required in paragraphs (a)(1) and (2) of this section every 5 years or whenever there is a significant change in variables that affect process fugitives ventilation design such as the addition of a new process.

(b) *Outdoor fugitive dust sources.* (1) You must prepare, and at all times operate according to, an outdoor fugitive dust control plan that describes in detail the measures that will be put in place to control outdoor fugitive dust emissions from the individual fugitive dust sources at the facility.

(2) You must submit a copy of the outdoor fugitive dust control plan to the designated permitting authority on or before the applicable compliance date for the affected source as specified in § 63.1621. The requirement for you to operate the facility according to a written outdoor fugitive dust control plan must be incorporated in the operating permit for the facility that is issued by the designated permitting authority under part 70 or 71 of this chapter, as applicable.

(3) You may use existing manuals that describe the measures in place to control outdoor fugitive dust sources required as part of a state implementation plan or other federally enforceable requirement for particulate matter to satisfy the requirements of paragraph (b)(1) of this section.

§ 63.1625 What are the performance test and compliance requirements for new, reconstructed, and existing facilities?

(a) *Performance testing.* (1) All performance tests must be conducted according to the requirements in § 63.7.

(2) Each performance test in paragraphs (c)(1) and (2) of this section must consist of three separate and complete runs using the applicable test methods.

(3) Each run must be conducted under conditions that are representative of normal process operations.

(4) Performance tests conducted on air pollution control devices serving electric arc furnaces must be conducted such that at least one tapping period, or at least 20 minutes of a tapping period, whichever is less, is included in at least two of the three runs. The sampling time for each run must be at least three times the average tapping period of the tested furnace, but no less than 60 minutes.

(5) You must conduct the performance tests specified in paragraph (c) of this section under such conditions as the Administrator specifies based on representative performance of the affected source for the period being tested. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(b) *Test methods.* The following test methods in appendices of part 60 or 63 of this chapter or as specified elsewhere must be used to determine compliance with the emission standards.

(1) Method 1 of appendix A–1 of 40 CFR part 60 to select the sampling port location and the number of traverse points.

(2) Method 2 of appendix A–1 of 40 CFR part 60 to determine the volumetric flow rate of the stack gas.

(3)(i) Method 3A or 3B of appendix A–2 of 40 CFR part 60 (with integrated bag sampling) to determine the outlet stack and inlet oxygen and CO_2 content.

(ii) You must measure CO_2 concentrations at both the inlet and outlet of the positive pressure fabric filter in conjunction with the pollutant sampling in order to determine isokinetic sampling rates.

(iii) As an alternative to EPA Reference Method 3B, ASME PTC–19–10–1981–Part 10 may be used (incorporated by reference, see § 63.14).

(4) Method 4 of appendix A–3 of 40 CFR part 60 to determine the moisture content of the stack gas.

(5)(i) Method 5 of appendix A–3 of 40 CFR part 60 to determine the particulate matter concentration of the stack gas for negative pressure baghouses and positive pressure baghouses with stacks.

(ii) Method 5D of appendix A–3 of 40 CFR part 60 to determine particulate matter concentration and volumetric flow rate of the stack gas for positive pressure baghouses without stacks.

(iii) The sample volume for each run must be a minimum of 4.0 cubic meters (141.2 cubic feet). For Method 5 testing only, you may choose to collect less than 4.0 cubic meters per run provided that the filterable mass collected (*i.e.*, net filter mass plus mass of nozzle, probe and filter holder rinses) is equal to or greater than 10 mg. If the total mass collected for two of three of the runs is less than 10 mg, you must conduct at least one additional test run that produces at least 10 mg of filterable mass collected (*i.e.*, at a greater sample volume). Report the results of all test runs.

(6) Method 30B of appendix A–8 of 40 CFR part 60 to measure mercury. Apply the minimum sample volume determination procedures as per the method.

(7)(i) Method 26A of appendix A–8 of 40 CFR part 60 to determine outlet stack or inlet hydrochloric acid concentration.

(ii) Collect a minimum volume of 2 cubic meters.

(8)(i) Method 316 of appendix A of this part to determine outlet stack or inlet formaldehyde.

(ii) Collect a minimum volume of 1.0 cubic meter.

(9) ASTM D7520–13 to determine opacity (incorporated by reference, see § 63.14) with the following conditions:

(i) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520–13, you or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees and mixed backgrounds (clouds and/or a sparse tree stand).

(ii) You must have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520–13.

(iii) You must follow the recordkeeping procedures outlined in § 63.10(b)(1) for the DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination.

(iv) You or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 20 percent opacity for any one reading and the average error must not exceed 7.5 percent opacity.

(v) Use of this method does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520–13 and these requirements is on the facility, DCOT operator and DCOT vendor.

(10) California Air Resources Board (CARB) Method 429 (incorporated by reference, see § 63.14).

(11) The owner or operator may use alternative measurement methods approved by the Administrator following the procedures described in § 63.7(f).

(c) *Compliance demonstration with the emission standards*—(1) *Initial performance test.* You must conduct an initial performance test for air pollution control devices or vent stacks subject to § 63.1623(a), (b)(1), and (c) through (e) to demonstrate compliance with the applicable emission standards.

(2) *Periodic performance test.* (i) You must conduct annual particulate matter tests for wet scrubber air pollution control devices subject to § 63.1623(a)(1) to demonstrate compliance with the applicable emission standards.

(ii) You must conduct particulate matter tests every 5 years for fabric filter air pollution control devices subject to § 63.1623(a)(1) to demonstrate compliance with the applicable emission standards.

(iii) You must conduct annual mercury performance tests for wet scrubber and fabric filter air pollution control devices or vent stacks subject to § 63.1623(a)(2) to demonstrate compliance with the applicable emission standards.

(iv) You must conduct PAH performance tests for wet scrubber and fabric filter air pollution control devices or vent stacks subject to § 63.1623(a)(3) to demonstrate compliance with the applicable emission standards.

(A) For furnaces producing silicomanganese, you must conduct a PAH performance test every 5 years for each furnace that produces silicomanganese subject to § 63.1623(a)(3).

(B) For furnaces producing ferromanganese, you must conduct a PAH performance test every 3 months or 2,190 cumulative hours of ferromanganese production for each furnace subject to § 63.1623(a)(3).

(C) If a furnace producing ferromanganese demonstrates compliance with four consecutive PAH tests, the owner/operator may petition the permitting authority to request reduced frequency of testing to demonstrate compliance with the PAH emission standards. However, this PAH compliance testing cannot be reduced to less than once per year.

(v) You must conduct ongoing performance tests every 5 years for air pollution control devices or vent stacks subject to § 63.1623(a)(4), (a)(5), (b)(1), and (c) through (e) to demonstrate compliance with the applicable emission standards.

(3) Compliance is demonstrated for all sources performing emissions tests if the average concentration for the three runs comprising the performance test does not exceed the standard.

(4) *Operating limits.* You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section. Unless otherwise specified, compliance with each established operating limit shall be demonstrated for each 24-hour operating day.

(i) For a wet particulate matter scrubber, you must establish the minimum liquid flow rate and pressure drop as your operating limits during the three-run performance test. If you use a wet particulate matter scrubber and you conduct separate performance tests for particulate matter, you must establish one set of minimum liquid flow rate and pressure drop operating limits. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the highest minimum hourly average values established during the performance tests.

(ii) For a wet acid gas scrubber, you must establish the minimum liquid flow rate and pH, as your operating limits during the three-run performance test. If you use a wet acid gas scrubber and you conduct separate performance tests for hydrochloric acid, you must establish one set of minimum liquid flow rate and pH operating limits. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pH operating limits at the highest minimum hourly average values established during the performance tests.

(iii) For emission sources with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems you must install a bag leak detection system according to the requirements in § 63.1626(d) and you must set your operating limit such that the sum duration of bag leak detection system alarms does not exceed 5 percent of the process operating time during a 6-month period.

(iv) If you choose to demonstrate continuous compliance through a particulate matter CEMS, you must determine an operating limit (particulate matter concentration in mg/dscm) during performance testing for initial particulate matter compliance. The operating limit will be the average of the PM filterable results of the three Method 5 or Method 5D of appendix A–3 of 40 CFR part 60 performance test runs. To determine continuous compliance, the hourly average PM concentrations will be averaged on a rolling 30 operating day basis. Each 30 operating day average will have to meet the PM operating limit.

(d) *Compliance demonstration with shop building opacity standards.* (1)(i) If you are subject to § 63.1623(b), you must conduct opacity observations of the shop building to demonstrate compliance with the applicable opacity standards according to § 63.6(h)(5), which addresses conducting opacity or visible emission observations.

(ii) You must conduct the opacity observations according to ASTM D7520–13 (incorporated by reference, see § 63.14), for a period that includes at least one complete furnace process cycle for each furnace.

(iii) For a shop building that contains more than one furnace, you must conduct the opacity observations according to ASTM D7520–13, for a period that includes one tapping period from each furnace located in the shop building.

(iv) You must conduct the opacity observations according to ASTM D7520–13, for a one hour period that includes at least one pouring for each MOR located in the shop building.

(v) You must conduct the opacity observations at least once per week for each shop building containing one or more furnaces or MOR.

(vi) You may reduce the frequency of observations to once per month for each shop building that demonstrates compliance with the weekly 8-percent opacity limit for 26 consecutive complete observations that span a period of at least 26 weeks. Any monthly observation in excess of 8-percent opacity will return that shop building opacity observation to a weekly compliance schedule. You may reduce the frequency of observations again to once per month for each shop building that demonstrates compliance with the weekly 8-percent opacity limit after another 26 consecutive complete observations that span a period of at least 26 weeks.

(2) You must determine shop building opacity operating parameters based on either monitoring data collected during the compliance demonstration or established in an engineering assessment.

(i) If you choose to establish parameters based on the initial compliance demonstration, you must simultaneously monitor parameter values for one of the following: The capture system fan motor amperes and all capture system damper positions, the total volumetric flow rate to the air pollution control device and all capture system damper positions, or volumetric flow rate through each separately ducted hood that comprises the capture system. Subsequently you must monitor these parameters according to § 63.1626(g) and ensure they remain within 10 percent of the value recorded during the compliant opacity readings.

(ii) If you choose to establish parameters based on an engineering assessment, then a design analysis shall include, for example, specifications, drawings, schematics and ventilation system diagrams prepared by the owner or operator or capture or control system manufacturer or vendor that describes the shop building opacity system ventilation design based on acceptable engineering texts. The design analysis shall address vent stream characteristics and ventilation system design operating parameters such as fan amps, damper position, flow rate and/or other specified parameters.

(iii) You may petition the Administrator to reestablish these parameter ranges whenever you can demonstrate to the Administrator's satisfaction that the electric arc furnace or MOR operating conditions upon which the parameter ranges were previously established are no longer applicable. The values of these parameter ranges determined during the most recent demonstration of compliance must be maintained at the appropriate level for each applicable period.

(3) You will demonstrate continuing compliance with the opacity standards by following the monitoring requirements specified in § 63.1626(g) and the reporting and recordkeeping requirements specified in § 63.1628(b)(5).

(e) *Compliance demonstration with the operational and work practice standards*—(1) Process fugitive emissions sources. You will demonstrate compliance by developing and maintaining a process fugitives ventilation plan, by reporting any deviations from the plan and by taking necessary corrective actions to correct deviations or deficiencies.

(2) *Outdoor fugitive dust sources.* You will demonstrate compliance by developing and maintaining an outdoor fugitive dust control plan, by reporting any deviations from the plan and by taking necessary corrective actions to correct deviations or deficiencies.

(3) *Baghouses equipped with bag leak detection systems.* You will demonstrate compliance with the bag leak detection system requirements by developing an analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 60.57c(h) of this chapter.

§ 63.1626 What monitoring requirements must I meet?

(a) *Baghouse monitoring.* You must prepare, and at all times operate according to, a standard operating procedures manual that describes in detail procedures for inspection, maintenance and bag leak detection and corrective action plans for all baghouses (fabric filters or cartridge filters) that are used to control process vents, process fugitive, or outdoor fugitive dust emissions from any source subject to the emissions standards in § 63.1623.

(b) You must submit the standard operating procedures manual for baghouses required by paragraph (a) of this section to the Administrator or delegated authority for review and approval.

(c) Unless the baghouse is equipped with a bag leak detection system or CEMS, the procedures that you specify in the standard operating procedures manual for inspections and routine maintenance must, at a minimum, include the requirements of paragraphs (c)(1) and (2) of this section.

(1) You must observe the baghouse outlet on a daily basis for the presence of any visible emissions.

(2) In addition to the daily visible emissions observation, you must conduct the following activities:

(i) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms.

(ii) Daily check of compressed air supply for pulse-jet baghouses.

(iii) An appropriate methodology for monitoring cleaning cycles to ensure proper operation.

(iv) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means.

(v) Quarterly visual check of bag tension on reverse air and shaker-type baghouses to ensure that the bags are not kinked (kneed or bent) or lying on their sides. Such checks are not required for shaker-type baghouses using self-tensioning (spring loaded) devices.

(vi) Quarterly confirmation of the physical integrity of the baghouse structure through visual inspection of the baghouse interior for air leaks.

(vii) Semiannual inspection of fans for wear, material buildup and corrosion through visual inspection, vibration detectors, or equivalent means.

(d) *Bag leak detection system.* (1) For each baghouse used to control emissions from an electric arc furnace, you must install, operate and maintain a bag leak detection system according to paragraphs (d)(2) through (4) of this section, unless a system meeting the requirements of paragraph (o) of this section, for a CEMS and continuous emissions rate monitoring system, is installed for monitoring the concentration of particulate matter. You may choose to install, operate and maintain a bag leak detection system for any other baghouse in operation at the facility according to paragraphs (d)(2) through (4) of this section.

(2) The procedures you specified in the standard operating procedures manual for baghouse maintenance must include, at a minimum, a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance.

(3) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(3)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1.0 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings.

(iii) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loadings is detected over a preset level.

(iv) You must install and operate the bag leak detection system in a manner consistent with the guidance provided in ''Office of Air Quality Planning and Standards (OAQPS) Fabric Filter Bag Leak Detection Guidance'' EPA–454/R–98–015, September 1997 (incorporated by reference, see § 63.14) and the manufacturer's written specifications and recommendations for installation, operation and adjustment of the system.

(v) The initial adjustment of the system must, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vi) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved standard operating procedures manual required under paragraph (a) of this section. You cannot increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless such adjustment follows a complete baghouse inspection that demonstrates that the baghouse is in good operating condition.

(vii) You must install the bag leak detector downstream of the baghouse.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(4) You must include in the standard operating procedures manual required by paragraph (a) of this section a corrective action plan that specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan must include, at a minimum, the procedures that you will use to determine and record the time and cause of the alarm as well as the corrective actions taken to minimize emissions as specified in paragraphs (d)(4)(i) and (ii) of this section.

(i) The procedures used to determine the cause of the alarm must be initiated within 30 minutes of the alarm.

(ii) The cause of the alarm must be alleviated by taking the necessary corrective action(s) that may include, but not be limited to, those listed in paragraphs (d)(4)(ii)(A) through (F) of this section.

(A) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions.

(B) Sealing off defective bags or filter media.

(C) Replacing defective bags or filter media, or otherwise repairing the control device.

(D) Sealing off a defective baghouse compartment.

(E) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(F) Shutting down the process producing the particulate emissions.

(e) If you use a wet particulate matter scrubber, you must collect the pressure drop and liquid flow rate monitoring system data according to § 63.1628, reduce the data to 24-hour block averages and maintain the 24-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.1625(c)(4)(i).

(f) If you use curtains or partitions to prevent process fugitive emissions from escaping the area around the process fugitive emission source or other parts of the building, you must perform quarterly inspections of the physical condition of these curtains or partitions to determine if there are any tears or openings.

(g) *Shop building opacity.* In order to demonstrate continuous compliance with the opacity standards in § 63.1623, you must comply with the requirements § 63.1625(d)(1) and one of the monitoring options in paragraphs (g)(1) or (2) of this section. The selected option must be consistent with that selected during the initial performance test described in § 63.1625(d)(2). Alternatively, you may use the provisions of § 63.8(f) to request approval to use an alternative monitoring method.

(1) If you choose to establish operating parameters during the compliance test as specified in § 63.1625(d)(2)(i), you must meet one of the following requirements.

(i) Check and record the control system fan motor amperes and capture system damper positions once per shift.

(ii) Install, calibrate and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood.

(iii) Install, calibrate and maintain a monitoring device that continuously records the volumetric flow rate at the inlet of the air pollution control device and check and record the capture system damper positions once per shift.

(2) If you choose to establish operating parameters during the compliance test as specified in § 63.1625(d)(2)(ii), you must monitor the selected parameter(s) on a frequency specified in the assessment and according to a method specified in the engineering assessment

(3) All flow rate monitoring devices must meet the following requirements:

(i) Be installed in an appropriate location in the exhaust duct such that reproducible flow rate monitoring will result.

(ii) Have an accuracy ±10 percent over its normal operating range and be calibrated according to the manufacturer's instructions.

(4) The Administrator may require you to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 of appendix A–1 of part 60 of this chapter.

(5) Failure to maintain the appropriate capture system parameters (e.g., fan motor amperes, flow rate and/or damper positions) establishes the need to initiate corrective action as soon as practicable after the monitoring excursion in order to minimize excess emissions.

(h) *Furnace capture system.* You must perform quarterly (once every three months) inspections of the furnace fugitive capture system equipment to ensure that the hood locations have not been changed or obstructed because of contact with cranes or ladles, quarterly inspections of the physical condition of hoods and ductwork to the control device to determine if there are any openings or leaks in the ductwork, quarterly inspections of the hoods and ductwork to determine if there are any flow constrictions in ductwork due to dents or accumulated dust and quarterly examinations of the operational status of flow rate controllers (pressure sensors, dampers, damper switches, etc.) to ensure they are operating correctly. Any deficiencies must be recorded and proper maintenance and repairs performed.

(i) *Requirements for sources using CMS.* If you demonstrate compliance with any applicable emissions limit through use of a continuous monitoring system (CMS), where a CMS includes a continuous parameter monitoring system (CPMS) as well as a continuous emissions monitoring system (CEMS), you must develop a site-specific monitoring plan and submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation (where applicable) of your CMS. Your site-specific monitoring plan must address the monitoring system design, data collection and the quality assurance and quality control elements outlined in this paragraph and in § 63.8(d). You must install, operate and maintain each CMS according to the procedures in your approved site-specific monitoring plan. Using the process described in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (i)(1) through (6) of this section in your site-specific monitoring plan.

(1) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer and data acquisition and calculations;

(2) Sampling interface location such that the monitoring system will provide representative measurements;

(3) Equipment performance checks, system accuracy audits, or other audit procedures;

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1) and (3);

(5) Conditions that define a continuous monitoring system that is out of control consistent with § 63.8(c)(7)(i) and for responding to out of control periods consistent with § 63.8(c)(7)(ii) and (c)(8) or Table 1 to this subpart, as applicable; and

(6) Ongoing recordkeeping and reporting procedures in accordance with provisions in § 63.10(c), (e)(1) and (e)(2)(i), and Table 1 to this subpart, as applicable.

(j) If you have an operating limit that requires the use of a CPMS, you must install, operate and maintain each continuous parameter monitoring system according to the procedures in paragraphs (j)(1) through (7) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), you must operate the CMS at all times the affected source is operating. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable.

(3) You may not use data recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. You must use all the data collected during all other required data collection periods in assessing the operation of the control device and associated control system.

(4) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions and required quality monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements.

(5) You must conduct other CPMS equipment performance checks, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least once every 12 months.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(7) You must record the results of each inspection, calibration and validation check.

(k) *CPMS for measuring gaseous flow.* (1) Use a flow sensor with a measurement sensitivity of 5 percent of the flow rate or 10 cubic feet per minute, whichever is greater;

(2) Check all mechanical connections for leakage at least every month; and

(3) Perform a visual inspection at least every 3 months of all components of the flow CPMS for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if your flow CPMS is not equipped with a redundant flow sensor.

(l) *CPMS for measuring liquid flow.* (1) Use a flow sensor with a measurement sensitivity of 2 percent of the liquid flow rate; and

(2) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(m) *CPMS for measuring pressure.* (1) Minimize or eliminate pulsating pressure, vibration and internal and external corrosion; and

(2) Use a gauge with a minimum tolerance of 1.27 centimeters of water or

a transducer with a minimum tolerance of 1 percent of the pressure range.

(3) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).

(n) *CPMS for measuring pH.* (1) Ensure the sample is properly mixed and representative of the fluid to be measured.

(2) Check the pH meter's calibration on at least two points every eight hours of process operation.

(o) *Particulate Matter CEMS.* If you are using a CEMS to measure particulate matter emissions to meet requirements of this subpart, you must install, certify, operate and maintain the particulate matter CEMS as specified in paragraphs (o)(1) through (4) of this section.

(1) You must conduct a performance evaluation of the PM CEMS according to the applicable requirements of § 60.13 of this chapter and Performance Specification 11 at 40 CFR part 60, appendix B.

(2) During each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, appendix B, PM and oxygen (or carbon dioxide) collect data concurrently (or within a 30- to 60-minute period) by both the CEMS and by conducting performance tests using Method 5 or 5D at 40 CFR part 60, appendix A–3 or Method 17 at 40 CFR part 60, appendix A–6.

(3) Perform quarterly accuracy determinations and daily calibration drift tests in accordance with Procedure 2 at 40 CFR part 60, appendix F. Relative Response Audits must be performed annually and Response Correlation Audits must be performed every 3 years.

(4) Within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and the results of the performance test as specified in § 63.1628(e).

§ 63.1627 What notification requirements must I meet?

(a) You must comply with all of the notification requirements of § 63.9. Electronic notifications are encouraged when possible.

(b)(1) You must submit the process fugitive ventilation plan required under § 63.1624(a), the outdoor fugitive dust control plan required under § 63.1624(b), the site-specific monitoring plan for CMS required under § 63.1626(i) and the standard operating procedures manual for baghouses required under § 63.1626(a) to the Administrator or delegated authority. You must submit this notification no later than June 30, 2016. For sources that commenced construction or reconstruction after June 30, 2015, you must submit this notification no later than 180 days before startup of the constructed or reconstructed ferromanganese or silicomanganese production facility. For an affected source that has received a construction permit from the Administrator or delegated authority on or before June 30, 2015, you must submit this notification no later than June 30, 2016.

(2) The plans and procedures documents submitted as required under paragraph (b)(1) of this section must be submitted to the Administrator in electronic format and whenever an update is made to the procedure.

§ 63.1628 What recordkeeping and reporting requirements must I meet?

(a) You must comply with all of the recordkeeping and reporting requirements specified in § 63.10 of the General Provisions that are referenced in Table 1 to this subpart.

(1) Records must be maintained in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). However, electronic recordkeeping and reporting is encouraged and required for some records and reports.

(2) Records must be kept on site for at least 2 years after the date of occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

(b) You must maintain, for a period of 5 years, records of the information listed in paragraphs (b)(1) through (11) of this section.

(1) Electronic records of the bag leak detection system output.

(2) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the corrective actions taken and the date and time the cause of the alarm was corrected.

(3) All records of inspections and maintenance activities required under § 63.1626(c) as part of the practices described in the standard operating procedures manual for baghouses required under § 63.1626(a).

(4) Electronic records of the pressure drop and water flow rate values for wet scrubbers used to control particulate matter emissions as required in § 63.1626(e), identification of periods when the 1-hour average pressure drop and water flow rate values are below the established minimum operating limits and an explanation of the corrective actions taken.

(5) Electronic records of the shop building capture system monitoring required under § 63.1626(g)(1) and (2), as applicable, or identification of periods when the capture system parameters were not maintained and an explanation of the corrective actions taken.

(6) Records of the results of quarterly inspections of the furnace capture system required under § 63.1626(h).

(7) Electronic records of the continuous flow monitors or pressure monitors required under § 63.1626(i) and (j) and an identification of periods when the flow rate or pressure was not maintained as required in § 63.1626(e).

(8) Electronic records of the output of any CEMS installed to monitor particulate matter emissions meeting the requirements of § 63.1626(i).

(9) Records of the occurrence and duration of each startup and/or shutdown.

(10) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control equipment and monitoring equipment.

(11) Records that explain the periods when the procedures outlined in the process fugitives ventilation plan required under § 63.1624(a), the fugitives dust control plan required under § 63.1624(b), the site-specific monitoring plan for CMS required under § 63.1626(i) and the standard operating procedures manual for baghouses required under § 63.1626(a).

(c) You must comply with all of the reporting requirements specified in § 63.10 of the General Provisions that are referenced in Table 1 to this subpart.

(1) You must submit reports no less frequently than specified under § 63.10(e)(3) of the General Provisions.

(2) Once a source reports a violation of the standard or excess emissions, you must follow the reporting format required under § 63.10(e)(3) until a request to reduce reporting frequency is approved by the Administrator.

(d) In addition to the information required under the applicable sections of § 63.10, you must include in the reports required under paragraph (c) of this section the information specified in paragraphs (d)(1) through (7) of this section.

(1) Reports that identify and explain the periods when the procedures outlined in the process fugitives ventilation plan required under § 63.1624(a), the fugitives dust control plan required under § 63.1624(b), the site-specific monitoring plan for CMS required under § 63.1626(i) and the

standard operating procedures manual for baghouses required under § 63.1626(a) were not followed.

(2) Reports that identify the periods when the average hourly pressure drop or flow rate of wet scrubbers used to control particulate emissions dropped below the levels established in § 63.1626(e) and an explanation of the corrective actions taken.

(3) *Bag leak detection system.* Reports including the following information:

(i) Records of all alarms.

(ii) Description of the actions taken following each bag leak detection system alarm.

(4) Reports of the shop building capture system monitoring required under § 63.1626(g)(1) and (2), as applicable, identification of periods when the capture system parameters were not maintained and an explanation of the corrective actions taken.

(5) Reports of the results of quarterly inspections of the furnace capture system required under § 63.1626(h).

(6) Reports of the CPMS required under § 63.1626, an identification of periods when the monitored parameters were not maintained as required in § 63.1626 and corrective actions taken.

(7) If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction that occurred during the reporting period and caused or may have caused any applicable emissions limitation to be exceeded. The report must also include a description of actions taken by the owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.1623(f), including actions taken to correct a malfunction.

(e) Within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and the results of the performance test in the method specified by paragraphs (e)(1) and (2) of this section. The results of the performance test must contain the information listed in paragraph (e)(2) of this section.

(1)(i) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1)(i)(A) or (B) of this section.

(A) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disk, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (e)(1)(i)(A).

(B) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(ii) Within 60 days after the date of completing each CEMS performance evaluation (as defined in § 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (b)(1) or (2) of this section.

(A) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance evaluation data in an electronic file format consistent with the XML schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternative electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disk, flash drive or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (e)(1)(ii)(A).

(B) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

(2) The results of a performance test shall include the purpose of the test; a brief process description; a complete unit description, including a description of feed streams and control devices; sampling site description; pollutants measured; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions, including operating parameters for which limits are being set, during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; chain-of-custody documentation; explanation of laboratory data qualifiers; example calculations of all applicable stack gas parameters, emission rates, percent reduction rates and analytical results, as applicable; and any other information required by the test method, a relevant standard, or the Administrator.

§ 63.1629 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable state, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a state, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to requirements in §§ 63.1620 and 63.1621 and 63.1623 and 63.1624.

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f), as defined in § 63.90 and as required in this subpart.

(3) Approval of major alternatives to monitoring under § 63.8(f), as defined in § 63.90 and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f), as defined in § 63.90 and as required in this subpart.

■ 4. Section 63.1650 is amended by:
■ a. Revising paragraph (d);
■ b. Removing and reserving paragraph (e)(1); and
■ c. Revising paragraph (e)(2).

The revisions read as follows:

§ 63.1650 Applicability and compliance dates.

* * * * *

(d) Table 1 to this subpart specifies the provisions of subpart A of this part that apply to owners and operators of ferroalloy production facilities subject to this subpart.

(e) * * *

(2) Each owner or operator of a new or reconstructed affected source that commences construction or reconstruction after August 4, 1998 and before November 23, 2011, must comply with the requirements of this subpart by May 20, 1999 or upon startup of operations, whichever is later.

■ 5. Section 63.1652 is amended by adding paragraph (f) to read as follows:

§ 63.1652 Emission standards.

* * * * *

(f) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.

■ 6. Section 63.1656 is amended by:
■ a. Adding paragraph (a)(6);
■ b. Revising paragraphs (b)(7) and (e)(1); and
■ c. Removing and reserving paragraph (e)(2)(ii).

The addition and revisions read as follows:

§ 63.1656 Performance testing, test methods, and compliance demonstrations.

(a) * * *

(6) You must conduct the performance tests specified in paragraph (c) of this section under such conditions as the Administrator specifies based on representative performance of the affected source for the period being tested. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(b) * * *

(7) Method 9 of appendix A–4 of 40 CFR part 60 to determine opacity. ASTM D7520–13, ''Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere'' may be used (incorporated by reference, see § 63.14) with the following conditions:

(i) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520–13, the owner or operator or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees and mixed backgrounds (clouds and/or a sparse tree stand).

(ii) The owner or operator must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520–13.

(iii) The owner or operator must follow the recordkeeping procedures outlined in § 63.10(b)(1) for the DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination.

(iv) The owner or operator or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of any one reading and the average error must not exceed 7.5 percent opacity.

(v) Use of this approved alternative does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520–13 and these requirements is on the facility, DCOT operator and DCOT vendor.

* * * * *

(e) * * *

(1) *Fugitive dust sources*. Failure to have a fugitive dust control plan or failure to report deviations from the plan and take necessary corrective action would be a violation of the general duty to ensure that fugitive dust sources are operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions per § 63.1652(f).

* * * * *

■ 7. Section 63.1657 is amended by revising paragraphs (a)(6), (b)(3), and (c)(7) to read as follows:

§ 63.1657 Monitoring requirements.

(a) * * *

(6) Failure to monitor or failure to take corrective action under the requirements of paragraph (a) of this section would be a violation of the general duty to operate in a manner consistent with good air pollution control practices that minimizes emissions per § 63.1652(f).

(b) * * *

(3) Failure to monitor or failure to take corrective action under the requirements of paragraph (b) of this section would be a violation of the general duty to operate in a manner consistent with good air pollution control practices that minimizes emissions per § 63.1652(f).

(c) * * *

(7) Failure to monitor or failure to take corrective action under the requirements of paragraph (c) of this section would be a violation of the general duty to operate in a manner consistent with good air pollution control practices that minimizes emissions per § 63.1652(f).

■ 8. Section 63.1659 is amended by revising paragraph (a)(4) to read as follows:

§ 63.1659 Reporting requirements.

(a) * * *

(4) *Reporting malfunctions*. If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of

malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.1652(f), including actions taken to correct a malfunction.

* * * * *

■ 9. Section 63.1660 is amended by:

■ a. Revising paragraphs (a)(2)(i) and (ii); and

■ b. Removing and reserving paragraphs (a)(2)(iv) and (v).

The revisions read as follows:

§ 63.1660 Recordkeeping requirements.

(a) * * *

(2) * * *

(i) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control equipment and monitoring equipment;

(ii) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.1652(f), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation;

* * * * *

■ 10. Add Table 1 to the end of subpart XXX to read as follows:

TABLE 1—TO SUBPART XXX OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART XXX

Reference	Applies to subpart XXX	Comment
§ 63.1	Yes	
§ 63.2	Yes	
§ 63.3	Yes	
§ 63.4	Yes	
§ 63.5	Yes	
§ 63.6(a), (b), (c)	Yes	
§ 63.6(d)	No	Section reserved.
§ 63.6(e)(1)(i)	No	See §§ 63.1623(g) and 63.1652(f) for general duty requirement.
§ 63.6(e)(1)(ii)	No	
§ 63.6(e)(1)(iii)	Yes	
§ 63.6(e)(2)	No	Section reserved.
§ 63.6(e)(3)	No	
§ 63.6(f)(1)	No	
§ 63.6(f)(2)–(3)	Yes	
§ 63.6(g)	Yes	
§ 63.6(h)(1)	No	
§ 63.6(h)(2)–(9)	Yes	
§ 63.6(i)	Yes	
§ 63.6(j)	Yes	
§ 63.7(a)–(d)	Yes	
§ 63.7(e)(1)	No	See §§ 63.1625(a)(5) and 63.1656(a)(6).
§ 63.7(e)(2)–(4)	Yes	
§ 63.7(f), (g), (h)	Yes	
§ 63.8(a)–(b)	Yes	
§ 63.8(c)(1)(i)	No	See §§ 63.1623(g) and 63.1652(f) for general duty requirement.
§ 63.8(c)(1)(ii)	Yes	
§ 63.8(c)(1)(iii)	No	
§ 63.8(c)(2)–(d)(2)	Yes	
§ 63.8(d)(3)	Yes, except for last sentence.	SSM plans are not required.
§ 63.8(e)–(g)	Yes	
§ 63.9(a),(b),(c),(e),(g),(h)(1) through (3), (h)(5) and (6), (i) and (j).	Yes	
§ 63.9(f)	Yes	
§ 63.9(h)(4)	No	Section reserved.
§ 63.10(a)	Yes	
§ 63.10(b)(1)	Yes	
§ 63.10(b)(2)(i)	No	
§ 63.10(b)(2)(ii)	No	See §§ 63.1628 and 63.1660 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
§ 63.10(b)(2)(iii)	Yes	
§ 63.10(b)(2)(iv)–(v)	No	
§ 63.10(b)(2)(vi)–(xiv)	Yes	
§ 63.10)(b)(3)	Yes	
§ 63.10(c)(1)–(9)	Yes	
§ 63.10(c)(10)–(11)	No	See §§ 63.1628 and 63.1660 for malfunction recordkeeping requirements.
§ 63.10(c)(12)–(14)	Yes	
§ 63.10(c)(15)	No	
§ 63.10(d)(1)–(4)	Yes	
§ 63.10(d)(5)	No	See §§ 63.1628(d)(8) and 63.1659(a)(4) for malfunction reporting requirements.
§ 63.10(e)–(f)	Yes	

TABLE 1—TO SUBPART XXX OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART XXX—Continued

Reference	Applies to subpart XXX	Comment
§ 63.11	No	Flares will not be used to comply with the emission limits.
§§ 63.12–63.15	Yes	

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Part VI

Environmental Protection Agency

40 CFR Part 60 and 63
National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60 and 63

[EPA–HQ–OAR–2011–0817; FRL–9927–62–OAR]

RIN 2060–AQ93

National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final amendments.

SUMMARY: This action finalizes amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants. On February 12, 2013, the Environmental Protection Agency (EPA) finalized amendments to the NESHAP and the new source performance standards (NSPS) for the Portland cement industry. Subsequently, the EPA became aware of certain minor technical errors in those amendments, and thus issued a proposal to correct these errors on November 19, 2014 (79 FR 68821). The EPA received 3 comments on the proposal. In response to the comments received and to complete technical corrections, the EPA is now issuing final amendments. In addition, consistent with the U.S. Court of Appeals to the DC Circuit's vacatur of the affirmative defense provisions in the final rule, this action removes those provisions. These amendments do not affect the pollution reduction or costs associated with these standards.

DATES: This final rule is effective on July 27, 2015.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2011–0817. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the EPA's Docket Center, Public Reading Room, EPA WJC West Building, Room Number 3334, 1301 Constitution Avenue NW., Washington, DC 20004. This docket facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Ms. Sharon Nizich, Sector Policies and Programs Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number: (919) 541–2825; facsimile number: (919) 541–5450; email address: *nizich.sharon@epa.gov.* For information about the applicability of the NESHAP or NSPS, contact Mr. Patrick Yellin, Monitoring, Assistance and Media Programs Division (2227A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460; telephone number (202) 564–2970; email address *yellin.patrick@epa.gov.*

SUPPLEMENTARY INFORMATION:

Organization of This Document. The information presented in this preamble is organized as follows:

I. Preamble Acronyms and Abbreviations

Several acronyms and terms are included in this preamble. While this may not be an exhaustive list, to ease the reading of this preamble and for reference purposes, the following terms and acronyms are defined here:

APCD	air pollution control devices
CAA	Clean Air Act
CEMS	continuous emission monitoring systems
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FR	Federal Register
Hg	mercury
HCl	hydrogen chloride
NAICS	North American Industry Classification System
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NSPS	new source performance standards
NTTAA	National Technology Transfer and Advancement Act
oHAP	Non-dioxin organic hazardous air pollutants
OMB	Office of Management and Budget
PM	particulate matter
ppm(v)(d,w)	parts per million (by volume) (dry,wet)
SO_2	Sulfur Dioxide
THC	total hydrocarbons
TTN	Technology Transfer Network
UMRA	Unfunded Mandates Reform Act
WWW	World Wide Web

II. General Information

A. Executive Summary

1. Purpose of This Regulatory Action

The purpose of this action is to finalize amendments to the 40 CFR part 60, and part 63, subparts F and LLL, respectively. In 2010, the EPA established the NESHAP for the Portland Cement source category. (75 FR 54970, September 9, 2010). Specifically, the EPA established emission standards for mercury (Hg), hydrogen chloride (HCl), total hydrocarbons (THC) (or in the alternative, organic hazardous air pollutants (oHAP)), and particulate matter (PM). These standards, established pursuant to section 112(d) of the Clean Air Act (CAA), reflected performance of maximum available control technology. Following court remand, *Portland Cement Ass'n* v. *EPA,* 665 F. 3d 177 (D.C. Cir. 2011), the EPA amended some of these standards in 2013, and established a new compliance date of September 9, 2015, for the amended standards. (78 FR 10006, Feb. 12, 2013). All of these actions were upheld by the U.S. Court of Appeals for the District of Columbia Circuit. *Natural Resources Defense Council* v. *EPA,* 749 F. 3d 1055 (D.C. Cir. 2014). The Court, however, vacated a provision of the rule establishing an affirmative defense when violations of the standards occurred because of malfunctions. 749 F. 3d at 1063–64. In light of the Court's vacatur, the regulatory provisions establishing the affirmative defense are null and void. Thus, the EPA is removing the affirmative defense regulatory text (40 CFR 63.1344) as part of this final technical corrections rule.

The EPA also adopted standards of performance for new Portland cement sources as part of the same regulatory action establishing the 2010 NESHAP. (75 FR 54970, Sept. 9, 2010) and amended those standards at the same time of the NESHAP amendments (see 78 FR 10006) (see also *Portland Cement Ass'n* v. *EPA,* 665 F. 3d at 190–92 (upholding these standards)). The EPA is finalizing certain technical changes to these NSPS as part of this action.

B. Does this reconsideration action apply to me?

Categories and entities potentially regulated by this final rule include:

TABLE 1—INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS NESHAP AND NSPS FINAL ACTION

Category	NAICS code[a]	Examples of regulated entities
Industry	327310	Portland cement manufacturing plants.
Federal government		Not affected.
State/local/tribal government		Portland cement manufacturing plants.

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility will be regulated by this action, you should examine the applicability criteria in 40 CFR 60.60 (subpart F) or in 40 CFR 63.1340 (subpart LLL). If you have any questions regarding the applicability of this final action to a particular entity, contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at *http://www.epa.gov/airquality/cement.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the proposal and key technical documents at this same Web site.

D. Judicial Review

Under section 307(b)(1) of the CAA, judicial review of this final action is available only by filing a petition for review in the court by September 25, 2015. Under section 307(b)(2) of the CAA, the requirements established by the final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, WJC Building, 1200 Pennsylvania Ave. NW., Mail Code 1101A, Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel), U.S. EPA, 1200 Pennsylvania Ave. NW., Mail Code 2344A, Washington, DC 20460.

III. Summary of Final Amendments

A. Corrections and Clarifications

The EPA is finalizing certain clarifying changes and corrections to the 2013 final rule. Specifically, these amendments will: (1) Clarify the definition of rolling average, operating day and run average; (2) restore the table of emission limits which apply until the September 9, 2015, compliance date; (3) correct equation 8 regarding sources with an alkali bypass or inline coal mill that include a separate stack; (4) provide a scaling alternative for sources that have a wet scrubber, tray tower or dry scrubber relative to the HCl compliance demonstration; (5) add a temperature parameter to the startup and shutdown requirements; (6) clarify language related to span values for both Hg and HCl measurements; and (7) correct inadvertent typographical errors. The EPA is also finalizing corrections to certain inadvertent inconsistencies in the final rule regulatory text, such as correction of the compliance date for new sources and correction to the compliance date regarding monitoring and recordkeeping requirements.

In both the NSPS and the NESHAP, we are finalizing language to clarify the existing definitions of Operating Day, Rolling Average and Run Average to promote consistent and clear monitoring data recording and emissions reporting. The clarifications below are in response to industry questions and are not intended to change the meaning of the final rule. In the final amendments, we clarify that ''Operating Day'' is any 24-hour period where clinker is produced. This clarification is necessary to specify that during any day with both operations and emissions, an emissions value or an average of emissions values representing those operations is included in the 30-day rolling average calculation. We also clarify that ''Rolling Average'' means a weighted average of all monitoring data collected during a specified time period divided by all production of clinker during those same hours of operation, and, where applicable, a 30-day rolling average is comprised of the average of all the hourly average concentrations over the previous 30 operating days. This clarification is necessary to specify the way a long-term rolling average value is calculated such that different facilities are not using different approaches to demonstrate compliance with the rule. In addition, we clarify that ''Run Average'' means the average of the recorded parameter values, not the 1-minute parameter values, for a run.

We are amending 40 CFR 63.1349(b)(8)(vii) to include a provision describing performance testing requirements when a source demonstrates compliance with the emissions standard using a continuous emissions monitoring system (CEMS) for sulfur dioxide (SO_2) measurement and reporting.

We are adding a scaling alternative whereby if a source uses a wet scrubber, tray tower or dry scrubber, and where the test run average of the three HCl compliance tests demonstrates compliance below 2.25 parts per million by volume (ppmv) (which is 75 percent of the HCl emission limit), the source may calculate an operating limit by establishing a relationship of the average SO_2 CEMS signal to the HCl concentration (corrected to 7 percent oxygen). The operating limit would be established at a point where the SO_2 CEMS indicates the source would be at 2.25 ppmv. Since the 2.25 ppmv is below the actual limit of 3.0 ppmv, the source will continue to demonstrate compliance with the HCl standard. Given the fact that SO_2 controls preferentially remove HCl, an increase in SO_2 emissions would not indicate an increase in HCl emissions as long as some SO_2 emissions reductions are occurring. Adding this compliance flexibility should not result in any increase in HCl emissions.

We are also amending, under 40 CFR 63.1346(g)(3), language related to the use of air pollution control devices (APCD). We had proposed that all hazardous APCD be operating by the time the temperature to the APCD reaches 300 °F. However, during the comment period, the EPA received further clarification on the temperature parameter. Commenters noted that the temperature threshold during startup need only apply to injection systems and not all APCD, and that the temperature reading should occur at the PM control device inlet. Commenters also noted that as soon as fuel is shut off during shutdown, gas flows can decrease to the point where activated carbon and hydrated lime being injected can fall out of the stream and accumulate in the duct work due to reduced gas flows. In addition, lime affected by water vapor condensation present during startup and shutdown conditions will cause the lime to harden and reduce the efficiency for dust removal.[1] Because of the injection system operating restrictions with startup and shutdown, revision of the startup and shutdown work practice is amended in the final rule to clarify that the injection system may be shut off when kiln feed is shut off. In addition to this revision regarding injection systems, clarification that all control devices for HAP must be operating during startup and shutdown has been included in the regulatory text.

We are also finalizing measurement span criteria for HCl CEMS to include better quality assurance/quality control (QA/QC) for measurements of elevated HCl emissions that may result from ''mill off'' operations. This slight increase in measurement span (from 5 parts per million (ppm) to 10 ppm) provides for an improved balance between accurately quantifying measurements at low emissions levels (the majority of operating time) and improving QA/QC for brief periods of elevated emissions observed during ''mill off'' operation (the majority of HCl mass emissions).

In these final amendments, we remove 40 CFR 60.64(c)(2), which applied when sources did not have valid 15-minute CEMS data. This provision allowed for inclusion of the average emission rate from the previous hour for which data were available. This provision was inadvertently added to the final rule, but this substitution is not an allowable action.

We are also revising 40 CFR 63.1350(o) (Alternative Monitoring Requirements Approval), because language in this section, which does not allow an operator to apply for alternative THC monitoring, is now obsolete. There is now alternative monitoring allowed in 40 CFR 63.1350(j) due to the 2013 final rule (see 78 FR 10015). A source that emits a high amount of THC due to methane emissions, for example, can follow the alternative oHAP monitoring requirements. For any other reason that an alternative THC monitoring protocol is warranted, we allow the source to submit an application to the Administrator subject to the provisions of 40 CFR 63.1350(o)(1) through (6).

B. Affirmative Defense

The EPA is removing a regulatory affirmative defense provision from the rule. As explained above, removal of the affirmative defense merely corrects the regulation to reflect that the provisions have no legal effect in light of the court vacatur of the affirmative defense provisions in the Portland Cement NESHAP rule. *NRDC* v. *EPA,* 749 F. 3d at 1063–64 (D.C. Cir. 2014).

IV. Summary of Changes Since Proposal

Section III summarized the amendments to the 2013 NSPS and NESHAP rules that the EPA is finalizing in this rule. Due to public comments, minor changes to the proposed regulatory text have been included in the final rule. These minor changes are discussed in the response to comment document that can be found in the docket. We believe that these minor changes sufficiently address concerns expressed by commenters and improve the clarity of the rule while improving or preserving public health and environmental protection required under the CAA.

V. Summary of Comments and Responses

We proposed amendments to the 2013 NSPS and NESHAP rules on November 19, 2014 (see 79 FR 68821). We received 3 comment letters, and consequently made some additional corrections in response to these comments. Comments and responses on these amendments are summarized in the response to comments document found in the docket. There were no significant comments received on the proposed technical amendments. A list of typographical errors we proposed to correct, and are now finalizing, can be found in the proposed rule at 79 FR 68824. For clarity, we are including a table of additional typographical corrections found by the commenters on the proposed rule.

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[1] These issues are further discussed in the docket, via communication with John Holmes dated September 24, 2014.

TABLE 2—MISCELLANEOUS FINAL TECHNICAL CORRECTIONS TO 40 CFR PART 63, SUBPART LLL

Section of subpart LLL	Description of correction
40 CFR 63.1347(a)(1)	Referred rule numbers have been changed from Section 63.1343 through 63.1348, to Sections 63.1343, 1345 and 1346.
40 CFR 63.1349(b)(1)(iii)	Reference to procedures in (a)(1)(iii)(A) through (D) is changed to (b)1(iii)(A) through (D).
40 CFR 63.1349(b)(1)(iii)(A)(4)	Reference in this section is changed from (a)(1)(iii)(A)(1) through (3) to (b)(1)(iii)(A)(1) through (3).
40 CFR 63.1349(b)(3)(iv)	Reference in this section is changed from 63.1344(b) to 63.1346(b).
40 CFR 63.1349(b)(7)(ii)	Reference in this section is changed from (a)(7)(vii) and (viii)) to (b)(7)(viii) through (ix).
40 CFR 63.1349(b)(7)(vii)	Reference in this section is changed from (a)(7)(vii) and (viii) to (b)(7)(viii) through (ix).
40 CFR 63.1349(b)(7)(viii)	Reference in this section is changed from (a)(7)(vii)(A) and (B) to (b)(7)(viii)(A) and (B).
Equation 13	The variable Y listed in units of ppmv is changed to ppmvd.
Equation 14	Variable Y_1 is listed but is not in equation and has been removed.
40 CFR 63.1349(b)(8)(viii)	Reference to Equation 18 has been changed to reference to Equation 21.
40 CFR 63.1349(c)	A range for performance testing from 29–31 months for 30 month tests and 11–13 months for annual tests has been added.
40 CFR 63.1350(k) and (l)	Clarifications on calibration and span checks have been added. Reference to Performance Specification 18 added.
40 CFR 63.1350(n)(4)	Reference in this section is changed from (n)(1) to (n)(2).
40 CFR 63.1355(d)	A requirement to keep annual records of cement kiln dust is obsolete due to the 2013 final amendment requirements of continuous monitoring, so this provision has been removed.
Table 1 to Subpart LLL of Part 63—Applicability of General Provisions	Remove reference to 63.10(e)(3)(vii) and (viii) since they were superseded by 63.1354(b)(10).

The EPA is also finalizing corrections and clarifications to the 2013 NESHAP and NSPS rules, including typographical and grammatical errors, as well as incorrect dates and cross-references. Details of the specific changes we are finalizing to the regulatory text may be found above in the table of corrections, and also in the response to comment document found in the docket for this action.

VI. Impacts of These Final Amendments

The EPA has determined that owners and operators of affected facilities would choose to install and operate the same or similar air pollution control technologies under this action as they would have installed to comply with the previously finalized standards. We project that these amendments will result in no significant change in costs, emission reductions or benefits. Even if there were changes in costs for the affected facilities, such changes would likely be small relative to both the overall costs of the individual projects and the overall costs and benefits of the final rule. Since we believe that owners and operators would put on the same controls for this revised final rule that they would have for the 2013 rule, there should not be any incremental costs related to this final rule.

A. What are the air impacts?

We believe that owners and operators of affected facilities will not revise their control technology implementation plans as a result of these final technical corrections. Accordingly, we believe that this final rule will not result in significant changes in emissions of any regulated pollutants.

B. What are the energy impacts?

This final rule is not anticipated to have an effect on the supply, distribution or use of energy. As previously stated, we believe that owners and operators of affected facilities would install the same or similar control technologies as they would have installed to comply with the previously finalized standards.

C. What are the compliance costs?

We believe there will be no significant change in compliance costs as a result of this final rule because owners and operators of affected facilities would install the same or similar control technologies as they would have installed to comply with the previously finalized standards.

D. What are the economic and employment impacts?

Because we expect that owners and operators of affected facilities would install the same or similar control technologies under this action as they would have installed to comply with the previously finalized standards, we do not anticipate that this final rule will result in significant changes in emissions, energy impacts, costs, benefits or economic impacts. Likewise, we believe this rule will not have any impacts on the price of electricity, employment or labor markets, or the U.S. economy.

E. What are the benefits of the final standards?

As previously stated, the EPA anticipates the Portland cement industry will not incur significant compliance costs or savings as a result of this action and we do not anticipate any significant emission changes resulting from these amendments to the rule. Therefore, there are no direct monetized benefits or disbenefits associated with this final rule.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. The OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2060–0416 for the NESHAP; there are no additional recordkeeping and reporting requirements for the NSPS. This action does not change the information collection requirements previously finalized and, as a result, does not impose any additional information collection burden on industry. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. The EPA has determined that none of the small entities subject to this rule will experience a significant impact because this action imposes no additional compliance costs on owners or operators of affected sources. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

D. Unfunded Mandates Reform Act of 1995 (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effect on tribal governments, on the relationship between the federal government and Indian tribes or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

This action does not add to or relieve affected sources from any requirements, and therefore has no impacts; thus, health and risk assessments were not conducted.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations because it does not affect the level of protection provided to human health or the environment. The basis for this determination is that this action is a reconsideration of existing requirements and imposes no new impacts or costs.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 60

Administrative practice and procedure, Air pollution control, Environmental protection, Intergovernmental relations, Reporting and recordkeeping.

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: July 1, 2015.

Gina McCarthy,

Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7411.

Subpart F—[Amended]

■ 2. Section 60.61 is amended by revising paragraph (f) and adding paragraphs (g) and (h) to read as follows:

§ 60.61 Definitions.

* * * * *

(f) *Operating day* means a 24-hour period beginning at 12:00 midnight during which the kiln produces clinker at any time. For calculating 30 day rolling average emissions, an *operating day* does not include the hours of operation during startup or shutdown.

(g) *Rolling average* means the weighted average of all data, meeting QA/QC requirements or otherwise normalized, collected during the applicable averaging period. The period of a rolling average stipulates the frequency of data averaging and reporting. To demonstrate compliance with an operating parameter a 30-day rolling average period requires calculation of a new average value each operating day and shall include the average of all the hourly averages of the specific operating parameter. For demonstration of compliance with an emissions limit based on pollutant concentration, a 30-day rolling average is comprised of the average of all the hourly average concentrations over the previous 30 operating days. For demonstration of compliance with an emissions limit based on lbs-pollutant per production unit, the 30-day rolling average is calculated by summing the hourly mass emissions over the previous 30 operating days, then dividing that sum by the total production during the same period.

(h) *Run average* means the average of the recorded parameter values for a run.

■ 3. Section 60.62 is amended by adding paragraphs (a)(1)(i), (a)(2), (b)(1)(iii) and (iv), revising paragraph (d), and adding paragraph (e) to read as follows:

§ 60.62 Standards.

(a) * * *

(1) * * *

(i) 0.30 pounds per ton of feed (dry basis) to the kiln for kilns constructed, reconstructed, or modified after August 17, 1971 but on or before June 16, 2008.

* * * * *

(2) Exhibit greater than 20 percent opacity for kilns constructed, reconstructed, or modified after August 17, 1971 but on or before June 16, 2008, except that this opacity limit does not apply to any kiln subject to a PM limit in paragraph (a)(1) of this section that uses a PM continuous parametric monitoring system (CPMS).

* * * * *

(b) * * *

(1) * * *

(iii) 0.10 lb per ton of feed (dry basis) for clinker coolers constructed, reconstructed, or modified after August 17, 1971, but on or before June 16, 2008.

(iv) 10 percent opacity for clinker coolers constructed, reconstructed, or modified after August 17, 1971, but on or before June 16, 2008, except that this opacity limit does not apply to any clinker cooler subject to a PM limit in paragraph (b)(1) of this section that uses a PM continuous parametric monitoring system (CPMS).

* * * * *

(d) If you have an affected source subject to this subpart with a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, once you are in compliance with the most stringent emissions limit or requirement, you are not subject to the less stringent requirement. Until you are in compliance with the more stringent limit, the less stringent limit continues to apply.

(e) The compliance date for all revised monitoring and recordkeeping requirements contained in this rule will be the same as listed in 63.1351(c) unless you commenced construction as of June 16, 2008, at which time the compliance date is November 8, 2010 or upon startup, whichever is later.

■ 4. Section 60.63 is amended by revising paragraphs (c)(1), (c)(2)(i) and (iii), (c)(3), (c)(4)(ii) through (iv), and (c)(5) through (8) to read as follows:

§ 60.63 Monitoring of operations.

* * * * *

(c) * * *

(1) For each kiln or clinker cooler subject to a PM emissions limit in §§ 60.62(a)1(ii) and 60.62(a)1(iii) or 60.62(b)(1)(i) and 60.62(b)(1)(ii), you must demonstrate compliance through an initial performance test. You will conduct your performance test using Method 5 or Method 5I at appendix A–3 to part 60 of this chapter. You must also monitor continuous performance through use of a PM CPMS.

(2) * * *

(i) Your PM CPMS must provide a 4–20 milliamp or digital signal output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps or the monitors digital equivalent.

(ii) * * *

(iii) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp or digital output values from the PM CPMS for the periods corresponding to the compliance test runs (*e.g.,* average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(3) Determine your operating limit as specified in paragraphs (c)(4)(i) through (c)(5) of this section. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit, you will use the average PM CPMS value recorded during the PM compliance test, the milliamp or digital equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit, you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test at least annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(4) * * *

(ii) Determine your PM CPMS instrument average in milliamps or digital equivalent and the average of your corresponding three PM compliance test runs, using equation 1.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 1)}$$

Where:

X_1 = The PM CPMS data points for the three runs constituting the performance test,

Y_1 = The PM concentration value for the three runs constituting the performance test, and

n = The number of data points.

(iii) With your PM CPMS instrument zero expressed in milliamps or a digital value, your three run average PM CPMS milliamp or digital signal value, and your three run average PM concentration from your three PM performance test runs, determine a relationship of lb/ton-clinker per milliamp or digital signal with equation 2.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 2)}$$

Where:

R = The relative lb/ton clinker per milliamp or digital equivalent for your PM CPMS.

Y_1 = The three run average PM lb/ton clinker.

X_1 = The three run average milliamp or digital signal output from your PM CPMS.
z = The milliamp or digital equivalent of your instrument zero determined from (c)(4)(i) of this section.

(iv) Determine your source specific 30-day rolling average operating limit using the lb/ton-clinker per milliamp or digital signal value from Equation 2 above in Equation 3, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

$$O_l = z + (0.75(L)) / R \qquad \text{(Eq. 3)}$$

Where:

O_l = The operating limit for your PM CPMS on a 30-day rolling average, in milliamps or the digital equivalent.
L = Your source emission limit expressed in lb/ton clinker.
z = Your instrument zero in milliamps or a digital equivalent, determined from (1)(i).
R = The relative lb/ton-clinker per milliamp or digital equivalent, for your PM CPMS, from Equation 2.

(5) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit, you must determine your operating limit by averaging the PM CPMS milliamp or digital equivalent output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using Equation 4.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 4)}$$

Where:

X_1 = The PM CPMS data points for all runs i.
n = The number of data points.
O_h = Your site specific operating limit, in milliamps or digital equivalent.

(6) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating, and use all the PM CPMS data for calculations when the source is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps or the digital equivalent) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 5 to determine the 30 kiln operating day average.

$$30\text{kiln operating day average} = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 5)}$$

Where:

Hpvi = The hourly parameter value for hour i.
n = The number of valid hourly parameter values collected over the previous 30 kiln operating days.

(7) Use EPA Method 5 or Method 5I of appendix A to part 60 of this chapter to determine PM emissions. For each performance test, conduct at least three separate runs each while the mill is on and the mill is off under the conditions that exist when the affected source is operating at the level reasonably expected to occur. Conduct each test run to collect a minimum sample volume of 2 dscm for determining compliance with a new source limit and 1 dscm for determining compliance with an existing source limit. Calculate the time weighted average of the results from three consecutive runs to determine compliance. You need not determine the particulate matter collected in the impingers (''back half'') of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the ''back half'' for other purposes.

(8) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp or digital signal value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp or digital equivalent signals corresponding to each PM compliance test run.

* * * * *

■ 5. Section 60.64 is amended by revising paragraph (c) introductory text and removing and reserving paragraph (c)(2).

The revision reads as follows:

§ 60.64 Test methods and procedures.

* * * * *

(c) Calculate and record the rolling 30 kiln operating day average emission rate daily of NO_X and SO_2 according to the procedures in paragraph (c)(1) of this section.

* * * * *

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 6. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart LLL—[Amended]

■ 7. Section 63.1341 is amended by revising the definitions for ''Operating day'', ''Rolling average'', and ''Run average'' to read as follows:

§ 63.1341 Definitions.

* * * * *

Operating day means any 24-hour period beginning at 12:00 midnight during which the kiln produces any amount of clinker. For calculating the 30-day rolling average emissions, kiln operating days do not include the hours of operation during startup or shutdown.

* * * * *

Rolling average means the weighted average of all data, meeting QA/QC requirements or otherwise normalized, collected during the applicable averaging period. The period of a rolling average stipulates the frequency of data averaging and reporting. To demonstrate compliance with an operating parameter a 30-day rolling average period requires calculation of a new average value each operating day and shall include the average of all the hourly averages of the specific operating parameter. For demonstration of compliance with an emissions limit based on pollutant concentration a 30-day rolling average is comprised of the average of all the hourly average concentrations over the previous 30 operating days. For demonstration of compliance with an emissions limit based on lbs-pollutant per production unit the 30-day rolling average is calculated by summing the hourly mass emissions over the previous 30 operating days, then dividing that sum by the total production during the same period.

Run average means the average of the recorded parameter values for a run.

* * * * *

■ 8. Section 63.1343 is amended by revising paragraphs (a), (b)(1) and (2), and (d) to read as follows:

§ 63.1343 What standards apply to my kilns, clinker coolers, raw material dryers, and open clinker storage piles?

(a) *General.* The provisions in this section apply to each kiln and any alkali bypass associated with that kiln, clinker cooler, raw material dryer, and open clinker storage pile. All D/F, HCl, and total hydrocarbon (THC) emissions limit are on a dry basis. The D/F, HCl, and THC limits for kilns are corrected to 7 percent oxygen. All THC emissions limits are measured as propane. Standards for mercury and THC are based on a rolling 30-day average. If using a CEMS to determine compliance with the HCl standard, this standard is based on a rolling 30-day average. You must ensure appropriate corrections for moisture are made when measuring flow rates used to calculate mercury emissions. The 30-day period means all operating hours within 30 consecutive kiln operating days excluding periods of startup and shutdown. All emissions limits for kilns, clinker coolers, and raw material dryers currently in effect that are superseded by the limits below continue to apply until the compliance date of the limits below, or until the source certifies compliance with the limits below, whichever is earlier.

(b) *Kilns, clinker coolers, raw material dryers, raw mills, and finish mills.* (1) The emissions limits for these sources are shown in Table 1.

TABLE 1—EMISSIONS LIMITS FOR KILNS, CLINKER COOLERS, RAW MATERIAL DRYERS, RAW AND FINISH MILLS

If your source is a (an):	And the operating mode is:	And if is located at a:	Your emissions limits are:	And the units of the emissions limit are:	The oxygen correction factor is:
1. Existing kiln	Normal operation	Major or area source	PM[1] 0.07 D/F[2] 0.2 Mercury 55 THC[3,4] 24	lb/ton clinker ng/dscm (TEQ) lb/MM tons clinker ppmvd	NA. 7 percent. NA. 7 percent.
2. Existing kiln	Normal operation	Major source	HCl 3	ppmvd	7 percent.
3. Existing kiln	Startup and shutdown	Major or area source	Work practices (63.1346(g)).	NA	NA.
4. New kiln	Normal operation	Major or area source	PM[1] 0.02 D/F[2] 0.2 Mercury 21 THC[3,4] 24	lb/ton clinker ng/dscm (TEQ) lb/MM tons clinker ppmvd	NA. 7 percent. NA. 7 percent.
5. New kiln	Normal operation	Major source	HCl 3	ppmvd	7 percent.
6. New kiln	Startup and shutdown	Major or area source	Work practices (63.1346(g)).	NA	NA.
7. Existing clinker cooler.	Normal operation	Major or area source	PM 0.07	lb/ton clinker	NA.
8. Existing clinker cooler.	Startup and shutdown	Major or area source	Work practices (63.1348(b)(9)).	NA	NA.
9. New clinker cooler	Normal operation	Major or area source	PM 0.02	lb/ton clinker	NA.
10. New clinker cooler	Startup and shutdown	Major or area source	Work practices (63.1348(b)(9)).	NA	NA.
11. Existing or new raw material dryer.	Normal operation	Major or area source	THC[3,4] 24	ppmvd	NA.
12. Existing or new raw material dryer.	Startup and shutdown	Major or area source	Work practices (63.1348(b)(9)).	NA	NA.
13. Existing or new raw or finish mill.	All operating modes	Major source	Opacity 10	percent	NA.

[1] The initial and subsequent PM performance tests are performed using Method 5 or 5I and consist of three test runs.

[2] If the average temperature at the inlet to the first PM control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.40 ng/dscm (TEQ).

[3] Measured as propane.

[4] Any source subject to the 24 ppmvd THC limit may elect to meet an alternative limit of 12 ppmvd for total organic HAP.

(2) When there is an alkali bypass and/or an inline coal mill with a separate stack associated with a kiln, the combined PM emissions from the kiln and the alkali bypass stack and/or the inline coal mill stack are subject to the PM emissions limit. Existing kilns that combine the clinker cooler exhaust and/or alkali bypass and/or coal mill exhaust with the kiln exhaust and send the combined exhaust to the PM control device as a single stream may meet an alternative PM emissions limit. This limit is calculated using Equation 1 of this section:

$$PM_{alt} = (0.0060 \times 1.65)(Q_k + Q_c + Q_{ab} + Q_{cm})/(7000) \quad \text{(Eq. 1)}$$

Where:

PM_{alt} = Alternative PM emission limit for commingled sources.
0.006 = The PM exhaust concentration (gr/dscf) equivalent to 0.070 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.
1.65 = The conversion factor of ton feed per ton clinker.
Q_k = The exhaust flow of the kiln (dscf/ton feed).
Q_c = The exhaust flow of the clinker cooler (dscf/ton feed).
Q_{ab} = The exhaust flow of the alkali bypass (dscf/ton feed).
Q_{cm} = The exhaust flow of the coal mill (dscf/ton feed).
7000 = The conversion factor for grains (gr) per lb.

For new kilns that combine kiln exhaust, clinker cooler gas and/or coal mill and alkali bypass exhaust, the limit is calculated using Equation 2 of this section:

$$PM_{alt} = (0.0020 \times 1.65)(Q_k + Q_c + Q_{ab} + Q_{cm})/(7000) \quad \text{(Eq. 2)}$$

Where:

PM_{alt} = Alternative PM emission limit for commingled sources.
0.002 = The PM exhaust concentration (gr/dscf) equivalent to 0.020 lb per ton clinker where clinker cooler and kiln exhaust gas are not combined.
1.65 = The conversion factor of ton feed per ton clinker.
Q_k = The exhaust flow of the kiln (dscf/ton feed).
Q_c = The exhaust flow of the clinker cooler (dscf/ton feed).
Q_{ab} = The exhaust flow of the alkali bypass (dscf/ton feed).
Q_{cm} = The exhaust flow of the coal mill (dscf/ton feed).
7000 = The conversion factor for gr per lb.

* * * * *

(d) Emission limits in effect prior to September 9, 2010. Any source defined as an existing source in § 63.1351, and that was subject to a PM, mercury, THC, D/F, or opacity emissions limit prior to September 9, 2010, must continue to meet the limits as shown in Table 2 until September 9, 2015.

TABLE 2—EMISSIONS LIMITS IN EFFECT PRIOR TO SEPTEMBER 9, 2010, FOR KILNS (ROWS 1–4), CLINKER COOLERS (ROW 5), AND RAW MATERIAL DRYERS (ROWS 6–9)

If your source is	and	And if it is located at	Your emissions limits are: [1]	And the units of the emissions limit are:
1. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005.	A major source	PM–0.3 Opacity–20 D/F–0.2 [2] THC–50 [3,4]	lb/ton feed percent ng/dscm (TEQ) ppmvd.
2. An existing kiln	it commenced construction or reconstruction after December 2, 2005.	A major source	PM–0.3 Opacity–20 D/F–0.2 [2] THC–20 [3,5] Mercury–41 [6]	lb/ton feed percent ng/dscm (TEQ) ppmvd ug/dscm.
3. An existing kiln	it commenced construction or reconstruction on or prior to December 2, 2005.	An area source	D/F–0.2 [2] THC–50 [3,4]	ng/dscm (TEQ) ppmvd.
4. An existing kiln	it commenced construction or reconstruction after December 2, 2005.	An area source	D/F–0.2 [2] THC–20 [3,5] Mercury–41 [6]	ng/dscm (TEQ) ppmvd ug/dscm.
5. An existing clinker cooler.	NA	A major source	PM–0.1 Opacity–10	lb/ton feed percent.
6. An Existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005.	A major source	THC–50 [3,4] Opacity–10	ppmvd Percent.
7. An Existing raw material dryer.	it commenced construction or reconstruction after December 2, 2005.	A major source	THC–20 [3,5] Opacity–10	ppmvd percent.
8. An Existing raw material dryer.	it commenced construction or reconstruction on or prior to December 2, 2005.	An area source	THC–50 [3,4]	ppmvd.
9. An Existing raw material dryer.	it commenced construction or reconstruction after December 2, 2005.	An area source	THC–20 [3,5]	ppmvd.

[1] All emission limits expressed as a concentration basis (ppmvd, ng/dscm) are corrected to seven percent oxygen.

[2] If the average temperature at the inlet to the first particulate matter control device (fabric filter or electrostatic precipitator) during the D/F performance test is 400 °F or less, this limit is changed to 0.4 ng/dscm (TEQ).

[3] Measured as propane.

[4] Only applies to Greenfield kilns or raw material dryers.

[5] As an alternative, a source may demonstrate a 98 percent reduction in THC emissions from the exit of the kiln or raw material dryer to discharge to the atmosphere. Inline raw mills are considered to be an integral part of the kiln.

[6] As an alternative, a source may route the emissions through a packed bed or spray tower wet scrubber with a liquid-to-gas ratio of 30 gallons per 1000 actual cubic feet per minute or more and meet a site-specific emission limit based on the measured performance of the wet scrubber.

§ 63.1344 [Removed and Reserved]

■ 9. Section 63.1344 is removed and reserved.

■ 10. Section 63.1346 is amended by revising paragraph (g)(3)to read as follows:

§ 63.1346 Operating limits for kilns.

* * * * *

(g) * * *

(3) All dry sorbent and activated carbon systems that control hazardous air pollutants must be turned on and operating at the time the gas stream at the inlet to the baghouse or ESP reaches 300 degrees Fahrenheit (five minute average) during startup. Temperature of the gas stream is to be measured at the inlet of the baghouse or ESP every minute. Such injection systems can be turned off during shutdown. Particulate control and all remaining devices that control hazardous air pollutants should be operational during startup and shutdown.

* * * * *

■ 11. Section 63.1347 is amended by revising paragraph (a)(1) to read as follows:

§ 63.1347 Operation and maintenance plan requirements.

(a) * * *

(1) Procedures for proper operation and maintenance of the affected source and air pollution control devices in order to meet the emissions limits and operating limits, including fugitive dust control measures for open clinker piles of §§ 63.1343, 63.1345, and 63.1346. Your operations and maintenance plan must address periods of startup and shutdown.

* * * * *

■ 12. Section 63.1348 is amended by revising paragraphs (a)(4)(iv) and (v), (b)(1)(iii), and (b)(9) to read as follows:

§ 63.1348 Compliance requirements.

(a) * * *

(4) * * *

(iv) The time weighted average total organic HAP concentration measured during the separate initial performance test specified by § 63.1349(b)(7) must be used to determine initial compliance.

(v) The time weighted average THC concentration measured during the initial performance test specified by § 63.1349(b)(4) must be used to determine the site-specific THC limit. Using the fraction of time the inline kiln/raw mill is on and the fraction of time that the inline kiln/raw mill is off, calculate this limit as a time weighted average of the THC levels measured during raw mill on and raw mill off testing using one of the two approaches in § 63.1349(b)(7)(vii) or (viii) depending on the level of organic HAP measured during the compliance test.

* * * * *

(b) * * *

(1) * * *

(iii) You may not use data recorded during monitoring system startup, shutdown or malfunctions or repairs associated with monitoring system malfunctions in calculations used to report emissions or operating levels. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

* * * * *

(9) *Startup and Shutdown Compliance.* All dry sorbent and activated carbon systems that control hazardous air pollutants must be turned on and operating at the time the gas stream at the inlet to the baghouse or ESP reaches 300 degrees Fahrenheit (five minute average) during startup. Temperature of the gas stream is to be measured at the inlet of the baghouse or ESP every minute. Such injection systems can be turned off during shutdown. Particulate control and all remaining devices that control hazardous air pollutants should be operational during startup and shutdown.

* * * * *

■ 13. Section 63.1349 is amended by revising paragraphs (b), (c), and (d)(1)(ii) to read as follows:

§ 63.1349 Performance testing requirements.

* * * * *

(b)(1) *PM emissions tests.* The owner or operator of a kiln and clinker cooler subject to limitations on PM emissions shall demonstrate initial compliance by conducting a performance test using Method 5 or Method 5I at appendix A–3 to part 60 of this chapter. You must also monitor continuous performance through use of a PM continuous parametric monitoring system (PM CPMS).

(i) For your PM CPMS, you will establish a site-specific operating limit. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp or digital equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You will use the PM CPMS to demonstrate continuous compliance with your operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(A) Your PM CPMS must provide a 4–20 milliamp or digital signal output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps or the monitors digital equivalent.

(B) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to three times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to three times your allowable emission limit.

(C) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp or digital output values from the PM CPMS for the periods corresponding to the compliance test runs (*e.g.,* average all your PM CPMS output values for three corresponding Method 5I test runs).

(ii) Determine your operating limit as specified in paragraphs (b)(1)(iii) through (iv) of this section. If your PM performance test demonstrates your PM emission levels to be below 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test, the milliamp or digital equivalent of zero output from your PM CPMS, and the average PM result of your compliance test to establish your operating limit. If your PM compliance test demonstrates your PM emission levels to be at or above 75 percent of your emission limit you will use the average PM CPMS value recorded during the PM compliance test to establish your operating limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test at least annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(iii) If the average of your three Method 5 or 5I compliance test runs is below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or 5I compliance test with the procedures in (b)(1)(iii)(A) through (D) of this section.

(A) Determine your PM CPMS instrument zero output with one of the following procedures:

(*1*) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(*2*) Zero point data for extractive instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(*3*) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (*e.g.,* when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(*4*) If none of the steps in paragraphs (b)(1)(iii)(A)(*1*) through (*3*) of this section are possible, you must use a zero output value provided by the manufacturer.

(B) Determine your PM CPMS instrument average in milliamps or digital equivalent, and the average of your corresponding three PM compliance test runs, using equation 3.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 3)}$$

Where:

X_1 = The PM CPMS data points for the three runs constituting the performance test.

Y_1 = The PM concentration value for the three runs constituting the performance test.

n = The number of data points.

(C) With your instrument zero expressed in milliamps or a digital value, your three run average PM CPMS milliamp or digital signal value, and your three run PM compliance test average, determine a relationship of lb/ton-clinker per milliamp or digital signal value with Equation 4.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 4)}$$

Where:

R = The relative lb/ton-clinker per milliamp or digital equivalent for your PM CPMS.

Y_1 = The three run average lb/ton-clinker PM concentration.

X_1 = The three run average milliamp or digital equivalent output from your PM CPMS.

z = The milliamp or digital equivalent of your instrument zero determined from (b)(1)(iii)(A).

* * * * *

(D) Determine your source specific 30-day rolling average operating limit using the lb/ton-clinker per milliamp or digital signal value from Equation 4 in Equation 5, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

$$O_1 = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 5)}$$

Where:

* * * * *

O_1 = The operating limit for your PM CPMS on a 30-day rolling average, in milliamps or the digital equivalent.

L = Your source emission limit expressed in lb/ton clinker.

z = Your instrument zero in milliamps, or digital equivalent, determined from (b)(1)(iii)(A).

R = The relative lb/ton-clinker per milliamp, or digital equivalent, for your PM CPMS, from Equation 4.

* * * * *

(iv) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your operating limit by averaging the PM CPMS milliamp or digital equivalent output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using Equation 6.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 6)}$$

Where:

* * * * *

X_1 = The PM CPMS data points for all runs i.

n = The number of data points.

O_h = Your site specific operating limit, in milliamps or the digital equivalent.

* * * * *

(v) To determine continuous operating compliance, you must record the PM CPMS output data for all periods when the process is operating, and use all the PM CPMS data for calculations when the source is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps or the digital equivalent) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 7 to determine the 30 kiln operating day average.

$$30\text{kiln operating day} = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 7)}$$

Where:

Hpvi = The hourly parameter value for hour i.

n = The number of valid hourly parameter values collected over 30 kiln operating days.

* * * * *

(vi) For each performance test, conduct at least three separate test runs each while the mill is on and the mill is off, under the conditions that exist when the affected source is operating at the level reasonably expected to occur. Conduct each test run to collect a minimum sample volume of 2 dscm for determining compliance with a new source limit and 1 dscm for determining compliance with an existing source limit. Calculate the time weighted average of the results from three consecutive runs, including applicable sources as required by (b)(1)(viii), to determine compliance. You need not determine the particulate matter collected in the impingers (''back half'') of the Method 5 or Method 5I particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the ''back half'' for other purposes.

(vii) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp value or digital equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp or digital equivalent signals corresponding to each PM compliance test run.

(viii) When there is an alkali bypass and/or an inline coal mill with a separate stack associated with a kiln, the main exhaust and alkali bypass and/or inline coal mill must be tested simultaneously and the combined emission rate of PM from the kiln and alkali bypass and/or inline coal mill must be computed for each run using Equation 8 of this section.

$$E_{Cm} = \frac{E_K + E_B + E_C}{P} \qquad \text{(Eq. 8)}$$

Where:

E_{Cm} = Combined hourly emission rate of PM from the kiln and bypass stack and/or inline coal mill, lb/ton of kiln clinker production.

E_K = Hourly emissions of PM emissions from the kiln, lb.

E_B = Hourly PM emissions from the alkali bypass stack, lb.

E_C = Hourly PM emissions from the inline coal mill stack, lb.

P = Hourly clinker production, tons.

(ix) The owner or operator of a kiln with an in-line raw mill and subject to limitations on PM emissions shall demonstrate initial compliance by conducting separate performance tests while the raw mill is under normal operating conditions and while the raw mill is not operating, and calculate the time weighted average emissions. The operating limit will then be determined using 63.1349(b)(1)(i) of this section.

(2) *Opacity tests.* If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A–4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) and (ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating.

(i) There are no individual readings greater than 10 percent opacity;

(ii) There are no more than three readings of 10 percent for the first 1-hour period.

(3) *D/F Emissions Tests.* If you are subject to limitations on D/F emissions under this subpart, you must conduct a performance test using Method 23 of appendix A–7 to part 60 of this chapter. If your kiln or in-line kiln/raw mill is equipped with an alkali bypass, you must conduct simultaneous performance tests of the kiln or in-line kiln/raw mill exhaust and the alkali bypass. You may conduct a performance test of the alkali bypass exhaust when the raw mill of the in-line kiln/raw mill is operating or not operating.

(i) Each performance test must consist of three separate runs conducted under representative conditions. The duration of each run must be at least 3 hours, and the sample volume for each run must be at least 2.5 dscm (90 dscf).

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and, where applicable, the temperature at the inlet to the alkali bypass PMCD must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

(iii) Average temperatures must be calculated for each run of the performance test.

(iv) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with § 63.1346(b), footnote 2.

(v)(A) If sorbent injection is used for D/F control, you must record the rate of sorbent injection to the kiln exhaust, and where applicable, the rate of sorbent injection to the alkali bypass exhaust, continuously during the period of the Method 23 test in accordance with the conditions in § 63.1350(m)(9), and include the continuous injection rate record(s) in the performance test report. Determine the sorbent injection rate parameters in accordance with paragraph (b)(3)(vi) of this section.

(B) Include the brand and type of sorbent used during the performance test in the performance test report.

(C) Maintain a continuous record of either the carrier gas flow rate or the carrier gas pressure drop for the duration of the performance test. If the carrier gas flow rate is used, determine, record, and maintain a record of the accuracy of the carrier gas flow rate monitoring system according to the procedures in appendix A to part 75 of this chapter. If the carrier gas pressure drop is used, determine, record, and maintain a record of the accuracy of the carrier gas pressure drop monitoring system according to the procedures in § 63.1350(m)(6).

(vi) Calculate the run average sorbent injection rate for each run and determine and include the average of the run average injection rates in the performance test report and determine the applicable injection rate limit in accordance with § 63.1346(c)(1).

(4) *THC emissions test.* (i) If you are subject to limitations on THC emissions, you must operate a CEMS in accordance with the requirements in § 63.1350(i). For the purposes of conducting the accuracy and quality assurance evaluations for CEMS, the THC span value (as propane) is 50 ppmvd and the reference method (RM) is Method 25A of appendix A to part 60 of this chapter.

(ii) Use the THC CEMS to conduct the initial compliance test for the first 30 kiln operating days of kiln operation after the compliance date of the rule. See § 63.1348(a).

(iii) If kiln gases are diverted through an alkali bypass or to a coal mill and exhausted through a separate stack, you must calculate a kiln-specific THC limit using Equation 9:

$$Cks = \frac{(MACT\ Limit\ x\ (Qab+Qcm+Qks)) - (Qab\ x\ Cab) - (Qcm\ x\ Ccm)}{Qks} \qquad (\text{Eq. } 9)$$

Where:

Cks = Kiln stack concentration (ppmvd).
Qab = Alkali bypass flow rate (volume/hr).
Cab = Alkali bypass concentration (ppmvd).
Qcm = Coal mill flow rate (volume/hr).
Ccm = Coal mill concentration (ppmvd).
Qks = Kiln stack flow rate (volume/hr).

(iv) THC must be measured either upstream of the coal mill or the coal mill stack.

(v) Instead of conducting the performance test specified in paragraph (b)(4)of this section, you may conduct a performance test to determine emissions of total organic HAP by following the procedures in paragraph (b)(7) of this section.

(5) *Mercury Emissions Tests.* If you are subject to limitations on mercury emissions, you must operate a mercury CEMS or a sorbent trap monitoring system in accordance with the requirements of § 63.1350(k). The initial compliance test must be based on the first 30 kiln operating days in which the affected source operates using a mercury CEMS or a sorbent trap monitoring system after the compliance date of the rule. See § 63.1348(a).

(i) If you are using a mercury CEMS or a sorbent trap monitoring system, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in § 63.1350(k)(5).

(ii) Calculate the emission rate using Equation 10 of this section:

$$E_{30D} = k \frac{\sum_{i=1}^{n} C_i Q_i}{P} \qquad (\text{Eq. } 10)$$

Where:

E_{30D} = 30-day rolling emission rate of mercury, lb/MM tons clinker.
C_i = Concentration of mercury for operating hour i, µg/scm.
Q_i = Volumetric flow rate of effluent gas for operating hour i, where C_i and Q_i are on the same basis (either wet or dry), scm/hr.
k = Conversion factor, 1 lb/454,000,000 µg.
n = Number of kiln operating hours in the previous 30 kiln operating day period where both C and Qi qualified data are available.
P = Total runs from the previous 30 days of clinker production during the same time period as the mercury emissions measured, million tons.

(6) *HCl emissions tests.* For a source subject to limitations on HCl emissions you must conduct performance testing by one of the following methods:

(i)(A) If the source is equipped with a wet scrubber, tray tower or dry scrubber, you must conduct performance testing using Method 321 of appendix A to this part unless you have installed a CEMS that meets the requirements § 63.1350(l)(1). For kilns with inline raw mills, testing should be conducted for the raw mill on and raw mill off conditions.

(B) You must establish site specific parameter limits by using the CPMS required in § 63.1350(l)(1). For a wet scrubber or tray tower, measure and record the pressure drop across the scrubber and/or liquid flow rate and pH in intervals of no more than 15 minutes during the HCl test. Compute and record the 24-hour average pressure drop, pH, and average scrubber water flow rate for each sampling run in which the applicable emissions limit is met. For a dry scrubber, measure and record the sorbent injection rate in intervals of no more than 15 minutes during the HCl test. Compute and record the 24-hour average sorbent injection rate and average sorbent injection rate for each sampling run in which the applicable emissions limit is met.

(ii)(A) If the source is not controlled by a wet scrubber, tray tower or dry sorbent injection system, you must operate a CEMS in accordance with the requirements of § 63.1350(l)(1). See § 63.1348(a).

(B) The initial compliance test must be based on the 30 kiln operating days that occur after the compliance date of this rule in which the affected source operates using an HCl CEMS. Hourly HCl concentration data must be obtained according to § 63.1350(l).

(iii) As an alternative to paragraph (b)(6)(i)(B) of this section, you may choose to monitor SO_2 emissions using a CEMS in accordance with the requirements of § 63.1350(l)(3). You must establish an SO_2 operating limit equal to the average recorded during the HCl stack test where the HCl stack test run result demonstrates compliance with the emission limit. This operating limit will apply only for demonstrating HCl compliance.

(iv) If kiln gases are diverted through an alkali bypass or to a coal mill and exhausted through a separate stack, you must calculate a kiln-specific HCl limit using Equation 11:

$$Cks = \frac{(MACT\ Limit\ x\ (Qab+Qcm+Qks)) - (Qab\ x\ Cab) - (Qcm\ x\ Ccm)}{Qks} \qquad (\text{Eq. } 11)$$

Where:

Cks = Kiln stack concentration (ppmvd).
Qab = Alkali bypass flow rate (volume/hr).

Cab = Alkali bypass concentration (ppmvd).
Qcm = Coal mill flow rate (volume/hr).
Ccm = Coal mill concentration (ppmvd).
Qks = Kiln stack flow rate (volume/hr).

(7) *Total Organic HAP Emissions Tests.* Instead of conducting the performance test specified in paragraph (b)(4) of this section, you may conduct a performance test to determine emissions of total organic HAP by following the procedures in paragraphs (b)(7)(i) through (v) of this section.

(i) Use Method 320 of appendix A to this part, Method 18 of Appendix A of part 60, ASTM D6348–03 or a combination to determine emissions of total organic HAP. Each performance test must consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with § 63.7(e). Each run must be conducted for at least 1 hour.

(ii) At the same time that you are conducting the performance test for total organic HAP, you must also determine a site-specific THC emissions limit by operating a THC CEMS in accordance with the requirements of § 63.1350(j). The duration of the performance test must be at least 3 hours and the average THC concentration (as calculated from the recorded output) during the 3-hour test must be calculated. You must establish your THC operating limit and determine compliance with it according to paragraphs (b)(7)(vii) and (viii) of this section. It is permissible to extend the testing time of the organic HAP performance test if you believe extended testing is required to adequately capture organic HAP and/or THC variability over time.

(iii) If your source has an in-line kiln/raw mill you must use the fraction of time the raw mill is on and the fraction of time that the raw mill is off and calculate this limit as a weighted average of the THC levels measured during three raw mill on and three raw mill off tests.

(iv) If your organic HAP emissions are below 75 percent of the organic HAP standard and you determine your operating limit with paragraph (b)(7)(vii) of this section your THC CEMS must be calibrated and operated on a measurement scale no greater than 180 ppmvw, as carbon, or 60 ppmvw as propane.

(v) If your kiln has an inline coal mill and/or an alkali bypass with separate stacks, you are required to measure and account for oHAP emissions from their separate stacks. You are required to measure oHAP at the coal mill inlet, and you must also measure oHAP at the alkali bypass outlet. You must then calculate a flow weighted average oHAP concentration for all emission sources including the inline coal mill and the alkali bypass.

(vi) Your THC CEMS measurement scale must be capable of reading THC concentrations from zero to a level equivalent to two times your highest THC emissions average determined during your performance test, including mill on or mill off operation. **NOTE:** This may require the use of a dual range instrument to meet this requirement and paragraph (b)(7)(iv) of this section.

(vii) Determine your operating limit as specified in paragraphs (b)(7)(viii) and (ix) of this section. If your organic HAP performance test demonstrates your average organic HAP emission levels are below 75 percent of your emission limit (9 ppmv) you will use the average THC value recorded during the organic HAP performance test, and the average total organic HAP result of your performance test to establish your operating limit. If your organic HAP compliance test results demonstrate that your average organic HAP emission levels are at or above 75 percent of your emission limit, your operating limit is established as the average THC value recorded during the organic HAP performance test. You must establish a new operating limit after each performance test. You must repeat the performance test no later than 30 months following your last performance test and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(viii) If the average organic HAP results for your three Method 18 and/or Method 320 performance test runs are below 75 percent of your organic HAP emission limit, you must calculate an operating limit by establishing a relationship of THC CEMS signal to the organic HAP concentration using the average THC CEMS value corresponding to the three organic HAP compliance test runs and the average organic HAP total concentration from the Method 18 and/or Method 320 performance test runs with the procedures in (b)(7)(viii)(A) and (B) of this section.

(A) Determine the THC CEMS average values in ppmvw, and the average of your corresponding three total organic HAP compliance test runs, using Equation 12.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 \,, \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 12)}$$

Where:

x̄ = The THC CEMS average values in ppmvw.
X_i = The THC CEMS data points for all three runs i.
Y_i = The sum of organic HAP concentrations for test runs i. and
n = The number of data points.

(B) You must use your three run average THC CEMS value and your three run average organic HAP concentration from your three Method 18 and/or Method 320 compliance tests to determine the operating limit. Use equation 13 to determine your operating limit in units of ppmvw THC, as propane.

$$T_1 = \left(\frac{9}{Y_1}\right) * X_1 \qquad \text{(Eq. 13)}$$

Where:

T_l = The 30-day operating limit for your THC CEMS, ppmvw.
Y_1 = The average organic HAP concentration from Eq. 12, ppmvd.
X_1 = The average THC CEMS concentration from Eq. 12, ppmvw.

(ix) If the average of your three organic HAP performance test runs is at or above 75 percent of your organic HAP emission limit, you must determine your operating limit using Equation 14 by averaging the THC CEMS output values corresponding to your three organic HAP performance test runs that demonstrate compliance with the emission limit. If your new THC CEMS value is below your current operating limit, you may opt to retain your current operating limit, but you must still submit all performance test and THC CEMS data according to the reporting requirements in paragraph (d)(1) of this section.

$$T_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 14)}$$

Where:

X_1 = The THC CEMS data points for all runs i.

n = The number of data points.

T_h = Your site specific operating limit, in ppmvw THC.

(x) If your kiln has an inline kiln/raw mill, you must conduct separate performance tests while the raw mill is operating (''mill on'') and while the raw mill is not operating (''mill off''). Using the fraction of time the raw mill is on and the fraction of time that the raw mill is off, calculate this limit as a weighted average of the THC levels measured during raw mill on and raw mill off compliance testing with Equation 15.

$$R=(y*t)+(x*(1-t)) \qquad \text{(Eq.15)}$$

Where:

R = Operating limit as THC, ppmvw.

y = Average THC CEMS value during mill on operations, ppmvw.

t = Percentage of operating time with mill on.

x = Average THC CEMS value during mill off operations, ppmvw.

(1-t) = Percentage of operating time with mill off.

(xi) To determine continuous compliance with the THC operating limit, you must record the THC CEMS output data for all periods when the process is operating and the THC CEMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the THC CEMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (ppmvw) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 16 to determine the 30 kiln operating day average.

$$30\text{kiln operating day} = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 16)}$$

Where:

Hpvi = The hourly parameter value for hour i, ppmvw.

n = The number of valid hourly parameter values collected over 30 kiln operating days.

(xii) Use EPA Method 18 or Method 320 of appendix A to part 60 of this chapter to determine organic HAP emissions. For each performance test, conduct at least three separate runs under the conditions that exist when the affected source is operating at the level reasonably expected to occur. If your source has an in-line kiln/raw mill you must conduct three separate test runs with the raw mill on, and three separate runs under the conditions that exist when the affected source is operating at the level reasonably expected to occur with the mill off. Conduct each Method 18 test run to collect a minimum target sample equivalent to three times the method detection limit. Calculate the average of the results from three runs to determine compliance.

(xiii) If the THC level exceeds by 10 percent or more your site-specific THC emissions limit, you must

(A) As soon as possible but no later than 30 days after the exceedance, conduct an inspection and take corrective action to return the THC CEMS measurements to within the established value; and

(B) Within 90 days of the exceedance or at the time of the 30 month compliance test, whichever comes first, conduct another performance test to determine compliance with the organic HAP limit and to verify or re-establish your site-specific THC emissions limit.

(8) HCl Emissions Tests with SO_2 Monitoring. If you choose to monitor SO_2 emissions using a CEMS to demonstrate HCl compliance, follow the procedures in (b)(8)(i) through (ix) of this section and in accordance with the requirements of § 63.1350(l)(3). You must establish an SO_2 operating limit equal to the average recorded during the HCl stack test. This operating limit will apply only for demonstrating HCl compliance.

(i) Use Method 321 of appendix A to this part to determine emissions of HCl. Each performance test must consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with § 63.7(e). Each run must be conducted for at least one hour.

(ii) At the same time that you are conducting the performance test for HCl, you must also determine a site-specific SO_2 emissions limit by operating an SO_2 CEMS in accordance with the requirements of § 63.1350(l). The duration of the performance test must be three hours and the average SO_2 concentration (as calculated from the average output) during the 3-hour test must be calculated. You must establish your SO_2 operating limit and determine compliance with it according to paragraphs (b)(8)(vii) and (viii) of this section.

(iii) If your source has an in-line kiln/raw mill you must use the fraction of time the raw mill is on and the fraction of time that the raw mill is off and calculate this limit as a weighted average of the SO_2 levels measured during raw mill on and raw mill off testing.

(iv) Your SO_2 CEMS must be calibrated and operated according to the requirements of § 60.63(f).

(v) Your SO_2 CEMS measurement scale must be capable of reading SO_2 concentrations consistent with the requirements of § 60.63(f), including mill on or mill off operation.

(vi) If your kiln has an inline kiln/raw mill, you must conduct separate performance tests while the raw mill is operating (''mill on'') and while the raw mill is not operating (''mill off''). Using the fraction of time the raw mill is on and the fraction of time that the raw mill is off, calculate this limit as a weighted average of the HCl levels measured during raw mill on and raw mill off compliance testing with Equation 17.

$$R=(y*t)+x*(L-1) \qquad \text{(Eq. 17)}$$

Where:

R = Operating limit as SO_2, ppmvw.
y = Average SO_2 CEMS value during mill on operations, ppmvw.
t = Percentage of operating time with mill on, expressed as a decimal.
x = Average SO_2 CEMS value during mill off operations, ppmvw.
$t-1$ = Percentage of operating time with mill off, expressed as a decimal.

(vii) If the average of your three HCl compliance test runs is below 75 percent of your HCl emission limit, you may as a compliance alternative, calculate an operating limit by establishing a relationship of SO_2 CEMS signal to your HCl concentration corrected to 7 percent O_2 by using the SO_2 CEMS instrument zero, the average SO_2 CEMS values corresponding to the three compliance test runs, and the average HCl concentration from the HCl compliance test with the procedures in (b)(8)(vii)(A) through (D) of this section.

(A) Determine your SO_2 CEMS instrument zero output with one of the following procedures:

(*1*) Zero point data for in-situ instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(*2*) Zero point data for extractive instruments may be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(*3*) The zero point may also be established by performing probe-flood introduction of high purity nitrogen or certified zero air free of SO_2.

(*4*) If none of the steps in paragraphs (b)(8)(vii)(A)(*1*) through (*3*) of this section are possible, you must use a zero output value provided by the manufacturer.

(B) Determine your SO_2 CEMS instrument average ppm, and the average of your corresponding three HCl compliance test runs, using equation 18.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 , \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 18)}$$

Where:

X_1 = The SO_2 CEMS data points for the three runs constituting the performance test.
Y_1 = The HCl emission concentration expressed as ppmv corrected to 7 percent O_2 for the three runs constituting the performance test.
n = The number of data points.

(C) With your instrument zero expressed in ppmv, your three run average SO_2 CEMS expressed in ppmv, and your three run HCl compliance test average in ppm corrected to 7 percent O_2, determine a relationship of ppm HCl corrected to 7 percent O_2 per ppm SO_2 with Equation 19.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 19)}$$

Where:

R = The relative HCl ppmv corrected to 7 percent O_2 per ppm SO_2 for your SO_2 CEMS.
Y_1 = The three run average HCl concentration corrected to 7 percent O_2.
X_1 = The three run average ppm recorded by your SO_2 CEMS.
z = The instrument zero output ppm value.

(D) Determine your source specific 30-day rolling average operating limit using ppm HCl corrected to 7 percent O_2 per ppm SO_2 value from Equation 19 in Equation 20, below. This sets your operating limit at the SO_2 CEMS ppm value corresponding to 75 percent of your emission limit.

$$O_1 = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 20)}$$

Where:

O_l = The operating limit for your SO_2 CEMS on a 30-day rolling average, in ppmv.
L = Your source HCl emission limit expressed in ppmv corrected to 7 percent O_2.
z = Your instrument zero in ppmv, determined from (1)(i).
R = The relative oxygen corrected ppmv HCl per ppmv SO_2, for your SO_2 CEMS, from Equation 19.

(viii) To determine continuous compliance with the SO_2 operating limit, you must record the SO_2 CEMS output data for all periods when the process is operating and the SO_2 CEMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the SO_2 CEMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (ppmvw) on a 30 operating day rolling average basis, updated at the end of each new kiln operating day. Use Equation 21 to determine the 30 kiln operating day average.

$$30 kiln\ operating\ day = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 21)}$$

Where:

Hpvi = The hourly parameter value for hour i, ppmvw.

n = The number of valid hourly parameter values collected over 30 kiln operating days.

(ix) Use EPA Method 321 of appendix A to part 60 of this chapter to determine HCl emissions. For each performance test, conduct at least three separate runs under the conditions that exist when the affected source is operating at the level reasonably expected to occur. If your source has an in-line kiln/raw mill you must conduct three separate test runs with the raw mill on, and three separate runs under the conditions that exist when the affected source is operating at the level reasonably expected to occur with the mill off.

(x) If the SO_2 level exceeds by 10 percent or more your site-specific SO_2 emissions limit, you must:

(A) As soon as possible but no later than 30 days after the exceedance, conduct an inspection and take corrective action to return the SO_2 CEMS measurements to within the established value;

(B) Within 90 days of the exceedance or at the time of the periodic compliance test, whichever comes first, conduct another performance test to determine compliance with the HCl limit and to verify or re-establish your site-specific SO_2 emissions limit.

(c) *Performance test frequency.* Except as provided in § 63.1348(b), performance tests are required at regular intervals for affected sources that are subject to a dioxin, organic HAP or HCl emissions limit. Performance tests required every 30 months must be completed between 29 and 31 calendar months after the previous performance test except where that specific pollutant is monitored using CEMS; performance tests required every 12 months must be completed within 11 to 13 calendar months after the previous performance test.

* * * * *

(d) * * *

(1) * * *

(ii) The values for the site-specific operating limits or parameters established pursuant to paragraphs (b)(1), (3), (6), (7), and (8) of this section, as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.

* * * * *

■ 14. Section 63.1350 is amended by:

■ a. Removing and reserving paragraph (a)(2).

■ b. Revising paragraphs (i)(1) and (2), (j), (k)(2) introductory text, and (k)(2)(ii).

■ c. Adding paragraph (k)(2)(iii).

■ d. Revising paragraphs (k)(5)(i) and (iv), (l), (n) introductory text, (n)(1) and (4), (o) introductory text, and (o)(3) introductory text.

The revisions and additions read as follows:

§ 63.1350 Monitoring requirements.

* * * * *

(i) * * *

(1) You must install, operate, and maintain a THC continuous emission monitoring system in accordance with Performance Specification 8 or Performance Specification 8A of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part. The owner or operator must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60 of this chapter. For THC continuous emission monitoring systems certified under Performance Specification 8A, conduct the relative accuracy test audits required under Procedure 1 in accordance with Performance Specification 8, Sections 8 and 11 using Method 25A in appendix A to 40 CFR part 60 as the reference method; the relative accuracy must meet the criteria of Performance Specification 8, Section 13.2.

(2) Performance tests on alkali bypass and coal mill stacks must be conducted using Method 25A in appendix A to 40 CFR part 60 and repeated every 30 months.

(j) *Total organic HAP monitoring requirements.* If you are complying with the total organic HAP emissions limits, you must continuously monitor THC according to paragraph (i)(1) and (2) of this section or in accordance with Performance Specification 8 or Performance Specification 8A of appendix B to part 60 of this chapter and comply with all of the requirements for continuous monitoring systems found in the general provisions, subpart A of this part. You must operate and maintain each CEMS according to the quality assurance requirements in Procedure 1 of appendix F in part 60 of this chapter. In addition, your must follow the monitoring requirements in paragraphs (m)(1) through (4) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (4) of this section.

(k) * * *

(2) In order to quality assure data measured above the span value, you must use one of the three options in paragraphs (k)(2)(i) through (iii) of this section. Where the options in paragraphs (k)(2)(i) through (iii) are employed while the kiln is operating in a mill-off mode, the ''above span'' described in paragraph (k)(2)(iii) may substitute for the daily upscale calibration provided the data normalization process in paragraph (k)(2)(iii) are not required. If data normalization is required, the normal daily upscale calibration check must be performed to quality assure the operation of the CEMS for that day. In this particular case, adjustments to CEMS normally required by Procedure 5 when a daily upscale does not meet the 5 percent criterion are not required, unless paragraph (k)(2)(iii) of this section data normalization is necessary and a subsequent normal daily calibration check demonstrates the need for such adjustment.

* * * * *

(ii) Quality assure any data above the span value by proving instrument linearity beyond the span value established in paragraph (k)(1) of this section using the following procedure. Conduct a weekly ''above span linearity'' calibration challenge of the monitoring system using a reference gas with a certified value greater than your highest expected hourly concentration or greater than 75 percent of the highest measured hourly concentration. The ''above span'' reference gas must meet the requirements of PS 12A, Section 7.1 and must be introduced to the measurement system at the probe. Record and report the results of this procedure as you would for a daily calibration. The ''above span linearity'' challenge is successful if the value measured by the Hg CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the Hg CEMS during the above span linearity challenge exceeds +/−10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new ''above span linearity'' challenge met before returning the Hg CEMS to service, or data above span from the Hg CEMS must be subject to the quality assurance procedures established in paragraph (k)(2)(iii) of this section. In this manner values measured by the Hg CEMS during the above span linearity challenge exceeding +/−20 percent of the certified value of the reference gas must be normalized using Equation 22.

(iii) Quality assure any data above the span value established in paragraph (k)(1) of this section using the following procedure. Any time two consecutive one-hour average measured concentrations of Hg exceeds the span value you must, within 24 hours before or after, introduce a higher, ‘‘above span’’ Hg reference gas standard to the Hg CEMS. The ‘‘above span’’ reference gas must meet the requirements of PS 12A, Section 7.1, must target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include ‘‘above span’’ calibrations done before or after the above span measurement period. Record and report the results of this procedure as you would for a daily calibration. The ‘‘above span’’ calibration is successful if the value measured by the Hg CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the Hg CEMS exceeds 20 percent of the certified value of the reference gas, then you must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the ‘‘above span’’ calibration for reporting based on the Hg CEMS response to the reference gas as shown in equation 22:

$$\frac{\textit{Certified reference gas value}}{\textit{Measured value of reference gas}} \times \textit{Measured stack gas result} = \textit{Normalized stack gas result} \qquad (\textit{Eq.}\,22)$$

Only one ‘‘above span’’ calibration is needed per 24 hour period. If the ‘‘above span’’ calibration is conducted during the period when measured emissions are above span and there is a failure to collect at least one valid data point in an hour due to the calibration duration, then you must determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour. In an hour where an ‘‘above span’’ calibration is being conducted and one or more data points are collected, the emissions average is represented by the average of all valid data points collected in that hour.

* * * * *

(5) * * *

(i) Develop a mercury hourly mass emissions rate by conducting performance tests annually, within 11 to 13 calendar months after the previous performance test, using Method 29, or Method 30B, to measure the concentration of mercury in the gases exhausted from the alkali bypass and coal mill.

* * * * *

(iv) If mercury emissions from the coal mill and alkali bypass are below the method detection limit for two consecutive annual performance tests, you may reduce the frequency of the performance tests of coal mills and alkali bypasses to once every 30 months. If the measured mercury concentration exceeds the method detection limit, you must revert to testing annually until two consecutive annual tests are below the method detection limit.

* * * * *

(l) *HCl Monitoring Requirements.* If you are subject to an emissions limitation on HCl emissions in § 63.1343, you must monitor HCl emissions continuously according to paragraph (l)(1) or (2) and paragraphs (m)(1) through (4) of this section or, if your kiln is controlled using a wet or dry scrubber or tray tower, you alternatively may parametrically monitor SO_2 emissions continuously according to paragraph (l)(3) of this section. You must also develop an emissions monitoring plan in accordance with paragraphs (p)(1) through (4) of this section.

(1) If you monitor compliance with the HCl emissions limit by operating an HCl CEMS, you must do so in accordance with Performance Specification 15 (PS 15) of appendix B to part 60 of this chapter, or, upon promulgation, in accordance with any other performance specification for HCl CEMS in appendix B to part 60 of this chapter. You must operate, maintain, and quality assure a HCl CEMS installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to part 60 of this chapter except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. When promulgated, if you choose to install and operate an HCl CEMS in accordance with PS 18 of appendix B to part 60 of this chapter, you must operate, maintain and quality assure the HCl CEMS using the associated Procedure 6 of appendix F to part 60 of this chapter. For any performance specification that you use, you must use Method 321 of appendix A to part 63 of this chapter as the reference test method for conducting relative accuracy testing. The span value and calibration requirements in paragraphs (l)(1)(i) and (ii) of this section apply to all HCl CEMS used under this subpart.

(i) You must use a measurement span value for any HCl CEMS of 0–10 ppmvw unless the monitor is installed on a kiln without an inline raw mill. Kilns without an inline raw mill may use a higher span value sufficient to quantify all expected emissions concentrations. The HCl CEMS data recorder output range must include the full range of expected HCl concentration values which would include those expected during ‘‘mill off’’ conditions. The corresponding data recorder range shall be documented in the site-specific monitoring plan and associated records.

(ii) In order to quality assure data measured above the span value, you must use one of the three options in paragraphs (l)(1)(ii)(A) through (C) of this section.

(A) Include a second span that encompasses the HCl emission concentrations expected to be encountered during ‘‘mill off’’ conditions. This second span may be rounded to a multiple of 5 ppm of total HCl. The requirements of the appropriate HCl monitor performance specification shall be followed for this second span with the exception that a RATA with the mill off is not required.

(B) Quality assure any data above the span value by proving instrument linearity beyond the span value established in paragraph (l)(1)(i) of this section using the following procedure. Conduct a weekly ‘‘above span linearity’’ calibration challenge of the monitoring system using a reference gas with a certified value greater than your highest expected hourly concentration or greater than 75 percent of the highest measured hourly concentration. The ‘‘above span’’ reference gas must meet the requirements of the applicable performance specification and must be introduced to the measurement system at the probe. Record and report the results of this procedure as you would for a daily calibration. The ‘‘above span linearity’’ challenge is successful if the value measured by the HCl CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the HCl CEMS during the above span linearity challenge exceeds 10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new ‘‘above span linearity’’ challenge met before returning the HCl CEMS to service, or data above span from the HCl CEMS must be subject to the quality assurance procedures established in paragraph (l)(1)(ii)(D) of this section. Any HCl CEMS above span linearity challenge exceeding +/-20 percent of the certified value of the reference gas requires that all above span data must be normalized using Equation 23.

(C) Quality assure any data above the span value established in paragraph (l)(1)(i) of this section using the following procedure. Any time two consecutive one-hour average measured concentration of HCl exceeds the span value you must, within 24 hours before or after, introduce a higher, ‘‘above span’’ HCl reference gas standard to the HCl CEMS. The ‘‘above span’’ reference gas must meet the requirements of the applicable performance specification and target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include above span calibrations done before or after the above-span measurement period. Record and report the results of this procedure as you would for a daily calibration. The ‘‘above span’’ calibration is successful if the value measured by the HCl CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the HCl CEMS is not within 20 percent of the certified value of the reference gas, then you must normalize the stack gas values measured above span as described in paragraph (l)(1)(ii)(D) of this section. If the ‘‘above span’’ calibration is conducted during the period when measured emissions are above span and there is a failure to collect at least one valid data point in an hour due to the calibration duration, then you must determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour. In an hour where an ‘‘above span’’ calibration is being conducted and one or more data points are collected, the emissions average is represented by the average of all valid data points collected in that hour.

(D) In the event that the ‘‘above span’’ calibration is not successful (*i.e.,* the HCl CEMS measured value is not within 20 percent of the certified value of the reference gas), then you must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the ‘above span’ calibration for reporting based on the HCl CEMS response to the reference gas as shown in Equation 23:

$$\frac{\mathit{Certified\ reference\ gas\ value}}{\mathit{Measured\ value\ of\ reference\ gas}}\ x\ \mathit{Measured\ stack\ gas\ result} = \mathit{Normalized\ stack\ gas\ result} \qquad (Eq. 23)$$

Only one ‘‘above span’’ calibration is needed per 24-hour period.

(2) Install, operate, and maintain a CMS to monitor wet scrubber or tray tower parameters, as specified in paragraphs (m)(5) and (7) of this section, and dry scrubber, as specified in paragraph (m)(9) of this section.

(3) If the source is equipped with a wet or dry scrubber or tray tower, and you choose to monitor SO_2 emissions, monitor SO_2 emissions continuously according to the requirements of § 60.63(e) and (f) of part 60 subpart F of this chapter. If SO_2 levels increase above the 30-day rolling average SO_2 operating limit established during your performance test, you must:

(i) As soon as possible but no later than 48 hours after you exceed the established SO_2 value conduct an inspection and take corrective action to return the SO_2 emissions to within the operating limit; and

(ii) Within 60 days of the exceedance or at the time of the next compliance test, whichever comes first, conduct an HCl emissions compliance test to determine compliance with the HCl emissions limit and to verify or re-establish the SO_2 CEMS operating limit.

* * * * *

(n) *Continuous Flow Rate Monitoring System.* You must install, operate, calibrate, and maintain instruments, according to the requirements in paragraphs (n)(1) through (10) of this section, for continuously measuring and recording the stack gas flow rate to allow determination of the pollutant mass emissions rate to the atmosphere from sources subject to an emissions limitation that has a pounds per ton of clinker unit and that is required to be monitored by a CEMS.

(1) You must install each sensor of the flow rate monitoring system in a location that provides representative measurement of the exhaust gas flow rate at the sampling location of the mercury CEMS, taking into account the manufacturer’s recommendations. The flow rate sensor is that portion of the system that senses the volumetric flow rate and generates an output proportional to that flow rate.

* * * * *

(4) The flow rate monitoring system must be equipped with a data acquisition and recording system that is capable of recording values over the entire range specified in paragraph (n)(2) of this section.

* * * * *

(o) *Alternate monitoring requirements approval.* You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of this subpart subject to the provisions of paragraphs (o)(1) through (6) of this section.

* * * * *

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (o)(3)(i) through (iii) of this section:

* * * * *

■ 15. 63.1354 is amended by revising paragraphs (b)(9) introductory text through (b)(9)(vi) and adding paragraphs (b)(9)(viii) through (x) to read as follows:

§ 63.1354 Reporting requirements.

* * * * *

(b) * * *

(9) The owner or operator shall submit a summary report semiannually to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*).) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the extensible markup language (XML) schema listed on the CEDRI Web site (*http://www.epa.gov/ttn/chief/cedri/index.html*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. The reports must be submitted by the deadline specified in this subpart, regardless of the method in which the reports are submitted. The report must contain the information specified in § 63.10(e)(3)(vi). In addition, the summary report shall include:

(i) All exceedances of maximum control device inlet gas temperature limits specified in § 63.1346(a) and (b);

(ii) Notification of any failure to calibrate thermocouples and other temperature sensors as required under § 63.1350(g)(1)(iii) of this subpart; and

(iii) Notification of any failure to maintain the activated carbon injection rate, and the activated carbon injection carrier gas flow rate or pressure drop, as applicable, as required under § 63.1346(c)(2).

(iv) Notification of failure to conduct any combustion system component inspections conducted within the reporting period as required under § 63.1347(a)(3).

(v) Any and all failures to comply with any provision of the operation and maintenance plan developed in accordance with § 63.1347(a).

(vi) For each PM CPMS, HCl, Hg, and THC CEMS, D/F temperature monitoring system, or Hg sorbent trap monitoring system, within 60 days after the reporting periods, you must report all of the calculated 30-operating day rolling average values derived from the CPMS, CEMS, CMS, or Hg sorbent trap monitoring systems.

* * * * *

(viii) Within 60 days after the date of completing each CEMS performance evaluation test as defined in § 63.2, you must submit relative accuracy test audit (RATA) data to the EPA's CDX by using CEDRI in accordance with paragraph (b)(9) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

(ix) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

(x) All reports required by this subpart not subject to the requirements in paragraphs (b)(9) introductory text and (b)(9)(viii) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (*e.g.,* by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraph (b)(9) introductory text and (b)(9)(viii) of this section in paper format.

* * * * *

§ 63.1355 [Amended]

■ 16. Amend § 63.1355 by removing and reserving paragraph (d).

■ 17. Revise § 63.1356 to read as follows:

§ 63.1356 Sources with multiple emissions limit or monitoring requirements.

If you have an affected source subject to this subpart with a different emissions limit or requirement for the same pollutant under another regulation in title 40 of this chapter, once you are in compliance with the most stringent emissions limit or requirement, you are not subject to the less stringent requirement. Until you are in compliance with the more stringent limit, the less stringent limit continues to apply.

§ 63.1357 [Removed and Reserved]

■ 18. Remove and reserve § 63.1357.

■ 19. Revise Table 1 to Subpart LLL of Part 63 to read as follows:

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS

Citation	Requirement	Applies to subpart LLL	Explanation
63.1(a)(1)–(4)	Applicability	Yes.	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)–(8)	Applicability	Yes.	
63.1(a)(9)		No	[Reserved].
63.1(a)(10)–(14)	Applicability	Yes.	
63.1(b)(1)	Initial Applicability Determination	No	§ 63.1340 specifies applicability.
63.1(b)(2)–(3)	Initial Applicability Determination	Yes.	
63.1(c)(1)	Applicability After Standard Established	Yes.	
63.1(c)(2)	Permit Requirements	Yes	Area sources must obtain Title V permits.
63.1(c)(3)		No	[Reserved].
63.1(c)(4)–(5)	Extensions, Notifications	Yes.	
63.1(d)		No	[Reserved].
63.1(e)	Applicability of Permit Program	Yes.	
63.2	Definitions	Yes	Additional definitions in § 63.1341.
63.3(a)–(c)	Units and Abbreviations	Yes.	
63.4(a)(1)–(3)	Prohibited Activities	Yes.	
63.4(a)(4)		No	[Reserved].
63.4(a)(5)	Compliance date	Yes.	

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS—Continued

Citation	Requirement	Applies to subpart LLL	Explanation
63.4(b)–(c)	Circumvention, Severability	Yes.	
63.5(a)(1)–(2)	Construction/Reconstruction	Yes.	
63.5(b)(1)	Compliance Dates	Yes.	
63.5(b)(2)		No	[Reserved].
63.5(b)(3)–(6)	Construction Approval, Applicability	Yes.	
63.5(c)		No	[Reserved].
63.5(d)(1)–(4)	Approval of Construction/Reconstruction	Yes.	
63.5(e)	Approval of Construction/Reconstruction	Yes.	
63.5(f)(1)–(2)	Approval of Construction/Reconstruction	Yes.	
63.6(a)	Compliance for Standards and Maintenance.	Yes.	
63.6(b)(1)–(5)	Compliance Dates	Yes.	
63.6(b)(6)		No	[Reserved].
63.6(b)(7)	Compliance Dates	Yes.	
63.6(c)(1)–(2)	Compliance Dates	Yes.	
63.6(c)(3)–(4)		No	[Reserved].
63.6(c)(5)	Compliance Dates	Yes.	
63.6(d)		No	[Reserved].
63.6(e)(1)–(2)	Operation & Maintenance	No	See § 63.1348(d) for general duty requirement. Any reference to § 63.6(e)(1)(i) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1348(d).
63.6(e)(3)	Startup, Shutdown Malfunction Plan	No	Your operations and maintenance plan must address periods of startup and shutdown. See § 63.1347(a)(1).
63.6(f)(1)	Compliance with Emission Standards	No	Compliance obligations specified in subpart LLL.
63.6(f)(2)–(3)	Compliance with Emission Standards	Yes.	
63.6(g)(1)–(3)	Alternative Standard	Yes.	
63.6(h)(1)	Opacity/VE Standards	No	Compliance obligations specified in subpart LLL.
63.6(h)(2)	Opacity/VE Standards	Yes.	
63.6(h)(3)		No	[Reserved].
63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes.	
63.6(h)(5)(ii)–(iv)	Opacity/VE Standards	No	Test duration specified in subpart LLL.
63.6(h)(6)	Opacity/VE Standards	Yes.	
63.6(h)(7)	Opacity/VE Standards	Yes.	
63.6(i)(1)–(14)	Extension of Compliance	Yes.	
63.6(i)(15)		No	[Reserved].
63.6(i)(16)	Extension of Compliance	Yes.	
63.6(j)	Exemption from Compliance	Yes.	
63.7(a)(1)–(3)	Performance Testing Requirements	Yes	§ 63.1349 has specific requirements.
63.7(b)	Notification period	Yes	Except for repeat performance test caused by an exceedance. See § 63.1353(b)(6).
63.7(c)	Quality Assurance/Test Plan	Yes.	
63.7(d)	Testing Facilities	Yes.	
63.7(e)(1)	Conduct of Tests	No	See § 63.1349(e). Any reference to 63.7(e)(1) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1349(e).
63.7(e)(2)–(4)	Conduct of tests	Yes.	
63.7(f)	Alternative Test Method	Yes.	
63.7(g)	Data Analysis	Yes.	
63.7(h)	Waiver of Tests	Yes.	
63.8(a)(1)	Monitoring Requirements	Yes.	
63.8(a)(2)	Monitoring	No	§ 63.1350 includes CEMS requirements.
63.8(a)(3)		No	[Reserved].
63.8(a)(4)	Monitoring	No	Flares not applicable.
63.8(b)(1)–(3)	Conduct of Monitoring	Yes.	
63.8(c)(1)–(8)	CMS Operation/Maintenance	Yes	Temperature and activated carbon injection monitoring data reduction requirements given in subpart LLL.
63.8(d)	Quality Control	Yes, except for the reference to the SSM Plan in the last sentence.	
63.8(e)	Performance Evaluation for CMS	Yes.	
63.8(f)(1)–(5)	Alternative Monitoring Method	Yes	Additional requirements in § 63.1350(l).
63.8(f)(6)	Alternative to RATA Test	Yes.	
63.8(g)	Data Reduction	Yes.	

TABLE 1 TO SUBPART LLL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS—Continued

Citation	Requirement	Applies to subpart LLL	Explanation
63.9(a)	Notification Requirements	Yes.	
63.9(b)(1)–(5)	Initial Notifications	Yes.	
63.9(c)	Request for Compliance Extension	Yes.	
63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
63.9(e)	Notification of performance test	Yes	Except for repeat performance test caused by an exceedance. See § 63.1353(b)(6).
63.9(f)	Notification of VE/Opacity Test	Yes	Notification not required for VE/opacity test under § 63.1350(e) and (j).
63.9(g)	Additional CMS Notifications	Yes.	
63.9(h)(1)–(3)	Notification of Compliance Status	Yes.	
63.9(h)(4)		No	[Reserved].
63.9(h)(5)–(6)	Notification of Compliance Status	Yes.	
63.9(i)	Adjustment of Deadlines	Yes.	
63.9(j)	Change in Previous Information	Yes.	
63.10(a)	Recordkeeping/Reporting	Yes.	
63.10(b)(1)	General Recordkeeping Requirements	Yes.	
63.10(b)(2)(i)–(ii)	General Recordkeeping Requirements	No	See § 63.1355(g) and (h).
63.10(b)(2)(iii)	General Recordkeeping Requirements	Yes.	
63.10(b)(2)(iv)–(v)	General Recordkeeping Requirements	No.	
63.10(b)(2)(vi)–(ix)	General Recordkeeping Requirements	Yes.	
63.10(c)(1)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(1)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(2)–(4)		No	[Reserved].
63.10(c)(5)–(8)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(9)		No	[Reserved].
63.10(c)(10)–(15)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(d)(1)	General Reporting Requirements	Yes.	
63.10(d)(2)	Performance Test Results	Yes.	
63.10(d)(3)	Opacity or VE Observations	Yes.	
63.10(d)(4)	Progress Reports	Yes.	
63.10(d)(5)	Startup, Shutdown, Malfunction Reports	No	See § 63.1354(c) for reporting requirements. Any reference to § 63.10(d)(5) in other General Provisions or in this subpart is to be treated as a cross-reference to § 63.1354(c).
63.10(e)(1)–(2)	Additional CMS Reports	Yes.	
63.10(e)(3)	Excess Emissions and CMS Performance Reports.	Yes	Exceedances are defined in subpart LLL.
63.10(e)(3)(vii) and (viii)	Excess Emissions and CMS Performance Reports.	No	Superseded by 63.1354(b)(10).
63.10(f)	Waiver for Recordkeeping/Reporting	Yes.	
63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
63.12(a)–(c)	State Authority and Delegations	Yes.	
63.13(a)–(c)	State/Regional Addresses	Yes.	
63.14(a)–(b)	Incorporation by Reference	Yes.	
63.15(a)–(b)	Availability of Information	Yes.	

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Part II

Environmental Protection Agency

40 CFR Part 63
National Emissions Standards for Hazardous Air Pollutants for Mineral Wool Production and Wool Fiberglass Manufacturing; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2010–1041 and EPA–HQ–OAR–2010–1042; FRL–9928–71–OAR]

RIN 2060–AQ90

National Emissions Standards for Hazardous Air Pollutants for Mineral Wool Production and Wool Fiberglass Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology reviews (RTR) conducted for the Mineral Wool Production and Wool Fiberglass Manufacturing source categories regulated under national emission standards for hazardous air pollutants (NESHAP). Under this action, we are establishing pollutant-specific emissions limits for hazardous air pollutants (HAP) that were previously regulated (under a surrogate) and for HAP that were previously unregulated. This action finalizes first-time generally available control technologies (GACT) standards for gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities that are area sources. We are also amending regulatory provisions related to emissions during periods of startup, shutdown, and malfunction (SSM); adding requirements for reporting of performance testing through the Electronic Reporting Tool (ERT); and making several minor clarifications and corrections. The revisions in these final rules increase the level of emissions control and environmental protection provided by the Mineral Wool Production and Wool Fiberglass Manufacturing NESHAP.

DATES: This final action is effective on July 29, 2015.

ADDRESSES: The Environmental Protection Agency (EPA) has established two dockets for this action under Docket ID Nos. EPA–HQ–OAR–2010–1041 (for 40 CFR part 63, subpart DDD) and EPA–HQ–OAR–2010–1042 (for 40 CFR part 63, subparts NNN and NN). All documents in these dockets are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov,* or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Time, Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Susan Fairchild, Sector Policies and Programs Division (D 234–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–5167; fax number: (919) 541–5600; and email address: *fairchild.susan@epa.gov.* For specific information regarding the risk modeling methodology, contact Mr. Chris Sarsony, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–4843; fax number: (919) 541–0840; and email address: *sarsony.chris@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Ms. Sara Ayres, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency Region 5, 77 West Jackson Boulevard, Mail Code E–19J, Chicago, IL 60604–3507; telephone number: (312) 343–6266; and email address: *ayres.sara@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ADAF	Age-dependent adjustment factors
AEGL	Acute Exposure Guideline Levels
ANSI	American National Standards Institute
APA	Administrative Procedures Act
BDL	Below detection limit
BFS	Batch Formulation System
CAA	Clean Air Act
CA–REL	California reference exposure level
CBI	Confidential business information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COS	Carbonyl sulfide
CPMS	Continuous parameter monitoring system
Cr	Chromium
CRA	Congressional Review Act
CRT	Cathode ray tube
DESP	Dry electrostatic precipitator
dscm	Dry standard cubic meters
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines
ERT	Electronic Reporting Tool
ESP	Electrostatic precipitator
FA	Flame attenuation
FR	**Federal Register**
GACT	Generally available control technology
HAP	Hazardous air pollutants
HCl	Hydrogen chloride
HEPA	High efficiency particulate air
HF	Hydrogen fluoride
HQ	Hazard quotient
ICR	Information collection request
IRIS	Integrated Risk Information System
Lb/ton	Pounds per ton
LOI	Loss on ignition
MACT	Maximum achievable control technology
MDL	Minimum detection limit
MIR	Maximum individual risk
NAICS	North American Industry Classification System
NAIMA	North American Insulation Manufacturers Association
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen oxide
NPV	Net present value
NSPS	New Source Performance Standards
NSSN	National Standards Systems Network
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
PB–HAP	Persistent and Bioaccumulative-HAP
PM	Particulate matter
ppm	Parts per million
PRA	Paperwork Reduction Act
RACT/BACT/LAER	Reasonably Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate
RCRA	Resource Conservation and Recovery Act
RDL	Representative detection limit
REL	Recommended exposure limit
RFA	Regulatory Flexibility Act
RIA	Regulatory Impact Analysis
RIN	Regulatory Information Number
RS	Rotary spin
RTR	Risk and Technology Review
SAB	Science Advisory Board
SBA	Small Business Administration
SBAR	Small Business Analytical Review
SBREFA	Small Business Regulatory Enforcement Flexibility Act
SO_2	Sulfur dioxide
SSM	Startup, shutdown, malfunction
TOSHI	Target organ specific hazard index
TTN	Technology Transfer Network
UMRA	Unfunded Mandates Reform Act
UPL	Upper prediction limit

VCS Voluntary Consensus Standards

Background Information. On November 25, 2011 (76 FR 72770), the EPA proposed revisions to the Mineral Wool Production and Wool Fiberglass Manufacturing NESHAP based on our RTR under Clean Air Act (CAA) sections 112(f)(2) and (d)(6). We proposed chromium compounds emissions limits for wool fiberglass furnaces at major sources after finding that chromium refractories used to construct furnaces degrade with age and emit continuously-increasing levels of chromium compounds. These findings were the result of emissions testing conducted on these types of furnaces indicating significant amounts (550 pounds) of chromium emissions, 93 percent of which was in the hexavalent (most toxic) form. The furnaces tested were considered representative of all furnaces at each facility. In the November 2011 proposal, we also announced that we had already issued a new information collection request (ICR) to the wool fiberglass industry to collect data on chromium emissions and chromium refractory use at all operating wool fiberglass furnaces with the intent of regulating area sources in a future action.

In the November 2011 proposal we also proposed to discontinue using formaldehyde as a surrogate for phenol and methanol in both the Mineral Wool Production and Wool Fiberglass Manufacturing source categories and to discontinue using carbon monoxide (CO) as a surrogate for carbonyl sulfide (COS) in the Mineral Wool Production source category. This revision was proposed because we found that the surrogate for each pollutant is not necessarily a reasonable representation of the pollutant-specific emissions for these source categories (*e.g.,* formaldehyde is not invariably present in the binder formulation). We proposed maximum achievable control technology (MACT) standards under CAA sections 112(d)(2) and (3) for the HAP phenol and methanol in both source categories, and COS in the Mineral Wool Production source category. We also proposed MACT standards for hydrogen fluoride (HF) and hydrochloric acid (HCl), which are emitted from these source categories, but were not regulated under the MACT standard.

On April 15, 2013 (78 FR 22370), the EPA issued a supplemental proposal that was based on comments to the November 2011 proposal and new information on processes in both source categories. New emissions test data for all wool fiberglass furnaces across the industry showed that the same types of furnaces were in operation at both major and area sources, but that the emissions profile of electric furnaces differed from that of gas-fired furnaces (*i.e.,* emissions that could endanger public health). In that notice, we listed wool fiberglass manufacturing area sources, and proposed chromium emission limits for gas-fired wool fiberglass furnaces at area sources, and announced that the chromium limits at major sources would be specific to gas-fired furnaces (such as air-gas and oxyfuel furnaces) and not electric furnaces (such as cold-top and steel shell furnaces).

On November 13, 2014 (79 FR 68012), the EPA issued a second supplemental proposal to explain changes to previously proposed emissions limits for sources in these source categories. We proposed work practice standards under CAA section 112(h) in lieu of certain emissions limits, and clarified our use of the upper predictive limit (UPL) in setting MACT floors. In this action, we are finalizing decisions and revisions for these rules. We summarize some of the more significant comments we received regarding the proposed rules and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the memorandum, ''National Emissions Standards for Hazardous Air Pollutants: Mineral Wool Production and Wool Fiberglass Manufacturing (Risk and Technology Review)—Summary of Public Comments and Responses'' (Docket ID Nos. EPA–HQ–OAR–2010–1041 and EPA–HQ–OAR–2010–1042). ''Track-changes'' versions of the regulatory language that incorporates the changes in this action are available in the respective dockets.

Organization of This Document

The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS [a] code
Mineral Wool Production	327993
Wool Fiberglass Manufacturing	327993

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source categories listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding FOR FURTHER INFORMATION CONTACT section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *http://www.epa.gov/ttn/atw/woolfib/woolfipg* and at *http://www.epa.gov/ttn/atw/minwool/minwopg.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, links to project Web sites for the RTR source categories and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by September 28, 2015. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA, WJC West Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding FOR FURTHER INFORMATION CONTACT section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of HAP from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year or more, or 25 tons per year or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology or MACT standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems or techniques, including but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, see the November 25, 2011, proposal (76 FR 72773).

CAA sections 112(c)(3), (d)(5), and (k)(3) address regulation of area sources. Collectively, these sections are the basis of the Area Source Program under the Urban Air Toxics Strategy (Strategy).[2] Area sources are those that emit less than the major source threshold of HAP (*i.e.,* less than 10 tons per year of a single pollutant or 25 tons per year of a combination of HAP. Under the Strategy, we must regulate emissions of the 30 most toxic HAP emitted by area sources, based on generally available control technology (GACT), at a minimum. These provisions do not require the EPA to regulate all HAP from all HAP-emitting processes as we must do when setting MACT standards. On April 15, 2013, consistent with the Strategy, the agency added gas-fired glass-melting furnaces located at area sources to the source category list [3] [4] and proposed emissions standards for particulate matter (PM) and chromium compounds from these sources at wool fiberglass manufacturing facilities (78 FR 22370). On November 13, 2014, we withdrew our previously proposed GACT limits for PM and proposed to only require total chromium compounds emissions limits for these sources. Reduction of PM is accomplished through chromium reductions because chromium is the toxic pollutant entrained within PM that is emitted by these sources. We are finalizing GACT limits for chromium compound emissions for gas-fired glass-melting furnaces in the Wool Fiberglass Manufacturing area source category.

With this regulation, pursuant to CAA sections 112(c)(3) and (k)(3)(B), the agency will have subjected additional sources to regulation for the urban metal HAP chromium compounds, which is wholly consistent with the goals of the Strategy. For more information on the statutory authority for this rule, see the November 25, 2011, supplemental proposal (76 FR 72770), the April 15, 2013, supplemental proposal (78 FR 22375–22376), and the November 13, 2014, supplemental proposal (79 FR 68012).

B. What is the Mineral Wool Production source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA promulgated the Mineral Wool Production NESHAP on June 1, 1999 (64 FR 29490). The standards are codified at 40 CFR part 63, subpart DDD. The Mineral Wool Production industry consists of facilities that produce mineral wool fiber from slag, rock, or other materials, excluding sand or glass. The source category covered by this MACT standard currently consists of eight facilities.

Mineral wool is a material used mainly for thermal and acoustical insulation. This category includes, but is not limited to, the following process units: A cupola furnace for melting the mineral charge; a blow chamber in which air and, in some cases, a binder are drawn over the fibers, forming them to a screen; a curing oven to bond the fibers; and a cooling compartment. The 1999 NESHAP rule set emissions limits

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[1] The U.S. Court of Appeals has affirmed this approach of implementing CAA section 112(f)(2)(A): *NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

[2] For EPA's document on the Urban Air Toxics Strategy, see 64 FR 38706–38715–716 (July 19, 1999).

[3] For the listing documents of the Strategy, see 64 FR 38075, July 19, 1999; 67 FR 43112, June 26, 2002; 67 FR 70427, November 22, 2002; 73 FR 78637, December 23, 2008; and 74 FR 30366, June 25, 2009.

[4] We have made several revisions to the CAA section 112(c)(3) list since its issuance: 67 FR 43112, June 26, 2002; 67 FR 70427, November 22, 2002; 73 FR 78637, December 23, 2008; 74 FR 30366, June 25, 2009.

for PM from new and existing cupolas, CO from new cupolas, and formaldehyde from new and existing curing ovens.

C. What changes did we propose for the Mineral Wool Production source category in our November 25, 2011 proposal; April 15, 2013 supplemental proposal; and November 13, 2014 supplemental proposal?

On November 25, 2011, the EPA published a proposed rule for the Mineral Wool Production NESHAP, 40 CFR part 63, subpart DDD, that proposed RTR amendments to this standard under CAA sections 112(d)(6) and (f)(2). In that proposal, we stated that maximum individual risk (MIR) for cancer was 4-in-1 million based on available test data for actual emissions and 10-in-1 million based on the MACT-allowable emission limits of the rule. We proposed, considering all available information, that risks were acceptable.

For PM, we reviewed the control technologies in use by the industry and did not find any improvements or developments in practices, processes, and control technologies since the 1999 MACT standard was promulgated. Therefore, we did not propose amendments to the PM standards under either CAA sections 112(f)(2) or (d)(6).

We also proposed to discontinue use of surrogates where we determined that the surrogacy was not reasonable. We proposed to discontinue using CO as a surrogate for COS, and to discontinue use of formaldehyde as a surrogate for phenol and methanol. Based on new source test data and CAA sections 112(d)(2) and (3), we proposed MACT floor emission limits for existing and new sources of COS, phenol, and methanol, pollutants that were previously regulated under a surrogate; and MACT floor emission limits for formaldehyde, the former surrogate. We retained PM as a surrogate for non-mercury HAP metals because there is a reasonable surrogate relationship. We also proposed emissions limits for HF and HCl, two pollutants that were previously unregulated, and proposed alternative emission limits for periods of startup and shutdown.

On April 15, 2013, we published a supplemental proposal for the Mineral Wool Production NESHAP that took into consideration the comments received on the November 2011 proposal, new emissions testing for horizontal lines, and subcategorization of cupolas based on design and raw material use. We withdrew our previously-proposed alternative emission limits for startup and shutdown, and instead proposed that sources may demonstrate compliance with the MACT floor emission limits during periods of startup and shutdown by keeping records showing that the emissions from cupolas were routed to air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

On November 13, 2014, the EPA published a second supplemental proposal for the Mineral Wool Production NESHAP that took into consideration comments received on the 2013 supplemental proposal, explained changes to previously proposed MACT limits for sources in this source category and clarified our use of the UPL in setting the MACT floors. In that proposal, we also proposed work practice standards under CAA section 112(h) for periods of startup and shutdown based on the practices used by the best performers among mineral wool producers to minimize emissions during these activities.

D. What is the Wool Fiberglass Manufacturing source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA promulgated the Wool Fiberglass Manufacturing NESHAP on June 14, 1999 (62 FR 31695). The standards are codified at 40 CFR part 63, subpart NNN. The Wool Fiberglass Manufacturing source category is defined as any facility engaged in producing wool fiberglass from sand, feldspar, sodium sulfate, anhydrous borax, boric acid or any other materials. The Wool Fiberglass Manufacturing industry consists of facilities that produce bonded building insulation using a rotary spin (RS) manufacturing line, and facilities that produce bonded pipe insulation and bonded heavy-density products using a flame attenuation (FA) manufacturing line. The 1999 MACT standards currently apply to 10 major sources in the wool fiberglass industry. Another 20 facilities are area sources.

Wool fiberglass is used primarily as a thermal and acoustical insulation for buildings, automobiles, aircraft, appliances, ductwork and pipes. This category includes, but is not limited to, the following process units: A furnace for melting the mineral charge; a bonded line operation in which air and a binder are drawn over the fibers and cured in an oven to bond the fibers; and a cooling compartment. The 1999 NESHAP rule set emissions limits for PM from new and existing glass-melting furnaces and formaldehyde emissions from new FA and new and existing RS bonded lines.

E. What changes did we propose for major sources in the Wool Fiberglass Manufacturing source category in our November 25, 2011 proposal; April 15, 2013 supplemental proposal; and November 13, 2014 supplemental proposal?

On November 25, 2011, the EPA published a proposed rule for the Wool Fiberglass Manufacturing NESHAP to amend the standard based on our RTR analyses. In that proposal, we found under CAA section 112(f)(2) that the MIR for cancer, primarily due to emissions of hexavalent chromium and formaldehyde, was 40-in-1 million based on actual emissions and 60-in-1 million based on MACT-allowable emissions. The maximum chronic non-cancer target organ specific hazard index (TOSHI) value based on actual emissions was 0.2 with emissions of formaldehyde dominating those impacts. The acute noncancer hazard quotient (HQ), based on the recommended exposure limit (REL) for formaldehyde, was 30. The acute noncancer HQ, based on the Acute Exposure Guideline Levels (AEGL–1) for formaldehyde, was 2. We determined that nothing prevents construction of a high chromium emitting furnace at any wool fiberglass facility. Therefore, we evaluated risk under an auxiliary risk assessment which asked, ''if all wool fiberglass facilities emitted hexavalent chromium at the level of the highest emitter (that is, 450 pounds of hexavalent chromium annually), what would be the risk to human health?'' The MIR under the auxiliary risk analysis exceeded 100-in-one million at four facilities, a level we consider unacceptable.

Although the risk from actual emissions were considered to be well within a level we consider acceptable, we proposed that risk due to hexavalent chromium could be further reduced to achieve an ample margin of safety. The chromium compounds limit would also prevent operation of another high-chromium emitting furnace in this source category. We therefore proposed chromium compounds emission limits of 0.00006 pounds of chromium compounds per ton of glass pulled, under CAA section 112(f)(2).

We proposed under CAA section 112(d)(6) that the control technologies in place on wool fiberglass manufacturing furnaces were essentially the same as existed at the time the MACT standards were promulgated, but that there have been improvements in both the operation and the design of furnaces and their control technologies since that time. As a result, we proposed emissions limits for both PM and total chromium compounds for gas-fired glass-melting furnaces at major sources, under CAA section 112(d)(6), and indicated our intent to list and regulate chromium compounds at area sources in a future action.

In the November 2011 proposal, similar to how we addressed the mineral wool source category, we also proposed in wool fiberglass to discontinue use of formaldehyde as a surrogate for phenol and methanol because the surrogacy was not reasonable. We proposed phenol, formaldehyde, and methanol MACT floor emission limits based on information collected in 2010 for two subcategories of bonded lines under CAA sections 112(d)(2) and (3). We proposed limits for FA lines that apply to all lines without further subcategorization, and proposed alternative emission limits for periods of startup and shutdown. In that notice, we also announced that we had issued an ICR under our section 114 authority to gather additional emission information on furnace chromium emissions.

In our April 2013 supplemental proposal, we took into consideration comments received on the November 2011 proposal, new process and chromium emissions test data, and related furnace data collected under a CAA section 114 ICR.

We further proposed revised PM emission limits for glass-melting furnaces at wool fiberglass manufacturing facilities that are major sources under CAA section 112(d)(6), presented the results of the new chromium emission testing collected from glass-melting furnaces, and required that the chromium emission limits proposed under CAA sections 112(d)(6) and (f)(2) would apply only to gas-fired glass-melting furnaces at major sources. We proposed an alternative compliance provision for startup and shutdown that would require sources to keep records showing that emissions were routed to the air pollution control devices and that these control devices were operated at the parameters established during the most recent performance test that showed compliance with the applicable emission limits. For electric cold-top furnaces, we proposed limiting raw material content to only cullet during startup and shutdown in recognition of the fact that these furnaces do not allow control devices to be operated during startup. For all other glass-melting furnaces, we also required preheating the empty furnace using only natural gas.

On November 13, 2014, the EPA published a second supplemental proposal. For major sources, the 2014 supplemental proposal took into consideration comments received on the 2013 supplemental proposal, withdrew the previously proposed amendments for affirmative defense, explained changes to previously proposed limits for major sources in this source category, proposed work practice standards under CAA section 112(h) for periods of startup and shutdown, and clarified our use of the UPL in setting MACT floors.

F. What did we propose for area sources in the Wool Fiberglass Manufacturing source category in our November 25, 2011 proposal; April 15, 2013 supplemental proposal; and November 13, 2014 supplemental proposal?

In the November 2011 proposal, we noted our intent to potentially list wool fiberglass manufacturing area sources and to use data from the CAA section 114 letter noted above to regulate wool fiberglass area sources in a future action.

On April 15, 2013, the EPA published a supplemental proposal that listed gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities that are area sources as a source category under CAA sections 112(c)(3)and (k)(3). We also proposed first-time PM and total chromium compounds standards for gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities that are area sources under CAA section 112(d)(5).

We proposed GACT standards of 0.00006 pounds of chromium compounds per ton of glass pulled and 0.33 pounds of PM per ton of glass pulled. These were the same limits that we proposed for gas-fired glass-melting furnaces located at major sources in the Wool Fiberglass Manufacturing source category. To maintain consistency with the major source rule, we proposed the same provisions for startup, shutdown, malfunction, testing, monitoring, and recordkeeping that we proposed for major sources.

On November 13, 2014, the EPA published a second supplemental proposal. For area sources, the 2014 supplemental proposal took into consideration comments received on the 2013 supplemental proposal, withdrew the previously proposed provisions for affirmative defense, explained changes to previously proposed limits for sources in this source category, and proposed work practice standards under CAA section 112(h) for periods of startup and shutdown.

III. What is included in the final Mineral Wool Production rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Mineral Wool Production source category and amends the Mineral Wool Production NESHAP based on those determinations. This action also finalizes MACT emission limits under CAA sections 112(d)(2) and (3), work practice standards for periods of startup and shutdown under CAA section 112(h), and other changes to the NESHAP discussed in section III.E of this preamble.

In this action, we are finalizing, as previously proposed, the emission limits for HAP-emitting processes in the Mineral Wool Production source category, as shown in Table 2 of this preamble.

TABLE 2—EMISSION LIMITS FOR THE MINERAL WOOL PRODUCTION SOURCE CATEGORY

Process	Subcategory	HAP	2011 Proposal	2013 Proposal	2014 Proposal	Final rule
Cupolas	Existing Open-top	COS	3.3	6.8	No change	6.8
	New Open-top	COS	0.017	4.3	3.2	3.2
	Existing Closed-top	COS	3.3	3.4	No change	3.4
	New Closed-top	COS	0.017	0.025	0.062	0.062
	Existing Processing Slag	HF	0.014	0.16	No change	0.16
		HCl	0.0096	0.21	0.44	0.44
	New Processing Slag	HF	0.014	0.16	0.015	0.015
		HCl	0.0096	0.21	0.012	0.012
	Existing Not Processing Slag	HF	0.014	0.13	No change	0.13
		HCl	0.0096	0.43	No change	0.43
	New Not Processing Slag	HF	0.014	0.13	0.018	0.018
		HCl	0.0096	0.43	0.015	0.015

TABLE 2—EMISSION LIMITS FOR THE MINERAL WOOL PRODUCTION SOURCE CATEGORY—Continued

Process	Subcategory	HAP	2011 Proposal	2013 Proposal	2014 Proposal	Final rule
Bonded Lines	Vertical (Existing and New) Combined Collection and Curing Operations.	Formaldehyde	0.46	2.7	2.4	2.4
		Phenol	0.52	0.74	0.71	0.71
		Methanol	0.63	1.0	0.92	0.92
	Horizontal (Existing and New) Combined Collection and Curing Operations.	Formaldehyde	0.054	No change	0.63	0.63
		Phenol	0.15	No change	0.12	0.12
		Methanol	0.022	No change	0.49	0.49
	Drum (Existing and New) Combined Collection and Curing Operations.	Formaldehyde	0.067	0.18	0.17	0.17
		Phenol	0.0023	1.3	0.85	0.85
		Methanol	0.00077	0.48	0.28	0.28

A. What are the final rule amendments based on the risk review for the Mineral Wool Production source category?

As presented in the November 2014 supplemental proposal, we are finalizing our determination that risks from the Mineral Wool Production source category are acceptable, the current standards provide an ample margin of safety to protect public health and prevent an adverse environmental effect. We are, therefore, not requiring additional controls and are thus readopting the existing standards under section 112(f)(2).

B. What are the final rule amendments based on the technology review for the Mineral Wool Production source category?

As discussed in the November 2011 proposal (76 FR 72786–72787, 72798), we identified and evaluated the developments in practices, processes, and control technologies that have occurred since the 1999 MACT rules were promulgated. In cases where we identified such developments, we analyzed the technical feasibility and the estimated impacts (*e.g.,* costs, emissions reductions, risk reductions) of applying these developments. We then decided, based on impacts and feasibility, whether it was necessary to propose amendments to the regulation to require any of the identified developments.

Based on our analyses of the data, information collected under the voluntary ICR, our general understanding of both of the industries and other available information on potential controls for these industries, we identified potential developments[5] in practices, processes, and control technologies.

In addition to reviewing the practices, processes, and technologies that were not considered at the time we developed the 1999 MACT rules, we reviewed a variety of data sources for the mineral wool industry. This review included the NESHAP for various industries promulgated after the 1999 MACT rules, regulatory requirements and technical analyses associated with these regulatory actions to identify any practices, processes, and control technologies considered in these efforts that could possibly be applied to emissions sources in the Mineral Wool Production source category, as well as the costs, non-air impacts, and energy implications associated with the use of these technologies.

We additionally consulted the EPA's Reasonably Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate (RACT/BACT/LAER) Clearinghouse to identify potential technology advances, and searched this database to determine whether it contained any practices, processes, or control technologies for the types of processes covered by the mineral wool production rule.

We also requested information from facilities regarding developments in practices, processes or control technologies and we reviewed other information sources, such as state and local permitting agency databases and industry-supported databases. For more information, see the ''Technology Review for the Mineral Wool Production Source Category Memorandum'' in the docket to this rule.

As a result of our technology review under CAA section 112(d)(6) for the Mineral Wool Production source category, we determined that there are no developments in practices, processes, and control technologies that warrant revisions to this MACT standard. We are therefore not amending the standards under CAA section 112(d)(6).

C. What are the final rule amendments pursuant to CAA sections 112(d)(2) and (3) for the Mineral Wool Production source category?

This action finalizes the removal of formaldehyde as a surrogate for phenol and methanol, and the removal of CO as a surrogate for COS, as earlier explained in this preamble and as proposed on November 25, 2011 (76 FR 72770). We also are finalizing the proposed COS, HCl, and HF emission limits for cupolas and the proposed emission limits for formaldehyde, methanol, and phenol for bonded lines developed as a result of new representative detection limit (RDL) values, new source test data and our approach for calculating MACT floors based on limited data sets, as discussed in section III.B of the November 2014 supplemental proposal preamble. These final rule requirements for the Mineral Wool Production NESHAP are consistent with the provisions discussed in our various proposals.

D. What are the final rule amendments addressing emissions during periods of startup and shutdown for the Mineral Wool Production source category?

We are finalizing, as proposed, amendments to the Mineral Wool Production NESHAP to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established work practice standards for periods of startup and shutdown under CAA section 112(h) because measurement of the emissions is not practicable due to technological and economic limitations. Emissions are not at steady state during startup and shutdown (a necessary factor for accurate emissions testing), and the varying stack conditions, gas compositions and low emission rates make accurate emission measurements impracticable. In addition, the startup period for mineral wool cupolas is usually 2 hours, which is too short a

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[5] For the purpose of this exercise, we considered developments not identified or considered during development of the 1999 MACT rules, including any add-on control technology or equipment; any improvements in technology or equipment that could result in significant additional emissions reduction; any work practice or operational procedure; any process change or pollution prevention alternative that could be broadly applied to the industry; and any development in equipment or technology that could result in decreased HAP emissions.

time in which to conduct source testing. We are finalizing under CAA section 112(h), as previously proposed in the November 2014 supplemental proposal, standards requiring affected sources to comply with work practices that are used by the best performers during periods of startup and shutdown. The best performers in the mineral wool industry use one of two possible work practices: either they route any cupola emissions that occur during startup and shutdown to an operating baghouse, or, alternatively, operate the cupola during startup and shutdown with three percent excess oxygen. Regarding the first alternative, baghouses achieve the same outlet concentrations regardless of pollutant loading in the emission stream, and fluctuations in pollutants or exhaust flow rate do not affect the overall level of emissions at the outlet of this control device. Regarding the second alternative, operating the cupola with excess oxygen prevents the formation of pollutants that would otherwise be routed to existing controls.

In the final rule, we are specifying work practice standards that require items of equipment that are required or utilized for compliance with subpart DDD to be operating during startup and shutdown, designating when startups and shutdowns begin, and specifying recordkeeping requirements for startup and shutdown periods. We are also revising Table 1 to subpart DDD of part 63 (General Provisions applicability table) to change several references related to requirements that apply during periods of SSM. We are eliminating or revising certain recordkeeping and reporting requirements related to the eliminated SSM exemption.

E. What other changes have been made to the Mineral Wool Production NESHAP?

We are finalizing, as proposed, addition of EPA Methods 26A and 320 in appendix A part 63 for measuring the concentrations of HCl and HF. We are finalizing, as proposed, the requirement for existing sources to conduct performance tests to demonstrate compliance with the emission limits for cupolas and combined collection/curing operations no later than July 30, 2018 and every 5 years thereafter. We are finalizing, as proposed, the requirement for new sources to comply with the emission limits of the final rule on July 29, 2015, or upon the first cupola campaign, whichever is later, and to conduct performance tests to demonstrate compliance with the emission limits for cupolas and combined collection/curing operations within 180 days of the applicable compliance date.

We are also adding an alternative operating limit for cupolas that provides owners or operators the option of maintaining the percent excess oxygen in the cupola at or above the level established during the performance test. In addition, we are finalizing editorial changes to the performance testing and compliance procedures to specify formaldehyde, methanol, phenol, and COS rather than only the surrogates formaldehyde and CO. In this action, we are finalizing, as proposed, definitions for ''closed-top cupola,'' ''open-top cupola,'' ''combined collection/curing operations'' and ''incinerator.'' We are also adding a definition for ''slag.'' The 2013 supplemental proposal indicated that we would add such a definition (78 FR 22386). Slag is the primary contributing factor to the formation of HF and HCl in the cupola emissions, and is, for some mineral wool formulas, a necessary ingredient for the production of mineral wool. We subcategorized cupolas according to their use of slag as a raw material in the cupola, and are in this final rule defining slag in 40 CFR 63.1196 to mean the by-product materials separated from metals during smelting and refining of raw ore.

We are also making minor corrections to the citations in Table 1 (part 63 General Provision applicability table) to reflect both the final amendments in this action, and the revisions that have been made to the General Provisions since 1999.

F. What are the effective and compliance dates of the new MACT standards for the Mineral Wool Production source category?

The new MACT standards for the Mineral Wool Production source category being promulgated in this action are effective on July 29, 2015. The compliance date for existing cupolas and combined collection/curing operations is July 30, 2018. New sources must comply with the all of the standards immediately upon the effective date of the standard, July 29, 2015, or upon initial startup, whichever is later.

Mineral wool producers are predominantly small businesses. Prior to the November 25, 2011, proposal, we found there was potentially a significant impact to a substantial number of small entities (SISNOSE), and convened a small business advocacy review (SBAR) panel. In that process, the EPA conducted meetings with mineral wool companies and the Small Business Office of Advocacy in order to determine ways in which the impact and burden to small entities could be reduced while continuing to meet the requirements of the CAA. Stakeholders requested up to 3 years to comply with the standards once they were promulgated, in order to be able to install controls, find sources of low-sulfur coke and low-chloride slag, and to conduct performance testing. In subsequent proposals, we subcategorized cupolas according to design and according to raw material use, and can certify that the final rule will not have a SISNOSE. However, we believe that it is still appropriate to retain the proposed compliance date of 3 years after promulgation because the added compliance emissions testing and any process changes sources needed to comply could become significant if the compliance time were shortened to less than the 3 years allowed for standards developed under CAA sections 112(d)(2) and (3).

G. What are the requirements for submission of performance test data to the EPA?

As stated in the proposed preamble to the November 2011 proposal, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is requiring owners and operators of affected facilities to submit electronic copies of certain required performance test reports.

As mentioned in the preamble of the November 2011 proposal, data will be collected by direct computer-to-computer electronic transfer using EPA-provided software. As discussed in the November 2011 proposal, the EPA-provided software is an electronic performance test report tool called the ERT. The ERT will generate an electronic report package which will be submitted to the Compliance and Emissions Data Reporting Interface (CEDRI) and then archived to the EPA's Central Data Exchange (CDX). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html,* and CEDRI can be accessed through the CDX Web site at *http://www.epa.gov/cdx.*

The requirement to submit performance test data electronically to the EPA does not create any additional performance testing and will apply only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site. The EPA believes, through this approach, industry will save time in the performance test submittal process. Additionally, this rulemaking benefits industry by cutting back on recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be kept in hard copy.

As mentioned in the preamble of the November 2011 proposal, state, local, and tribal agencies will benefit from more streamlined and accurate review of performance test data that will be available on the EPA WebFIRE database. The public will also benefit. Having these data publicly available enhances transparency and accountability. For a more thorough discussion of electronic reporting of performance tests using direct computer-to-computer electronic transfer and using EPA-provided software, see the discussion in the preamble of the November 2011 proposal.

In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry; state, local, and tribal agencies; and the EPA significant time, money, and effort, while improving the quality of emission inventories, air quality regulations and enhancing the public's access to this important information.

IV. What is the rationale for our final decisions and amendments for the Mineral Wool Production source category?

For each topic, this section provides a description of what we proposed and what we are finalizing for the subject, the EPA's rationale for the final decisions and amendments and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the comment summary and response document available in the dockets for each source category.

A. Residual Risk Review for the Mineral Wool Production Source Category

1. What did we propose pursuant to CAA section 112(f) for the Mineral Wool Production source category?

Pursuant to CAA section 112(f), we conducted a residual risk assessment on the Mineral Wool Production source category and presented the results of this assessment, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the November 2011 proposed rule (76 FR 72798). Based on the inhalation risk assessment, we estimated that the MIR could be up to 4-in-1 million due to actual emissions and up to 10-in-1 million due to MACT-allowable emissions, mainly due to formaldehyde stack emissions. We estimated that the incidence of cancer based on actual emissions is 0.0004 excess cancer cases per year or one case every 2,500 years, and that about 1,700 people face a cancer risk greater than 1-in-1 million due to HAP emissions from the mineral wool production source category.

That risk assessment indicated that the maximum modeled chronic non-cancer TOSHI value for the Mineral Wool Production source category could be up to 0.04 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic non-cancer impacts.

Our screening analysis for worst-case acute impacts indicated the potential for only one pollutant, formaldehyde, to exceed an HQ value of 1 at only one facility in the Mineral Wool Production source category, with a potential maximum HQ up to 8. A refined emissions multiplier of 3 was used to estimate the peak hourly emission rates from the average rates.

Consequently, in November 2011 we proposed that risks from this source category were acceptable. In addition, we did not identify cost-effective options that would further reduce risk under our ample margin of safety analysis. Therefore, we proposed that the current standards for the Mineral Wool Production source category provide an ample margin of safety to protect public health. We also determined that HAP emissions from this source category were not expected to result in adverse environmental effects.

In the April 2013 supplemental proposal, we revised the risk assessment to reflect new emissions data submitted by the industry following the 2011 proposal, the development of subcategories for HCl and HF emissions from slag- and nonslag-processing cupolas, and subcategories for COS emissions from closed- and open-top cupolas. As noted in the 2013 supplemental proposal, the risks estimated in our revised assessment under CAA section 112(f)(2) from actual emissions increased slightly (based on the new data) compared to the risk assessment conducted for the 2011 proposal. The actual MIR for cancer increased from 4-in-1 million to 10-in-1 million. The maximum chronic non-cancer TOSHI value for the source category increased from 0.04 to 0.12 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts. The acute noncancer HQ, based on the REL for formaldehyde, increased from 8 to 20. The acute noncancer HQ, based on the AEGL–1 for formaldehyde, increased from 0.4 to 1.1. While the risk increased slightly based on the new source test data, we noted that that our findings regarding risk acceptability and ample margin of safety remained unchanged.

In our November 2014 supplemental proposal, we also revised the draft risk assessment under CAA section 112(f)(2) based on new emissions data collected by the industry and updates to the model and model libraries. The new test data that were received did not change our estimate of risk from actual emissions when compared to the risk assessment conducted for the 2013 supplemental proposal. The risk from mineral wool production continued to be driven by formaldehyde and to be well within a level we consider to be acceptable. The MIR for cancer for actual baseline emissions remained 10-in-1 million, with the acute noncancer HQ remaining at 20 for the REL and at 1 for the AEGL–1. The maximum chronic non-cancer TOSHI value based on actual emissions remained at 0.1 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts.

The MIR for cancer from mineral wool production due to allowable emissions (under the original MACT standard) was estimated to be 30-in-1 million (formaldehyde). Facilities actually emit formaldehyde at levels lower than allowed under the 1999 MACT standard, and the limits in the final rule codify formaldehyde (and the other HAP) limits at the actual emissions levels. As a result, the potential MIR for cancer due to allowable emissions after implementation of the standard is estimated to be 10-in-1 million. Therefore, the MIR based on emissions at the level of this standard (*i.e.,* what sources are permitted to emit) decreased by a factor of 3 from MACT-allowable levels. Additional information on the risk assessment can be found in the document titled, ''Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing in Support of the June 2015 Final Rule'' available in the docket for this action (EPA–HQ–OAR–2010–1041).

2. How did the risk review change for the Mineral Wool Production source category?

We have not changed any aspect of the risk assessment since the November 2014 supplemental proposal.

3. What key comments did we receive on the risk review for the Mineral Wool Production source category, and what are our responses?

The comments received on the proposed risk review were generally supportive of our determination of risk acceptability and ample margin of safety analysis and requirement for additional control. A summary of the comments received regarding the risk acceptability and ample margin of safety analysis and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1041). None of the public comments resulted in changes to the conclusions of our risk analysis.

4. What is the rationale for our final approach and final decisions for the risk review for the Mineral Wool Production source category?

As explained in the various proposals and in section IV.A.1 of this preamble, our assessment of residual risk from the Mineral Wool Production source category shows that risks from the source category are acceptable, the current standards provide an ample margin of safety to protect public health, and prevent an adverse environmental effect. We are, therefore, not requiring additional controls and are thus readopting the existing standards under section 112(f)(2).

B. Technology Review for the Mineral Wool Production Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Mineral Wool Production source category?

Pursuant to CAA section 112(d)(6), we conducted a technology review that focused on identifying and evaluating developments in practices, processes, and control technologies for sources of HAP in the Mineral Wool Production source category. As discussed in the 2011 proposal (76 FR 72798), existing cupolas are controlled using baghouses, and bonded lines are controlled using thermal oxidizers. We did not identify any relevant cost-effective developments in technologies, practices, or processes since promulgation of the 1999 NESHAP that would further reduce HAP emissions. Therefore, we did not propose any changes to the 1999 NESHAP as a result of our technology review under CAA section 112(d)(6) for the Mineral Wool Production source category. Additional information regarding the technology review for the Mineral Wool Production source category can be found in the document titled, ''Section 112(d)(6) Technology Review for the Final Mineral Wool NESHAP'' available in the docket for this action (EPA–HQ–OAR–2010–1041).

2. How did the technology review change for the Mineral Wool Production source category?

We have not changed any aspect of the technology review for this source category since the November 2014 supplemental proposal.

3. What key comments did we receive on the technology review, and what are our responses?

The comments received on our technology review and findings were generally supportive. A summary of the comments received regarding the technology review and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1041). We note that none of the public comments and information received in response to the November 2014 supplemental proposal provided data relevant to the technology review, and we made no changes to the technology review based on the comments.

4. What is the rationale for our final approach for the technology review?

As explained in the various proposals and in section IV.B.1 of this preamble, we did not identify any cost-effective developments in practices, processes and controls used to reduce emissions from the mineral wool production industry. Therefore, consistent with our proposals, we are not making any changes to the standards as a result of the CAA section 112(d)(6) review.

C. MACT Standards for Pollutants Previously Regulated Under a Surrogate and Previously Unregulated Pollutants

1. What did we propose pursuant to CAA section 112(d)(2) and (3) for pollutants previously regulated under a surrogate and for previously unregulated pollutants?

In our November 2011 proposal, we proposed revisions to the 1999 NESHAP under CAA sections 112(d)(2) and (3). We proposed to remove unreasonable surrogates, to set limits for each HAP emitted that was previously regulated under a surrogate, and to set limits for previously unregulated HAP. These revisions included removing CO as a surrogate for COS and removing formaldehyde as a surrogate for methanol and phenol; proposing emission limits for COS from cupolas, formaldehyde, methanol, and phenol from combined collection and curing operations; and proposing emissions limits for previously unregulated pollutants (*i.e.,* HCl and HF emitted from cupolas).

In our April 2013 supplemental proposal, we made changes to the previously proposed emission limits for phenol, formaldehyde, and methanol based on new emissions test data. We further proposed subcategories for COS emissions from cupolas based on cupola design. Finally, we proposed subcategories for HF and HCl from cupolas based on whether they processed slag.

In the November 2014 supplemental proposal, we revised emission limits under CAA sections 112(d)(2) and (3) for cupolas and bonded lines as a result of new information regarding detection limits (and consistent with our procedures for ensuring that emission limits are not set below the minimum level that can be accurately measured), new source test data and our approach for calculating MACT floors based on limited data sets.

2. How did we change our proposed emission limits for pollutants that were previously regulated under a surrogate or that were previously unregulated?

Our final emission limits for pollutants previously regulated under a surrogate, and previously unregulated pollutants did not change since our most recent proposal in November 2014.

3. What key comments did we receive on pollutants previously regulated under a surrogate and on previously unregulated pollutants?

We received comments both supporting and objecting to our use of the UPL in calculating MACT floors and the way we treat limited datasets for these pollutants. The commenters did not provide new information or a basis for the EPA to change the proposed emission limits, and did not show that facilities cannot comply with the MACT standards. The comments related to the proposed emission limits for pollutants that were previously regulated under a surrogate and that were previously unregulated are in the comment summary and the response document available in the docket for this action (EPA–HQ–OAR–2010–1041).

4. What is the rationale for our final approach for pollutants previously regulated under a surrogate and for previously unregulated pollutants?

As we discussed in the preamble for the November 2014 supplemental proposal and provided in the comment summary and response document available in the docket, we are finalizing, as proposed, the emission limits for pollutants previously regulated under a surrogate and for previously unregulated pollutants. Three surrogate relationships were in place in the Mineral Wool MACT standard, and we reviewed each of these to determine whether they were reasonable surrogates. We found that the relationship of formaldehyde, methanol and phenol emissions tend to be specific to the binder formulation of an individual product. We found that the surrogacy of CO for COS was not reasonable because the two pollutants are not invariably present and the relationships tend to be specific to the site. We retained the surrogacy of PM for non-mercury HAP metals because control of PM achieves the same level of control for non-mercury HAP metals, regardless of the concentration of those metals in the PM or whether the concentration of those metals varies in the PM.

We requested and obtained HAP-specific emissions testing for all HAP emitted by all processes in the mineral wool industry. Emissions of PM, HF, HCl, and COS were measured from at least one cupola in operation at each facility, and emissions of formaldehyde, methanol, and phenol were measured at the three bonded lines that were in operation in 2010. As a result of the information we gathered, we are finalizing limits for all measured HAP and for the collection process, which emits HAP but was not regulated under the 1999 MACT standard. We are not changing the PM emission limit as a result of the information we gathered.

HF and HCl were not previously regulated, and the emissions of these pollutants depend upon whether slag is used in the cupola. Slag is a raw material in the mineral wool industry that is a waste product of electric arc furnaces at steel plants. Depending on the end-use of the mineral wool product, slag is a needed ingredient in some mineral wool formulations and an undesirable ingredient in others. The use of slag as a raw material in the mineral wool cupola causes ''shot'' (small pellets of iron) to form in the mineral wool product. The quality of some mineral wool products (such as that used for hydroponic gardening) is affected by the presence of shot, and, as a result, facilities making such products do not use slag in their raw materials. Consequently, their emissions of HF and HCl are lower. Two subcategories of cupolas reflect whether slag is processed in the cupola.

Emissions of COS are affected by whether a cupola is designed as a closed cupola (which results in lower COS emissions) or an open cupola (which results in higher COS emissions). Two subcategories of cupolas reflect this design criteria.

Data collected from the mineral wool industry showed three bonded lines were in operation at the time of data collection in 2010. The bonded lines include both collection (the process in which the fibers are formed and sprayed with a phenol/formaldehyde binding agent); and curing, the thermosetting process that cures the binder. Collection was not regulated under the 1999 MACT standard, the emissions from both the curing and collection processes are vented to the same line, and the emissions from these processes can be measured together. These combined collection and curing operations emit phenol, formaldehyde, and methanol as a result of the phenolic resin used to produce the bonded product. We are finalizing limits for combined collection and curing operations according to three different designs: Vertical, horizontal, and drum. The final emission limits for the mineral wool industry are shown above in Table 2 of section III of this preamble.

D. Startup, Shutdown, and Malfunction Provisions for the Mineral Wool Production Source Category

1. What SSM provisions did we propose for the Mineral Wool Production source category?

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously.

We have therefore eliminated the SSM exemption in this rule. Consistent with *Sierra Club* v. *EPA,* the EPA has established work practice standards for those periods. We also revised Table 1 of the General Provisions applicability table in several respects as is explained in more detail below. For example, we have eliminated the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also eliminated and revised certain recordkeeping and reporting provisions that are related to the SSM exemption as described in detail in the proposed rule and summarized again in section IV.D of this preamble, in the rule at 40 CFR 63.1389, and in the General Provisions Table 1 to subpart DDD of part 63 (40 CFR part 63, subpart A).

2. How did the SSM provisions change for the Mineral Wool Production source category?

We have not changed any aspect of the proposed SSM provisions since the November 2014 supplemental proposal.

3. What key comments did we receive on the SSM provisions, and what are our responses?

We received comments regarding the proposed revisions to remove the SSM exemptions for the Mineral Wool Production source category. Comments from industry representatives expressed support for the proposed work practice standards. Another commenter contended that we should have established numerical emission limits. As we noted in the November 2014 supplemental proposal (79 FR 68016), the EPA may promulgate a work practice rather than an emissions standard when measurement of the emissions is technically and economically practicable. In the case of this source category, emissions are not at steady state during startup and shutdown (a necessary factor for accurate emissions testing), and the varying stack conditions, gas compositions, and flow rates make accurate emission measurements impracticable. In addition, startup period for mineral wool cupolas, typically 2 hours, is too short a time to conduct source testing.

The commenters did not provide new information or a basis for the EPA to change the proposed provisions and did not show that facilities cannot comply with the work practice standards during periods of startup and shutdown. The comments related to the proposed revisions to remove the SSM exemptions and our specific responses to those comments can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1041).

4. What is the rationale for our final decisions for the SSM provisions?

For the reasons provided above, in the preamble for the proposed rule and provided in the comment summary and response document available in the docket, we have removed the SSM exemption from the Mineral Wool Production NESHAP; eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption; and removed or modified inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. For periods of startup and shutdown, we are finalizing the work practices of the best performers, as proposed in the November 2014 supplemental proposal. Owners/operators may choose to comply using two potential options during startup and shutdown. One, cupola emissions may be controlled using the control devices that meet the limits of the standard during normal operation, or two, the cupola may be operated during startup and shutdown with 3 percent or more excess oxygen. Additionally, sources must maintain records of the startup and shutdown option they practice, and must monitor and keep records of the parameters of the operating control device(s) or the oxygen level of the cupola during these periods. The controls of startup and shutdown emissions practiced by the best performers in the source category are sufficient so that no additional standards are needed to address emissions during startup or shutdown periods.

E. Other Changes Made to the Mineral Wool Production NESHAP

1. What other changes did we propose for the Mineral Wool Production NESHAP?

a. Electronic Reporting

As stated in the preamble to the November 2011 proposed rule, the EPA proposed electronic reporting requirements. See section III.G of this preamble for more information on what we proposed (and what we are finalizing) for electronic reporting.

b. Test Methods and Testing Frequency

We are finalizing, as proposed, the requirement for new sources to conduct performance tests to demonstrate compliance with the emission limits for cupolas and combined collection/curing operations within 180 days of the applicable compliance date and every 5 years thereafter. We are finalizing, as proposed, the requirement for existing sources to conduct performance tests to demonstrate compliance with the emission limits for cupolas and combined collection/curing operations by July 30, 2018 and every 5 years thereafter. We are finalizing, as proposed, the addition of EPA Methods 26A and 320 in appendix A of part 63 for measuring the concentrations of HCl and HF; and EPA Method 318 for measuring the concentrations of COS, formaldehyde, methanol, and phenol. In addition, we are finalizing editorial changes to the performance testing and compliance procedures to replace references in the 1999 NESHAP to the surrogates CO and formaldehyde with references to specific HAP (formaldehyde, methanol, and phenol for the surrogate formaldehyde, and COS for the surrogate CO).

2. How did the provisions regarding these other changes to the Mineral Wool Production NESHAP change since proposal?

We have not made any changes to the proposed provisions for electronic reporting; testing methods and frequency; definitions or revisions to the General Provision applicability table.

3. What key comments did we receive on the other changes to the Mineral Wool Production NESHAP, and what are our responses?

We received no key comments regarding electronic reporting, testing methods and frequency, definitions, and revisions to the General Provisions applicability table. A summary of the comments we did receive and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1041).

4. What is the rationale for our final decisions regarding these other changes to the Mineral Wool Production NESHAP?

There was no information in the public comments that affected the rationale for these provisions that was presented in the various proposals. Therefore, we are finalizing the proposed provisions regarding electronic reporting; testing methods and frequency; definitions and revisions to the General Provision applicability table.

V. What is included in the Final Wool Fiberglass Manufacturing Rule for major sources?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Wool Fiberglass Manufacturing source category and amends the Wool Fiberglass Manufacturing NESHAP based on those determinations. This action also finalizes other changes to the NESHAP (*e.g.,* compliance dates) as discussed in section V.F of this preamble. In addition, we are finalizing the emission limits for major sources in the Wool Fiberglass Manufacturing source category as shown in Table 3 of this preamble.

TABLE 3—EMISSION LIMITS FOR WOOL FIBERGLASS MANUFACTURING MAJOR SOURCES

[lb pollutant/ton glass pulled]

Process	HAP	Emission limit
Existing Flame Attenuation Lines	Formaldehyde	5.6
	Phenol	1.4
	Methanol	0.50
New Flame Attenuation Lines	Formaldehyde	2.6
	Phenol	0.44
	Methanol	0.35
Existing and New Furnaces	PM	0.33
Existing and New Gas-Fired Furnaces	Chromium compounds	0.00025

A. What are the final rule amendments based on the risk review for the Wool Fiberglass Manufacturing (major sources) source category?

Pursuant to CAA section 112(f)(2), we are finalizing emission limits for chromium emissions from gas-fired glass-melting furnaces of 0.00025 pounds of total chromium per ton of glass pulled to provide an ample margin of safety to protect public health. We are also requiring that facilities establish the materials mix, including the percentages of raw materials and cullet, used in gas-fired glass-melting furnaces during the performance test conducted to demonstrate compliance with the chromium emission limit. We are requiring that the percentage of cullet in the material mix be continually maintained at or below the level established during the most recent performance test showing compliance with the standard.

We note that although we have adopted these same standards, under both CAA sections 112(f)(2) and 112(d)(6), these standards rest on independent statutory authorities and independent rationales. Consequently, these standards remain independent and legally severable.

B. What are the final rule amendments based on the technology review for the Wool Fiberglass Manufacturing (major sources) source category?

We determined that there are developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category. Therefore, to satisfy the requirements of CAA section 112(d)(6), we are revising the existing MACT standards to include an emission limit for glass-melting furnaces of 0.33 pounds of PM per ton of glass pulled as we proposed in April 2013. In this action, we are also revising the proposed chromium emission limit for gas-fired glass-melting furnaces from 0.00006 to 0.00025 pounds of total chromium per ton of glass pulled, based on our re-assessment of emissions data for newly-rebuilt gas-fired glass-melting furnaces.

We note that although we have adopted the total chromium compounds standards under both CAA sections 112(f)(2) and 112(d)(6), these standards rest on independent statutory authorities and independent rationales. Consequently, these standards remain independent and legally severable.

C. What are the final rule amendments pursuant to CAA sections 112(d)(2) and (3) for the Wool Fiberglass Manufacturing (major sources) source category?

This action finalizes the HAP-specific limits proposed in November 2014 that we developed under CAA sections 112(d)(2) and (3) as a result of removing the use of formaldehyde as a surrogate for methanol and phenol on FA lines. We are also eliminating the subcategories for FA lines because the technical bases for distinguishing the subcategories when the original rule was developed no longer exist and we are promulgating emission limits at the MACT floor level for formaldehyde, methanol, and phenol.

As explained in section V.H of this preamble, we are not, at this time, finalizing limits under CAA sections 112(d)(2) and (3) for RS lines.

D. What are the final rule amendments pursuant to CAA section 112(h) for the Wool Fiberglass Manufacturing (major sources) source category?

This action finalizes the work practice standards for HCl and HF emissions from glass-melting furnaces at wool fiberglass manufacturing facilities developed under CAA section 112(h) as proposed in November 2014 (79 FR 68023). These amendments to the Wool Fiberglass Manufacturing NESHAP are consistent with the amendments discussed in the November 2014 supplemental proposal.

E. What are the final rule amendments for the Wool Fiberglass Manufacturing (major sources) source category addressing emissions during periods of startup and shutdown?

We are finalizing, as proposed, changes to the Wool Fiberglass Manufacturing NESHAP to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established work practice standards in this rule that apply during startup and shutdown periods. We are revising Table 1 to subpart NNN of part 63 (General Provisions applicability table) to change several references related to requirements that apply during periods of SSM. We also eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption. We are specifying that items of equipment that are required or utilized for compliance with 40 CFR part 63, subpart NNN must be operated during startup and shutdown. We are finalizing the specifications designating when startup and shutdown begins and recordkeeping requirements for demonstrating compliance during startup and shutdown periods.

We determined that facilities in this source category can meet the applicable work practice standards by following the startup and shutdown procedures that we identified as representative of the procedures employed by the best performing units during periods of startup and shutdown.

Gas-fired furnaces use an electrostatic precipitator (ESP) to control emissions during normal operations. The best performing gas-fired furnaces route emissions during startup and shutdown to the control device. We note that operators of gas-fired furnaces that formerly turned off the controls during startup or shutdown would no longer be allowed to do so.

Electric furnaces use baghouses to control emissions during normal operations. Until the crust is formed on top of the molten glass (and startup ends) the temperature of the gases that would be routed to the baghouse would cause the bags to catch fire. The best performing electric furnaces use only cullet (which emits PM at extremely low levels when melted) and clean fuels (natural gas, which does not emit PM when combusted) during startup and shutdown in order to minimize PM emissions during these periods.

F. What other changes have been made to the Wool Fiberglass Manufacturing NESHAP (major sources)?

We are finalizing, as proposed, the addition of EPA Method 29 for measuring the concentrations of chromium. We are finalizing the requirement, as proposed, to maintain the filter temperature at 248 ± 25 °F when using Method 5 to measure PM emissions from furnaces. We are also amending the NESHAP to allow owners or operators to measure PM emissions from furnaces using either EPA Method 5 or Method 29.

We are finalizing, as proposed, the addition of EPA Method 318 as an alternative test method for measuring the concentration of phenol and methanol and EPA Method 308 as an alternative test method for measuring the concentration of methanol. We are finalizing, as proposed in the 2013 supplemental proposal (78 FR 22402), the replacement of a minimum sampling time of 1 hour with the specification to collect 10 spectra when using EPA Method 318. When using Method 316 to measure formaldehyde, we are finalizing, as proposed, the requirement to collect a minimum sampling volume of 2 dry standard cubic meters (dscm); however, we are not finalizing the proposed minimum sampling run time of 2 hours. We are also finalizing editorial changes to the performance testing and compliance procedures to specify formaldehyde, methanol, phenol (rather than the surrogate, formaldehyde), chromium, HCl, and HF. Additionally, for existing sources we are finalizing, as proposed, the requirement to conduct performance tests to demonstrate compliance with the chromium emission limit for furnaces no later than July 31, 2017 and annually thereafter; to demonstrate compliance with the PM emission limit for furnaces no later than July 31, 2017 and every 5 years thereafter; and to demonstrate compliance with the phenol, formaldehyde and methanol emission limits for FA lines no later than July 31, 2017 and every 5 years thereafter.

We are finalizing the requirement for new sources to comply with the emission limits on July 29, 2015, or upon the initial startup, whichever is later, and to conduct performance tests to demonstrate compliance with the emission limits for furnaces and FA lines no later than 180 days after the applicable compliance date. Following the initial test to demonstrate compliance with the chromium emission limit, owners or operators must test for chromium emissions annually. For all other pollutants, owners or operators must conduct performance tests every 5 years after the initial test to demonstrate compliance with the emissions limits. Table 4 of this preamble summarizes the compliance test schedule for major and area sources.

TABLE 4—WOOL FIBERGLASS MANUFACTURING COMPLIANCE TEST SCHEDULE FOR MAJOR SOURCES

Process	Pollutant(s)	Initial test dates		Subsequent testing frequency
		Existing sources	New sources	
FA Line	Phenol Formaldehyde Methanol.	2 years after publication of the final rule amendments in the **Federal Register**.	Within 180 days after publication in the **Federal Register**, or 180 days after initial startup, whichever is later.	Every 5 years thereafter.
All Furnace Types	PM			
Gas-fired Furnace	Chromium compounds			Annually thereafter.

We are finalizing, as proposed, the clarification that 40 CFR part 63, subpart NNN applies to FA lines, regardless of what products are manufactured on the FA line.

In this action, we are finalizing, as proposed, definitions for ‘‘gas-fired glass-melting furnace’’ and ‘‘incinerator.’’ We are also revising the definition of ‘‘new source’’ and the trigger date for the requirement to submit notifications of intent to construct/reconstruct an affected source to reflect the date of the initial RTR proposal (November 25, 2011).

We are finalizing, as proposed, the monitoring requirement for furnaces and FA lines to provide flexibility in establishing an appropriate monitoring parameter.

We are also making minor corrections to the citations in Table 1 (part 63 General Provision applicability table) to reflect the final amendments in this action, and the revisions that have been made to the General Provisions since 1999.

G. What are the effective and compliance dates of the standards?

The revisions to the MACT standards for the Wool Fiberglass Manufacturing source category being promulgated in this action are effective on July 29, 2015. The compliance date for existing sources is July 31, 2017. New sources must comply with the all of the standards immediately upon the effective date of the standard, July 29, 2015, or upon initial startup, whichever is later.

The effective and compliance dates finalized in this action are consistent with the dates we presented in the 2014 supplemental proposal.

H. What is the status of the Wool Fiberglass Manufacturing MACT standard amendments under CAA sections 112(d)(2) and (3) for RS Manufacturing Lines?

We are not finalizing the formaldehyde, methanol, and phenol standards under CAA sections 112(d)(2) and (3) for RS manufacturing lines in this final action. On November 25, 2011 (76 FR 72791), we proposed to discontinue use of formaldehyde as a surrogate for phenol and methanol and we proposed formaldehyde, methanol and phenol emission limits for RS and FA lines. On April 15, 2013 (72 FR 22387), we proposed revised emission limits for RS lines based on clarification of test data received from the industry during the comment period. We explained that since the 1999 promulgation of the MACT standards, many companies had discontinued the use of formaldehyde. However, they did not distinguish between the bonded lines that still used formaldehyde and those that did not. We had, therefore, included some data for HAP-free lines along with the data for lines still using formaldehyde when we developed the emission limits proposed in the November 2011 proposal (78 FR 22387). In the November 2014 supplemental proposal (79 FR 68203), we also proposed revised formaldehyde, methanol, and phenol emission limits for new RS lines as a result of our updated approach for evaluating limited datasets (79 FR 68023–24).

The EPA is not finalizing these proposed CAA sections 112(d)(2) and (3) standards in this action because we believe the data that we relied on in proposing these standards are not sufficiently related to current operations or emissions from RS bonded lines. The emissions and process data available to EPA were collected beginning in 2003. As previously explained, since that time, sources have phased out the use of a phenol/formaldehyde binder from approximately 95 percent of the lines on which it was previously used. We have also found out that sources often can no longer either identify the products that were tested or on the lines on which those products had been manufactured. Moreover, when sources can identify the products that were tested, those products are now produced using a HAP-free binder, and the product lines that now operate using a phenol/formaldehyde binder do not bear similarity in size, end use, production rate or loss on ignition (LOI) percent to the tested product line. As a result, the data no longer represent current industry conditions, most notably the significant reduction in the use of phenol/formaldehyde binders in wool fiberglass manufacturing. Consequently, we have issued a CAA section 114 ICR to wool fiberglass facilities to obtain updated formaldehyde, methanol, and phenol emissions and process data for RS manufacturing lines.

I. What are the requirements for submission of performance test data to the EPA for the Wool Fiberglass Manufacturing NESHAP?

The requirements for electronic reporting of performance test data for wool fiberglass manufacturing major sources are the same as the requirements for the mineral wool production source category. See section III.G of this preamble for a description of the requirements.

VI. What is the rationale for our final decisions and amendments for the Wool Fiberglass Manufacturing source category (major sources)?

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the comment summary and response document available in Docket ID No. EPA–HQ–OAR–2010–1042.

A. Residual Risk Review for the Wool Fiberglass Manufacturing Source Category (Major Sources)

1. What did we propose pursuant to CAA section 112(f) for the Wool Fiberglass Manufacturing source category (major sources)?

Pursuant to CAA section 112(f)(2), we conducted a residual risk assessment and presented the results of this assessment, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the November 2011 proposed rule (76 FR 72801). Based on the inhalation risk assessment, we estimated that the MIR could be as high as 40-in-1 million due to actual emissions and up to 60-in-1 million due to MACT-allowable emissions, mainly due to formaldehyde and hexavalent chromium emissions. We stated that the risk levels due to actual and MACT-allowable emissions were acceptable; however, we proposed an emission limit for total chromium (0.00006 pounds per ton of glass pulled) in order to provide an ample margin of safety to protect public health.

In the April 2013 supplemental proposal, we revised the draft risk assessment to reflect new emissions data for hexavalent chromium that we collected from all glass-melting furnaces available for testing in response to our October 28, 2011, CAA section 114 ICR. These revisions reduced our estimate of risk from actual emissions when compared to the risk assessment conducted for the November 2011 proposal. The risk from wool fiberglass manufacturing was driven by formaldehyde and hexavalent chromium. The MIR for actual baseline emissions decreased from 40-in-1-million to 20-in-1 million (formaldehyde), with the acute noncancer HQ remaining at 30 for the REL and at 2 for the AEGL–1 (formaldehyde). The maximum chronic non-cancer TOSHI value based on actual emissions remained at 0.2 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts.

In the November 2014 supplemental proposal, we presented the revised draft risk assessment to reflect updates to the model and model libraries and also retained the proposed emission limits for chromium compounds for existing and new gas-fired glass-melting furnaces. These revisions did not significantly change our estimate of risk from actual emissions when compared to the risk assessment conducted for the April 2013 supplemental proposal (79 FR 68020). The risk from wool fiberglass manufacturing was driven by formaldehyde and hexavalent chromium and continued to be well within a level we consider to be acceptable. The MIR for actual baseline emissions remained 20-in-1 million (formaldehyde), with the acute noncancer HQ remaining at 30 for the REL and decreased from 2 to 1 for the AEGL–1 (formaldehyde). The maximum chronic non-cancer TOSHI value based on actual emissions decreased from 0.2 to 0.1 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts. Overall, we considered the risk to be acceptable.

Based on information provided by the industry, 95 percent of the RS lines no longer use phenol-formaldehyde binders and are no longer major sources. However, this phase out is not reflected in the facility file data on which the risk assessment was based. Throughout the wool fiberglass manufacturing industry, these binders continued to be phased out as this rule was developed. The risk analysis we conducted for the Wool Fiberglass Manufacturing source category overstates the risk because of the continuing phase out. Therefore, we believe the risks from wool fiberglass manufacturing from actual emissions are lower than the risks we estimated.

2. How did the risk review change for the Wool Fiberglass Manufacturing source category (major sources)?

The baseline risk assessment has not changed since the November 2014 supplemental proposal. The MIR based on actual emissions remains at 20-in-1 million with the acute noncancer HQ remaining at 30 for the REL and 1 for the AEGL–1 (formaldehyde). The maximum chronic non-cancer TOSHI value based on actual emissions is 0.1 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts.

The MIR based on MACT-allowable emissions could be as high as 60-in-1 million, which we believe to be a conservative estimate based on four factors: (1) At one time, there were at least 60 RS lines in the industry, (2) industry has stated that 95 percent of RS lines no longer use formaldehyde as a binder, (3) Industry has stated that there are only 5 RS lines left that use a phenol/formaldehyde binder, and (4) Title V permit records indicate that 20 out of a total of 30 facilities have completely phased out their use of formaldehyde as a raw material throughout the facility.

We conducted a new assessment of the risks remaining after implementation of these final rule revisions. The revised assessment of post-control risks reflects the adjustment of the chromium compounds emission limit and the EPA's deferral of setting standards for formaldehyde, methanol and phenol from RS lines. Specifically, the risk assessment takes into account the change in the chromium compounds emission limit for gas-fired glass-melting furnaces from 0.00006 pounds of chromium per ton of glass pulled to 0.00025 pounds of chromium per ton of glass pulled, the emission limits for formaldehyde at new and existing FA lines (2.6 pounds per ton and 5.6 pounds per ton, respectively) and the current emission estimates for formaldehyde, methanol and phenol from RS lines. The MIR for cancer after implementation of the RTR could be up to 60-in-1 million (equal to the current risk estimates for allowables) but, as discussed above, this is a conservative, upper-end estimate. Consequently, we believe risks are significantly lower than estimated and the standards provide an ample margin of safety.

Emissions of chromium compounds are a secondary risk driver to formaldehyde, and the risk is 7-in-1 million based on current actual emissions. It is important to note that, even though risks are acceptable, the health risks from hexavalent chromium emissions from wool fiberglass manufacturing facilities could be much higher in the future without a chromium compounds emission limit. To capture this scenario, we conducted an auxiliary risk analysis in which we assumed all wool fiberglass furnaces emitted hexavalent chromium at the same rate as the reasonable highest-emitting furnace. The results of the auxiliary risk analysis showed that, in the absence of a chromium emission limit and with furnaces emitting at the assumed emission rate, risk at four facilities is expected to increase over time to greater than 100-in-1 million, due to increasing chromium emissions occurring with furnace age. Therefore, we determined that the chromium emission limit in the final rule, which will limit the MIR cancer risk from hexavalent chromium emissions from this category to no higher than 3-in-1 million, is necessary to provide an ample margin of safety.

Regarding chromium compounds, as discussed above, we received comments on the proposed chromium compounds limit that indicated that a newly-rebuilt furnace, which we believe is the likely compliance technology, may not be able to demonstrate compliance with the proposed emission limit. The comment was based on one specific example from the 2012 test data that showed a 1-year old gas-fired glass-melting furnace emitting approximately 0.0002 pounds chromium per ton of glass. We re-evaluated the proposed chromium compounds limit in light of information on this technology, and based on the data available, we have revised the chromium compounds limit and are now finalizing an emissions limit of 0.00025 pounds per ton of glass pulled for gas-fired glass-melting furnaces. We conducted an assessment of the risk attributable to all HAP for each facility and determined that increasing the chromium compound emission limit from 0.00006 to 0.00025 pounds total chromium per ton of glass pulled has a minimal effect on the post-RTR risks because these risks are largely driven by formaldehyde emissions. Specifically, at the chromium compounds emission limit of 0.00025 pounds total chromium per ton of glass pulled, the MIR due to only chromium emissions for the source category is 3-in-1 million.

The results of the risk assessment are presented in more detail in the final residual risk memorandum titled ‘‘Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing Source Categories in Support of the June 2015 Final Rule,’’ which can be found in Docket ID No. EPA–HQ–OAR–2010–1042.

3. What key comments did we receive on the risk review for Wool Fiberglass Manufacturing (major sources), and what are our responses?

We received comments in support of and against our proposed determination of risk acceptability, ample margin of safety analysis, and requirement for additional control. A summary of these comments and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042). The following is a summary of the key comments received regarding the risk assessment for the Wool Fiberglass Manufacturing source category and our responses to these comments. Additional comments on the risk assessment and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: One commenter stated that the EPA should find the acute health risk from wool fiberglass manufacturing facilities to be unacceptable. The commenter noted that the EPA's assessment in the November 2011 proposal found an acute risk of 30 for the Wool Fiberglass Manufacturing source category and argued that the EPA should find the health risk to be unacceptable under CAA section 112(f)(2) based on this acute risk.

The commenter stated that the EPA has a presumption that an HQ below 1 is safe, that the EPA has stated that a HQ less than or equal to 1 indicates that adverse noncancer effects are not likely to occur, and that exposure below that threshold level is safe. The commenter added that the EPA did not adequately explain why the formaldehyde risks were found to be acceptable although they are 30 times higher than the threshold.

The commenter asserted that, by applying the outdated integrated risk information system (IRIS) dose-response values in determining formaldehyde inhalation exposure risk, the EPA is not basing the proposed rule on the best available science. The commenter urged the EPA to revise the proposed rule to accurately convey the best available science and a weight-of-evidence approach in compliance with the Information Quality Act (IQA) Guidelines and Executive Order 13563. In particular, the commenter argued that the EPA should reject the 1991 IRIS dose-response value and incorporate the Chemical Industry Institute of Toxicology (CIIT, 1999) cancer dose-response value for formaldehyde.

Response: As discussed in sections V.A and VI.A of this preamble, we revised the risk assessment for wool fiberglass facilities for the November 2014 supplemental proposal. For wool fiberglass facilities, the MIR for actual baseline emissions remained 20-in-1 million (formaldehyde), with the acute noncancer HQ remaining at 30 for the REL and decreased from 2 to 1 for the AEGL–1 (formaldehyde). The maximum chronic non-cancer TOSHI value based on actual emissions decreased from 0.2 to 0.1 with emissions of formaldehyde dominating those impacts, indicating no significant potential for chronic noncancer impacts. We found that the risks were acceptable.

We note that the acute risks are based on an REL value, which is defined as ‘‘the concentration level at or below which no adverse health effects are anticipated for specified exposure duration.’’ Moreover, we note that the acute risk assessment is a worst-case assessment. For example, the acute assessment assumes worst-case meteorology, peak emissions and an individual being located at the site of maximum concentration for an hour. Taken together, the EPA does not believe that in all RTR reviews, HQ values must be less than or equal to 1. Rather, the EPA finds that acute risks must be judged on a case-by-case basis in the context of all the available health evidence and risk analyses.

To better characterize the potential health risks associated with estimated acute exposures to HAP, and in response to a key recommendation from the Science Advisory Board's (SAB) peer review of the EPA's RTR risk assessment methodologies,[6] we generally examine a wider range of available acute health metrics (*e.g.,* RELs, AEGLs) than we do for our chronic risk assessments. This is in response to the SAB's acknowledgement that there are generally more data gaps and inconsistencies in acute reference values than there are in chronic reference values. In some cases, when Reference Value Arrays[7] for HAP have been developed, we consider additional acute values (*i.e.,* occupational and

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[6] The SAB peer review of RTR Risk Assessment Methodologies is available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[7] U.S. EPA. (2009) Chapter 2.9 Chemical Specific Reference Values for Formaldehyde in Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. EPA, Washington, DC, EPA/600/R–09/061, and available on-line at: *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003.*

international values) to provide a more complete risk characterization. The EPA uses AEGL and Emergency Response Planning Guidelines (ERPG) values (when available) in conjunction with REL values (again, when available) to characterize potential acute health risks. However, it is often the case that HAP do not have all of these acute reference benchmark values. In these instances, the EPA describes the potential acute health risk in relation to the acute health values that are available. Importantly, when interpreting the results, we are careful to identify the benchmark being used and the health implications associated with any specific benchmark being exceeded. By definition, the acute California reference exposure level (CA–REL) represents a health-protective level of exposure, with no risk anticipated below those levels, even for repeated exposures; however, the health risk from higher-level exposures is unknown. Therefore, when a CA–REL is exceeded and an AEGL–1 or ERPG–1 level is available (*i.e.,* levels at which mild effects are anticipated in the general public for a single exposure), we have used them as a second comparative measure. Historically, comparisons of the estimated maximum off-site 1-hour exposure levels have not been typically made to occupational levels for the purpose of characterizing public health risks in RTR assessments. This is because occupational ceiling values are not generally considered protective for the general public since they are designed to protect the worker population (presumed healthy adults) for short duration (*i.e.,* less than 15 minute) increases in exposure. As a result, for most chemicals, the 15-minute occupational ceiling values are set at levels higher than a 1-hour AEGL–1, making comparisons to them irrelevant unless the AEGL–1 or ERPG–1 levels are exceeded. Such is not the case when comparing the available acute inhalation health effect reference values for formaldehyde.[8]

Thus, while this means we cannot rule out the potential for acute concerns due to formaldehyde emissions from these facilities, we note that the worst-case acute HQs are based on conservative assumptions (*e.g.,* worst-case meteorology coinciding with peak short-term 1-hour emissions from each emission point, with a person located at the point of maximum concentration during that hour). We also note that, as stated earlier, the emissions estimates for formaldehyde are expected to be an overestimate of emissions, further supporting our determination that acute risks are not a significant concern for the wool fiberglass source category.

Comment: One commenter stated that AEGLs or ERPGs were developed for accidental release emergency planning and are not appropriate for assessing daily human exposure to toxic air pollutants because they do not include adequate safety and uncertainty factors. The commenter stated that they are not meant to evaluate the acute impacts from routine emissions that occur over the life of a facility and cannot be relied upon to protect the public from the adverse effects of exposure to toxic air pollutants. The commenter concluded that their use is not appropriate in risk assessments and urged the EPA to increase its reliance on the California RELs to address acute exposures in the residual risk assessments.

Response: The EPA does not rely exclusively upon AEGL or ERPG values for assessment of acute exposures. Rather, the EPA's approach is to consider various acute health effect reference values (see the preamble to the November 2011 proposal (76 FR 72781)), including the California REL, in assessing the potential for risks from acute exposures. To better characterize the potential health risks associated with estimated acute exposures to HAP, and in response to a key recommendation from the SAB's peer review of the EPA's RTR risk assessment methodologies, we generally examine a wider range of available acute health metrics (*e.g.,* RELs, AEGLs) than we do for our chronic risk assessments. This is in response to the SAB's acknowledgement that there are generally more data gaps and inconsistencies in acute reference values than there are in chronic reference values. In some cases, when Reference Value Arrays for HAP have been developed, we consider additional acute values (*i.e.,* occupational and international values) to provide a more complete risk characterization. As discussed in the preamble to the November 2011 proposal, the exposure guidelines the EPA considers depends on which exposure guidelines are available for the various HAP emitted. The EPA uses AEGL and ERPG values (when available) in conjunction with REL values (when available) to characterize potential acute health risks. However, it is often the case that HAP do not have all of these acute reference benchmark values. In these instances, the EPA describes the potential acute health risk in relation to the acute health values that are available. Importantly, when interpreting the results, we are careful to identify the benchmark being used and the health implications associated with any specific benchmark being exceeded.

Comment: According to one commenter, the EPA‘s multipathway risk assessment fell short because the EPA did not use ''allowable'' emissions for this assessment and the proposed rule shows multipathway risks that are 60 times greater than the EPA's threshold. The commenter stated that the EPA acknowledged in its 2014 risk assessment that the emissions allowed by the standard may be up to 3 times greater than actual emissions for phenol, methanol, and formaldehyde, such that the HQ of 30 could be 3 times higher based on allowable emissions. The commenter stated that by using actual emissions, the EPA's analysis is likely to be an underestimate of the health risks from multipathway routes of exposure. The commenter supports the EPA's use of ''allowable'' as well as ''actual'' emissions to assess inhalation risk.

Response: Consistent with previous risk assessments, the EPA considers both allowable and actual emissions in assessing chronic risks under CAA section 112(f)(2) (See, *e.g.,* National Emission Standards for Coke Oven Batteries (70 FR 19998–19999, April 15, 2005); proposed and final National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (71 FR 34428, June 14, 2006, and 71 FR 76603, December 21, 2006). This approach is both reasonable and consistent with the flexibility inherent in the Benzene NESHAP framework for assessing acceptable risk and ample margin of safety, as developed in the Benzene NESHAP (54 FR 38044, September 14, 1989). As a general matter, modeling allowable emission levels is inherently reasonable since this reflects the maximum level sources could emit and still comply with national emission standards. But, it is also reasonable to consider actual emissions, where such data are available, in the acceptable risk and ample margin of safety analyses. See National Emission Standards for Coke Oven Batteries (70 FR 19992, 19998, April 15, 2005). The commenter claims that limiting our review to actual emissions would be inconsistent with the applicability section of Part 63 rules. As explained, however, we did not limit our review to actual emissions.

The commenter also urged the agency to rely on allowable emissions for the purpose of our acute assessment. The

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[8] U.S. EPA. (2009) Chapter 2.9 Chemical Specific Reference Values for Formaldehyde in Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. EPA, Washington, DC, EPA/600/R–09/061, and available on-line at: *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003.*

use of allowable emissions was not considered due to the conservative assumptions used to gauge worst-case potential acute health effects. The conservative assumptions built into the acute health risk screening analysis include: (1) Use of peak 1-hour emissions that are, on average, 10 times the annual average 1-hour emission rates; (2) that all emission points experience peak emissions concurrently; (3) worst-case meteorology (from 1 year of local meteorology); and (4) that a person is located downwind at the point of maximum impact during this same 1-hour period. Thus, performing an acute screen based on allowable emissions would be overly conservative and at best, of questionable utility to decision makers.

Comment: Two commenters stated that the EPA does not have authority to consider ''total facility'' emissions in conducting the residual risk assessments for a given source category. The commenter argued that it would be impossible for the EPA to fulfill its unambiguous obligation for CAA section 112(f) standards to protect public health with an ample margin of safety in cases where facilities contain sources in a category where the 8-year deadline for conducting the CAA section 112(f) risk review precedes the adoption of MACT standards for other sources at the facilities. One commenter added that CAA section 112(f)(2)(A) requires EPA to promulgate standards on a source category basis. Another commenter continued that this provision unambiguously requires the CAA section 112(f) risk assessment to be focused exclusively on ''emissions from a source in the category or subcategory,'' asserting that the EPA does not have authority to consider emissions from any sources other than those in the source category or subcategory under review at that time.

Response: We disagree that examining facility-wide risk in a risk assessment conducted under CAA section 112(f) exceeds the EPA's authority. The development of facility-wide risk estimates provides additional information about the potential cumulative risks in the vicinity of the RTR sources, as one means of informing potential risk-based decisions about the RTR source category in question. While we recognize that, because these risk estimates were derived from facility-wide emissions estimates which have not generally been subjected to the same level of engineering review as the source category emission estimates, they may be less certain than our risk estimates for the source category in question, they remain important for providing context as long as their uncertainty is taken into consideration.

Section 112(f)(2) of the CAA expressly preserves our use of the two-step process for developing standards to address residual risk and interpret ''acceptable risk'' and ''ample margin of safety'' as developed in the Benzene NESHAP (54 FR 38044, September 14, 1989). In the Benzene NESHAP, the EPA rejected approaches that would have mandated consideration of background levels of pollution in assessing the acceptability of risk, concluding that ''. . . comparison of acceptable risk should not be associated with levels in polluted urban air. With respect to considering other sources of risk from benzene exposure and determining the acceptable risk level for all exposures to benzene, the EPA considers this inappropriate because only the risk associated with the emissions under consideration are relevant to the regulation being established and, consequently, the decision being made.'' (54 FR 38044, 38061, September 14, 1989).

Although not appropriate for consideration in the determination of acceptable risk, we note that background risks or contributions to risk from sources outside the source category under review could be one of the relevant factors considered in the ample margin of safety determination, along with cost and economic factors, technological feasibility, and other factors. Background risks and contributions to risk from sources outside the facilities under review were not considered in the ample margin of safety determination for this source category, mainly because of the significant uncertainties associated with emissions estimates for such sources. Our approach here is consistent with the approach we took regarding this issue in the Hazardous Organic NESHAP (HON) RTR (71 FR 76603, December 21, 2006), which the court upheld in the face of claims that the EPA had not adequately considered background.

In our November 2011 proposal, we explained that for these source categories, there are no other significant HAP emissions sources present at wool fiberglass manufacturing and mineral wool production facilities beyond those included in the source category. We also explained that all significant HAP sources have been included in the source category risk analysis. We therefore concluded that the facility-wide risk is essentially the same as the source category risk and that no separate facility-wide analysis was necessary (76 FR 72783, November 25, 2011). Our evaluation of facility-wide risks did not change our decisions under CAA section 112(f)(2) about acceptability and ample margin of safety of the risks associated with the wool fiberglass source categories.

4. What is the rationale for our final approach and final decisions for the risk review for the Wool Fiberglass Manufacturing source category (major sources)?

For the Wool Fiberglass Manufacturing source category, we have determined that the current MACT standards reduce risk to an acceptable level. We have further evaluated the cost, emissions reductions, energy implications and cost effectiveness of the total chromium compounds emission limits being promulgated in this final rule and have determined that they are cost effective, technically feasible and will provide an ample margin of safety to protect public health and prevent adverse environmental effects.

For chromium emissions, we are finalizing the emission limit of 0.00025 pounds total chromium per ton of glass pulled for gas-fired glass-melting furnaces, under CAA section 112(f)(2). This is based on our assessment of emissions from newly-rebuilt gas-fired glass-melting furnaces. Because commenters provided new information indicating that cullet use is tied to increasing chromium emissions from gas-fired glass-melting furnaces, we are also requiring that facilities establish the materials mix, including the percentages of raw materials and cullet, used in gas-fired glass-melting furnaces during the performance test conducted to demonstrate compliance with the chromium emission limit. Affected sources must maintain the percentage of cullet in the material mix at or below the level established during the most recent performance test showing compliance with the standard. If a gas-fired glass-melting furnace uses 100 percent cullet during the most recent performance test showing compliance with the standard, then monitoring of the cullet use on that furnace is not required until the next annual performance test.

B. Technology Review for the Wool Fiberglass Manufacturing Source Category (Major Sources)

1. What did we propose pursuant to CAA section 112(d)(6) for the Wool Fiberglass Manufacturing source category (major sources)?

As discussed in the 2011 proposal (76 FR 72803–72804, 72798), we conducted a technology review for FA and RS bonded lines and for furnaces that focused on identifying and evaluating developments in practices, processes, and control technologies for the emission sources in the Wool Fiberglass Manufacturing source category that have occurred since the 1999 MACT rules were promulgated. We consulted the EPA's RACT/BACT/LAER Clearinghouse to identify potential technology advances for processes similar to those covered by the Wool Fiberglass Manufacturing NESHAP, as well as the costs, non-air impacts, and energy implications associated with the use of these technologies.

We also requested information from facilities regarding developments in practices, processes, or control technologies, and conducted site visits, held meetings with industry representatives, and reviewed other information sources, such as technical literature, state and local permitting agency databases and industry-supported databases. For more information, see the ''Technology Review for the Wool Fiberglass Manufacturing Source Category Memorandum'' in the docket to this rule.

Subsequent to the November 2011 proposal, we announced that we had issued a CAA section 114 ICR to collect emissions data and other information on glass-melting furnaces in order to regulate area sources in a future action. This resulted in a near complete dataset for emissions test data on all wool fiberglass furnaces, with the only exceptions being furnaces at facilities that were closed or that were shut down at the time of the 2012 testing. The data also indicated that three gas-fired glass-melting furnaces had been rebuilt and retested, and we also had emissions test data for these three furnaces for the years before and after the rebuild.

a. Technology Review for Reduction of PM From Furnaces

For our technology review under CAA section 112(d)(6), for PM emissions from glass-melting furnaces, we identified advances in control measures for PM emissions. These included improvements and advances in control technology, such as application of ESPs, as well as developments in furnace design and the use of high-chromium furnace refractories that had been made since promulgation of the 1999 NESHAP.

Our technology review included glass-melting furnaces at both area and major sources. As explained in our April 2013 supplemental proposal, the number of area sources is constantly increasing as a result of the definition of ''wool fiberglass facility'' in Subpart NNN. For example, in 2002, two out of 33 facilities were area sources, but by December 2012, 20 facilities were area sources (78 FR 22377). As also previously explained, there are no differences between the furnaces used at major and area sources (78 FR 22377). Therefore, we believed it was appropriate to consider all furnaces in the technology review, under CAA section 112(d)(6).

In our November 2011 proposal, based on the responses to survey data regarding the performance of existing control measures, we proposed an emission limit of 0.014 pounds of PM per ton of glass pulled for glass-melting furnaces, under CAA section 112(d)(6).

In the April 2013 supplemental proposal, in response to comments we received on our November 2011 proposal, we revised the PM limit for furnaces to 0.33 pounds per ton of glass pulled in order to be consistent with our intentions to set the new limit based on technology review.

We did not propose any further revisions to the proposed PM limit in the November 2014 supplemental proposal.

b. Technology Review for Reduction of Chromium From Furnaces

In our November 2011 proposal, we identified refractories having a high content of chromium, and their use in wool fiberglass furnaces, as a new development affecting the emissions of chromium compounds from sources since promulgation of the 1999 NESHAP. We reviewed the use of chromium refractories (as compared to non-chromium refractories), as well as other control technologies, such as caustic scrubbers. We analyzed the technical feasibility and the estimated impacts (*e.g.,* costs, emissions reductions, risk reductions) of applying these developments. We then determined, based on impacts and feasibility, whether it was necessary to propose amendments to the regulation to require any of the identified developments.

We found that, while the furnaces and control technologies are generally the same as those used at promulgation of the MACT standard in 1999, there have been some developments in furnace design and preference in control equipment. We found that developments in refractory technology and in furnace design are inextricably linked. Oxyfuel furnaces were not widely used prior to 1999 in the wool fiberglass industry, due to a number of factors, especially refractory degradation in the wool fiberglass furnace environment. At that time, new technology of the oxyfuel furnace constructed using conventional refractories of that time (*e.g.,* alumina-silicate, zirconium) limited the furnace life to 4 or 5 years. As a result, air-gas and electric furnaces predominated in the years prior to 1999.

With the advent of new refractory technology, new furnace designs were constructed that could be expected to last longer. With the industry focus upon new furnace designs and technology, the research to develop refractories that could withstand high temperatures, thermal shock and corrosive materials yielded the development of new types of chromium refractory products that could be used for construction of the high-temperature oxyfuel furnace.

As a result, the wool fiberglass industry began a trend toward oxyfuel furnaces constructed using high-chromium refractory products, a trend that commenters noted is expected to continue into the future. This gives rise to increased chromium emissions as a result of both wool fiberglass raw material formulation (corrosivity) and associated refractory degradation (*i.e.,* furnace wear). We explained the mechanisms of chromium emissions at length in our April 2013 supplemental proposal (78 FR 22379–22382) and in our technology review memorandum.

We therefore found that the development of new types of chromium refractories that could and would be used to construct entire gas-fired glass-melting furnaces for wool fiberglass manufacturing is a development that largely took place after promulgation of the MACT standard in 1999. We also proposed a total chromium compounds limit of 0.00006 pounds per ton of glass pulled for all glass-melting furnaces.

In the 2013 supplemental proposal, we did not revise the chromium emission limit for furnaces; however, we explained that there were two general types of furnaces used in this industry: Gas-fired (which include both air-gas and oxyfuel furnaces) and electric furnaces (which include both steel shell and cold-top electric furnaces). We proposed in the April 2013 supplemental proposal to limit the applicability of the total chromium compounds emission limit to gas-fired glass-melting furnaces for two reasons: (1) Electric furnaces do not have chromium refractories above the glass melt line, and (2) they do not reach the operating temperatures necessary to convert significant amounts of trivalent to hexavalent chromium. As a result, electric furnaces do not emit significant amounts of chromium compounds.

We did not propose to revise the chromium compounds limit in our November 2014 supplemental proposal. However, based on comments received on our April 2013 supplemental proposal, we proposed that sources would be likely to rebuild the furnace rather than install a sodium hydroxide scrubber as previously proposed, due to revisions to our cost estimate for this control option.

2. How did the technology review change for the Wool Fiberglass Manufacturing source category (major sources)?

We did not make any changes to the technology review for PM from furnaces since the November 2014 supplemental proposal, and we are finalizing the previously proposed emission limit for PM, which is 0.33 lb per ton of glass pulled.

For chromium compounds, based on the public comments and information for glass-melting furnaces received on our November 2014 supplemental proposal, we believe it is necessary to revise our technology review under CAA section 112(d)(6) for gas-fired glass-melting furnaces in the Wool Fiberglass Manufacturing source category. Data collected on gas-fired glass-melting furnaces in 2010 and 2012 show that three furnaces tested their emissions for chromium in 2010, then shut down or repaired, and then retested in 2012 using the same test methods and protocols. In each case, chromium emissions were reduced by about 2/3 as a result of having rebuilt the furnaces. In two of the three cases, the chromium emissions before the repair or rebuild were higher than the proposed limit (0.00006 lb/ton of glass). In a third case, a furnace that measured 0.0006 lb/ton of glass in 2010 was rebuilt and retested for the 2012 ICR. The second test measured chromium at 0.0002 lb/ton of glass, a level slightly higher than our proposed chromium emission limit.

While we recognize that the rebuilt furnaces had different designs depending on the company's objectives at the particular facility, at this time we believe the highest emitting rebuilt furnace was well designed for its intended use. This furnace was rebuilt only one year before testing, at a cost to the company of between $10–12 million. As this is a technology review standard, we consider cost when evaluating the technology. We consider it reasonable to evaluate the technology based on the emission limit achieved by new furnaces, and we are increasing the chromium limit above what was previously proposed to account for this new furnace.

The final chromium limit also prevents operation of another furnace that could emit chromium at the reasonable high-end rate of the highest emitting furnace, as characterized in section VI of this preamble. Finally, we evaluated the cost, using our revised economic analysis, of compliance with the final limit and found that these costs are reasonable.

Specifically, we are revising the estimated costs of rebuilding the furnace as an option to comply with the chromium limit. We have determined, based on the revised costs and data regarding the level of chromium emissions that is achieved by rebuilt furnaces, that it is necessary, pursuant to CAA section 112(d)(6), to revise the proposed emission limit for chromium from gas-fired glass-melting furnaces. We are finalizing a limit of 0.00025 pounds chromium compounds per ton of glass pulled. This is a higher limit for chromium compounds than previously proposed, because data show that this level can be achieved by furnaces that are rebuilt, while the previously proposed level was shown to be lower than the level supported by the data provided by industry. We explain our decision further in the responses to key comments below and in the Technology Review Memo for the Wool Fiberglass Manufacturing source category, available in the docket to the rule.

We revised the cost estimate for rebuilding a gas-fired glass-melting furnace; however, we did not revise our finding from our technology review that rebuilding the furnace is an effective approach for reducing chromium emissions. We also note, from our technology review, that other options to reduce chromium from furnaces are available to wool fiberglass manufacturers. These include raw material substitution and installation of a properly-designed caustic (sodium hydroxide) scrubber to the outlet of the dry electrostatic precipitator (DESP). These other options are presented in more detail in the Economic Analysis, which accompanied the April 2013 supplemental proposal.

3. What key comments did we receive on the technology review, and what are our responses?

We received comments in support of and against our proposed technology review. The following is a summary of the key comments received regarding the technology review for the Wool Fiberglass Manufacturing source category and our responses. Additional comments on the technology review and responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: One commenter stated that the EPA's depiction in the 2011 proposal (76 FR 72770, November 25, 2011) of high-chromium refractories and furnace control technologies as new technology developments is inaccurate, as demonstrated by the following evidence: (1) High-chromium refractories have been used in the wool fiberglass industry since the early 1980s; (2) the EPA was aware in 1999 that chromium was emitted from wool fiberglass plants, as demonstrated by the following statement in its 1999 promulgation preamble ''The hazardous air pollutants (HAP) emitted by the facilities covered by this rule include compounds of three metals (arsenic, chromium, lead) and three organic HAP,'' [9] although chromium emissions (and all metal HAP) at that time were insignificant and PM was chosen as a surrogate for those low emissions; and (3) chromium emission reductions have been achieved by the industry since initial MACT implementation in 1999 without using any new control technologies.

Response: Regarding the characterization of high chromium refractories as a new technology, chromium refractories for use in the glass industry have been a developing technology. According to information provided by the wool fiberglass and refractories industries as part of this rulemaking, significant problems with their use in the furnace had to be overcome before wool fiberglass furnaces could be constructed using them. For example, when fused-cast refractories started to be developed using high chromium materials, some companies discovered ways to manufacture those products that maintained the integrity of the refractory over a long time and in extreme temperatures, making these products candidates for trials in the wool fiberglass industry. At least two

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[9] 64 FR 31695 (June 14, 1999).

major corporations[10] have developed high chrome refractory product lines since 1999, and they characterize these refractories on their Web sites as ‘new’ products developed for the fiberglass industry. Therefore, our characterization of these products as ‘new’ refers to the improvements in refractory and is not meant to imply that using chromium refractories, in and of itself, is new.

Further, we noted in the November 2011 proposal that we identified ‘‘improvements’’ in PM emissions controls, not that we identified ‘‘new’’ controls. We acknowledged in both our November 2011 and April 2013 supplemental proposals that sodium hydroxide scrubbers are not currently used in the wool fiberglass industry for removal of chromium, but that these controls are used in metallurgical processes and in the chromium electroplating industry for the removal of hexavalent chromium. We stated in those proposals that we were considering applying scrubber technology to this source category; however, as discussed in the 2014 supplemental proposal (79 FR 68020–69024), the technology basis for the chromium standard is more frequent furnace rebuilds, not scrubber technology.

Moreover, as we explained in our 2013 supplemental proposal (78 FR 22380), the type of furnace used to produce wool fiberglass at the highest emitting wool fiberglass manufacturing source was the type of furnace that is expected to dominate the industry in the future as a new and very efficient energy source. The oxyfuel furnace was not identified in our 1999 MACT standard as a separate technology. While we acknowledge that wool fiberglass furnaces are not ‘new’ technologies, the oxyfuel furnace is both new to this industry and its use is increasing. As the industry has commented, air-gas furnaces are becoming increasingly difficult to permit, while an oxyfuel furnace has no such restrictions due to its low PM and NO_X emissions profile.

We are not changing our assessment of the industry controls as having improved since 1999, and we are lowering the PM limit in the final rule from 0.5 to 0.33 pounds PM per ton of glass pulled. This limit codifies the current good practices and PM controls within the industry while not imposing additional costs to industry.

Regarding the commenter’s allegation that chromium emissions were insignificant in 1999, and on that basis the EPA should not set chromium limits for this industry, we do not agree. The EPA has the responsibility to regulate air toxics under section 112 and to protect the health and environment surrounding these facilities as we are doing in this final rule. Moreover, due to source testing at the wool fiberglass industry, we have more information now than we had in 1999, and the industry’s technology (that is, both the furnaces and refractories used) has changed.

Regarding the statement that, since initial MACT implementation in 1999, industry has reduced chromium emissions without using any new control technologies, the industry did not provide data showing that chromium emissions have been reduced.

Comment: One commenter argued that chromium emissions from glass furnaces do not increase with age and that a relationship between furnace age and chromium emissions is not statistically significant. The commenter argued that erosion of the refractories is slow and there is no substantial increase in chromium emissions over time. The commenter noted that the EPA asserted that ‘‘when the glass-melting furnace is constructed using refractories containing high percentages of chromium, the emission levels of chromium compounds continuously increase over the life of the furnace according to the increasingly exposed refractory surface area.’’ The commenter noted that the EPA further explains: ‘‘It is our understanding that because of the corrosive properties of the molten glass, fresh refractory is continuously exposed to the molten glass along the metal/glass contact line in the glass-melting furnace process. This increases the surface area of the refractory that is exposed to the molten glass. As a result, when the glass furnace is constructed using high chromium refractories, the emission levels of chromium compounds continuously increase over the life of the furnace.’’ The commenter stated that this is not correct. The commenter explained that surface area of refractory exposed to molten glass does not substantially increase, nor do the chromium emissions as a result. The commenter asserted that the slight increase in surface area as between uneven and smooth surfaces of new brick exposed to molten glass cannot explain the major difference that the one source exhibited on chromium emissions. In fact, the commenter observed, the testing results provided by the industry included furnaces in all stages of their life. The commenter argued that given the nearly constant surface area as refractory erodes, and the homogeneous chrome content throughout the brick, there would be no substantial increased chromium emissions over time in the manner the EPA asserts. Furthermore, according to the commenter, the erosion process is very slow given the lifespan of these furnaces.

The commenter stated that the EPA reports that ‘‘[o]ne industry spokesperson estimated that 20,000 pounds per year of refractory are worn away from the inside walls of one wool fiberglass furnace and ducted to the control device before venting to the atmosphere.’’ The commenter contended that the context of that statement is that furnace emissions are going through control devices that already meet the definition of BACT for particulate and if this were normal for the industry furnaces, they could not have the long lives that they typically exhibit.

The commenter provided a detailed statistical analysis to demonstrate that a furnace rebuild is not a viable control technology by using EPA’s data to show that a relationship between furnace age and chromium emissions is not statistically significant. Using the EPA’s data, the commenter also pointed out specific examples of apparent contradictions with the EPA’s conclusions, such as the data from one oxyfuel furnace showing lower chromium emissions at the end of its life than at the beginning of its life, and showing no change in emissions after a furnace rebuild. The commenter also points to data from another furnace demonstrating that emissions lessen with furnace age.

The commenter contended that the proposed chromium limit is based on unproven technology, and that experimental and theoretical technologies do not constitute ‘‘available’’ or ‘‘generally available’’ technology. The commenter provided the results of various analyses to

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[10] The North American Refractories Company (NARCO) and the Saint-Gobain Corporation Web sites advertise product lines of refractories that are 50%–95% chromium for use in the glass fiber and wool fiberglass industries. From NARCO’s Web site: ‘‘Wool and C-Glass makers rely on NARCO’s extensive line of chrome-alumina materials, the SERV and JADE brands, available in standard pressed brick, large cast shapes, and Cast-in-Place linings. Supplying the complete furnace refractory package required for this application is a strength of NARCO’’. (*http://www.anhrefractories.com/glass-refractory*). From Saint-Gobain’s Web site: ‘‘High temperature sintered chromium oxide based refractories have unequalled resistance against high temperature corrosion by molten SiO_2-Al_2O_3-Fe_2O_3-CaO/MgO slags and by certain glass wool compositions, in an oxidizing environment. Saint-Gobain Ceramics has pioneered and patented a unique range of chromium oxide-alumina-zirconia refractory compositions, marketed as . . .’’ (from *http://www.refractories.saint-gobain.com/Chromium-Oxide.aspx*).

demonstrate that there is no proven technology that can meet the proposed limit. The technologies represented in the commenter's analyses include high efficiency particulate air (HEPA) filter, Venturi scrubber, 3-stage filter with water cleaning, membrane baghouse, and caustic scrubber. The commenter described these technologies as ''theoretical'' and ''unproven,'' because they have never been installed at the outlet of a DESP serving a wool fiberglass manufacturing furnace. The commenter contended that a membrane baghouse is used to control emissions from the industry, but has not been demonstrated to achieve the proposed chromium limit. The commenter provided feedback from vendors of these technologies to demonstrate that pilot tests would need to be conducted prior to vendors committing to guaranteeing a specific performance level. The commenter also investigated the performance capacity of the sodium hydroxide scrubber and found that this technology is not transferable to a wool fiberglass manufacturing process.

Response: We disagree with the commenters on the basis of direct statements, measurements and information on refractory content, production rates and furnace life received from industry sources. We issued a CAA section 114 ICR to all five wool fiberglass manufacturing companies and visited four of the manufacturing facilities in December 2012 to improve our understanding of the source of the chromium emissions from this industry. The results of these activities include source test data, information on chromium content of refractories used to construct different parts of all types of furnaces, and a deeper understanding of the properties of materials and technologies used to manufacture wool fiberglass. We were able to confirm our earlier statements presenting our understanding of this industry. Specifically, we confirmed that the furnace refractory are eroded and corroded during the life of the furnace both beneath the level of the glass, at the glass/metal contact line, and, in the case of gas-fired furnaces, above the level of the glass. We also learned that electric furnaces do not have the same temperature profile as gas-fired furnaces and, therefore, typically do not emit chromium at the level of the gas-fired furnaces.

We also learned that oxyfuel furnaces are an important new technology both in terms of energy consumption and potential to emit SO_2 and NO_X, but have the greatest potential (followed by gas-fired furnaces) to emit chromium. We have established that furnace age affects chromium emissions, as documented in ''Memorandum Chromium Emissions and Furnace Age, August 14, 2014'' and ''Explanation of the Mechanisms of Chromium Emissions from Gas-Fired Furnaces, June 3, 2015'', which are available in the public docket for this rulemaking.[11] We also disagree with the commenter's statistical analysis and argument that the EPA has not sufficiently established that there is a relationship between furnace age and chromium emissions. We have based our conclusions on industry comments, furnace emissions testing, technical literature, and other available data.

In the letter dated March 12, 2012, the commenter stated that ''Fiber glass furnaces necessarily use chrome-based refractory products (see Appendices A and B, spreadsheets showing typical chrome content),'' and that ''Virtually all of the above-glass refractory in gas-oxy furnaces, unlike other furnace classes, is chrome-based refractory.''

In that letter, the commenter continued, explaining that ''Since the advent of chrome-based refractory, insulation manufacturers have been able to extend furnace life more than 50 percent. Without these refractories, wool fiberglass manufacturers would not likely be competitive in the global marketplace. Moreover, there currently is no available material that is as good as and has the structural integrity of chrome-based refractory to handle the higher temperature and more corrosive atmosphere inside gas-oxy furnaces.''

Regarding the use of chromium refractories in oxyfuel furnaces, and the continual increase in chromium emissions that result, the commenter added that oxyfuel furnaces have greater chromium emissions than other furnaces because, based on industry experience, the combination of furnace design, glass composition, higher flame temperatures, higher water vapor concentration, and an oxidizing atmosphere with increased concentration of oxides (filterable and condensable PM) can cause more rapid deterioration of the refractory in a gas-oxy fiberglass insulation manufacturing furnace than in other types of glass furnaces.

Regarding the comparison of operating temperatures of oxyfuel to other furnaces, the commenter added that, ''One advantage of gas-oxy firing is the large reduction in NO_X, due to the reduction of nitrogen from the air in combustion, and the reduction in the volume of flue gases. One disadvantage of gas-oxy firing is that the peak flame temperatures are up to 40 percent higher than gas-air furnaces. The gas-oxy burner flame does not have to heat the added air components. In gas-oxy glass furnaces, peak flame temperatures approach 5,000 degrees Fahrenheit, whereas air-gas flame temperatures peak at about 3,560 degrees Fahrenheit, and cold-top electric melters are even lower due to having no heat input above the glass line.''

Regarding the relationship of furnace temperature and glass chemistry to chromium emissions, the commenter explained that ''with the reduction in the flue gas volume, the concentration of glass batch ingredient volatiles and water vapor in the atmosphere (and flue gas) is also much higher. The higher temperature of the gas-oxy burners can volatize the glass batch components more readily than in other furnaces. These glass volatiles that contain alkaline earth oxides reduce the temperature that chrome can be vaporized to as low as 1,832 degrees Fahrenheit. While the chrome must still reach temperatures of 2,700 to 2,900 degrees Fahrenheit to oxidize the chromium from the trivalent to hexavalent state, the potentially increased volatiles can contribute to higher chrome emissions. The 40 percent higher peak flame temperature of oxyfuel burners also raises the probability that available chrome (sic) will encounter the conditions that will convert it to the hexavalent state. Combined, these differences generate conditions that are more corrosive to chrome refractory and can create favorable conditions for conversion to hex chrome (CR206) inside a gas-oxyfueled furnace. These severe conditions do not exist in the other fiber glass furnace classes.''

Regarding the commenters' assertion that wool fiberglass furnaces could not be eroded by the molten fiberglass at the rate stated by industry, we note that the range of furnace life and rates of erosion did not originate from the EPA, but from information obtained from the industry itself. Further, we note that at the rate stated by industry and the control efficiency achieved by fabric filters, that refractory degrading at a rate of 20,000 pounds per year and fabric filters achieving 99-percent efficiency would emit 200 pounds PM annually from the contribution of the refractory alone. Using industry refractory content of 95-percent chromium, 190 of the 200 pounds of annual PM would be chromium compounds; 93 percent (177 pounds) of that chromium would be in the hexavalent state, which is within the range measured at oxyfuel and air-gas furnaces in this industry.

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[11] EPA–HQ–OAR–2010–1042 at *www.regulations.gov.*

Regarding the comment that there is no other technology available to meet the chromium limit, we note that all furnaces at existing area sources and all but two furnaces at existing major sources currently meet the final chromium limit. Regarding these two furnaces, the EPA has established that a furnace rebuild is an approach that existing facilities have used to reduce their chromium emissions for furnaces over 6 years old, as discussed in section III.D of the preamble to the 2014 supplemental proposal. Further, the rule requires sources to meet the emission limits, but does not require the use of any specific control device or vendor. Sources may use whatever means they choose to meet the limits, such as more frequent furnace rebuilds, using non-chromium or low chromium refractories in furnace rebuilds, enhanced baghouse operation, improved maintenance and alternative controls, and furnace design features, changes in raw material, or scrubbers.

Comment: Two commenters asserted that the proposed chromium emissions limit would require technological controls that are not cost effective. According to one commenter, the installation of these controls would be economically damaging to the fiberglass insulation industry.

The commenters cited the agency's estimated cost of $300 per pound of hexavalent chromium removed if a scrubber is used to comply and the agency's estimated cost of $12,000 per pound of chromium compounds removed if operations with high-chromium refractory are rebricked with low-chromium refractory. According to the commenters, the conclusion that the proposed new chromium limit is ''feasible and cost effective'' is unreasonable and arbitrary. One commenter observed that the EPA's cost-effectiveness values would be $600,000 per ton of chromium removed for scrubbers and $24 million per ton of chromium removed for rebricking, assuming either proposed compliance solution would actually be successful. As such, the commenters stated that the agency's cost-effectiveness analysis does not support the conclusion that the new chromium limit is authorized and justified under CAA section 112(d)(6). One commenter claimed that the EPA's conclusion is arbitrary because the cost-effectiveness values are far in excess of the cost-effectiveness values the EPA has found acceptable in prior CAA section 112 cost-effectiveness analyses and the EPA has not explained why such high cost-effectiveness values are justified, especially considering risk.

According to the commenters, fiberglass insulation producers provide economic benefits by adding manufacturing jobs to the U.S. economy, shipment of finished product to markets throughout the country, and export of product to foreign markets. According to one commenter, one reason jobs are being sent overseas is the existing regulatory requirements and concerns about the future regulatory climate growing even more stringent. If revisions are not made to the proposal as recommended by the commenter, many of the companies will cease operation and it is likely that foreign competitors will flood the market with substandard product.

Response: We have reviewed the available chromium test data and information provided in response to our 2011 proposal, 2013 supplemental proposal, and 2014 supplemental proposal (76 FR 72770, November 25, 2011; 78 FR 22370, April 15, 2013; and 79 FR 68011, November 13, 2014) and we have revised our technology review, the chromium limit and our economic impact analysis for the final rule.

The EPA is finalizing a chromium limit of 0.00025 pounds per ton of glass pulled. Based on emissions data submitted in 2010 and 2012 by all wool fiberglass manufacturers on every furnace type, the EPA determined that this is a limit reflected by well-designed furnaces in this source category.

As discussed in section VI.B of this preamble, all three of the furnaces that were tested in 2010, then rebuilt or repaired and retested in 2012, showed lower chromium emissions as a result of the furnace rebuild or repair. Of these three furnaces, two emitted chromium below the previously proposed limit of 0.00006 pounds of chromium per ton of glass pulled after the rebuild or repair. One, a new furnace, tested at about 0.0002 pounds of chromium per ton of glass, and had been rebuilt at a cost of about $10 million. Consequently, we revised our limit to reflect the level of chromium emissions that is achieved by a well-designed rebuilt furnace.

Thus, the final emission limit is a level that has been demonstrated by recently rebuilt furnaces. We note that a key aspect of our changing the final chromium limit was to account for this new furnace, which measured chromium emissions at a level slightly higher than the limit we proposed.

In our November 2014 supplemental proposal (79 FR 68012 at 68021), we presented a chart showing chromium emissions by furnace age. That chart indicates 0.00025 pounds per ton represents the level below which rebuilt furnaces operate and many gas-fired furnaces operate below this level beyond their tenth year. We are aware of new developments in the field of chromium refractories that reduce the spalling and degradation of the refractory face. We consider many of these to be design features which a wool fiberglass company would consider when planning to rebuild a furnace. These data demonstrate that well-designed furnaces (that is, furnaces designed and operated to minimize chromium emissions) can continue to meet the chromium limit as they age.

This final rule does not limit the materials with which a gas-fired furnace may be constructed. Specifically, we recognize from industry commenters that gas-fired glass-melting furnaces used by the wool fiberglass industry will continue to use chromium refractories in their glass-melting furnaces. To help ensure that these sources are well-designed to minimize chromium emissions, wool fiberglass gas-fired glass-melting furnaces will be required to conduct chromium emissions performance testing annually.

Two facilities are projected to need to improve performance. For these two facilities, the total capital costs are $21.4 million and the total annualized compliance costs are estimated to be $944,000 for furnace rebuilds and compliance testing. For all other major source facilities subject to the chromium limit, the cost of compliance will include only the cost of emissions testing ($10,000 per furnace for a total of $80,000). Based on the EPA's economic impact analysis, which shows that the impacts to wool fiberglass manufacturers should be low, we believe that the compliance costs of the final rule are reasonable and will not be economically devastating to the wool fiberglass insulation industry.

Regarding the comment requesting that the EPA compare the cost-effectiveness of the proposed chromium limit (*i.e.,* 0.00006 lb/ton of glass) to the cost effectiveness of standards finalized under other rulemakings, cost-effectiveness values for hexavalent chromium are generally not comparable to values for other less toxic pollutants. We note, however, that the values now estimated for hexavalent chromium are now well within the range that we have considered cost effective for other highly toxic pollutants (*e.g.,* mercury and lead) in past actions. CAA section 112(d) neither specifies nor mandates a cost methodology. We note that in *Husqvarna AB* v. *EPA,* 254 F.3d 195, 200 D.C. Cir. 2001), the D.C. Circuit found the EPA's chosen methodology ''reasonable'' because the statute ''did not mandate a specific method of cost analysis.''

Comment: One commenter stated that the EPA's cost analysis for furnace rebuilds in support of the 2014 supplemental proposal (79 FR 68011, November 13, 2014) underestimated the cost effectiveness by using the wrong costing method, incorrectly applying the costing method used, using the wrong discount rate, and considering costs over only the short term. The commenter provided the document ''National Emission Standards for Hazardous Air Pollutants (NESHAP) Risk and Technology Review (RTR) For the Mineral Wool and Wool Fiberglass Industries Economic Analysis Report,'' January 2015, as the source of this critique of the EPA's analysis.

The commenter argued that the Net Present Value (NPV) methodology is not an appropriate method for calculating cost effectiveness of the proposed accelerated rebuild schedule if the EPA is evaluating the cost of a control as the single factor to consider, and also stated that they could not identify any EPA rules that have used this approach. The commenter suggested that a replacement cost analysis, as described in section 2.5.5.6 of the *EPA Air Pollution Control Cost Manual,*[12] is more appropriate, and more commonly used by the EPA for this situation. The commenter provided cost-effectiveness results (dollars per pound of chromium emission reduction), as follows: Using a replacement cost methodology, the cost effectiveness was estimated by the commenter to be in the range of $366,161 to $527,334 at major source facilities and $67,808 to $97,654 at area sources; and using the NPV methodology, the cost effectiveness was estimated by the commenter to be in the range of $398,939 to $403,532 at major source facilities and $206,857 to $209,239 at area sources (each range represents the cost effectiveness calculated over 10 years versus 30 years).

The commenter further contended that the EPA erred in applying the NPV methodology in that the EPA excluded from its cost analysis the cost of losing the residual value (1 to 3 years) of a furnace's life, which contradicts the EPA's NPV methodology. The commenter explained that the EPA calculated what a $10 million investment losing 7 percent a year would lose in 7 years versus 10 years, and then concluded that the difference was the cost difference of the investments. The commenter contended, however, that both calculations are incorrect in how the process of NPV is used for comparison: With a furnace re-bricking, the $10 million represents the investment that is consumed over the periods of comparison; and using the 10 years as a base case, the $10 million is consumed and has no residual value remaining at the end of the 10 year period. The commenter concluded that, therefore, the $10 million consumed with no residual value must be compared to a $10 million investment that retains a residual value at the end of 7 years, but yet must be replaced (*i.e.,* discounting the residual value at the end of the 7 years to present value (''PV'') and adding that to the annual costs).

The commenter also objected to the EPA's use of a 7-percent discount rate because small variations in the discount rate can significantly bias the cost-benefit analysis. The commenter alleged that the EPA chooses radically different discount rates for different regulations, generally providing no explanation for this variation, which appears arbitrary and capricious because it often chooses relatively high discount rates (between 7 and 10 percent) for regulations imposing future costs and low rates (around 3 percent) for regulations creating future benefits.

The commenter further argued that the EPA's cost analysis failed to look at the longer-term cost of 7-year rebuilds, beyond 10 years into the future. The commenter provided the results of an analysis that presented the impact over 30 years, which show higher costs for both area and major sources.

Response: Regarding the comment that the EPA used the wrong costing method in the 2014 supplemental proposal, the EPA has reviewed the information provided by the commenter and, based on that information, which discussed the estimation of costs for changes in equipment that may occur as a route to comply with NESHAPs, we agree that the EPA's replacement costing approach described in section 2.5.5.6 of the *EPA Air Pollution Control Cost Manual*[13] is more appropriate for estimating the cost of furnace rebuilds than the NPV approach used for the 2014 supplemental proposal.

We received new information from the industry that they believed the replacement costing (RC) approach was a better fit for the situation and approach than the NPV approach, which is what we had used at proposal. The NPV evaluated the loss to the company from having to rebuild a furnace earlier, (*i.e.,* at 7 years into the furnace campaign instead of at 10 years.) The RC approach applies the equivalent uniform cost method as defined in the control cost manual. This is different because it calculates a uniform, or equal cost across the time of the investment, and the NPV is not calculated in the same way. While we note that use of the NPV is not necessarily incorrect in this case, we agree that in other similar rules whereby this type of approach was introduced (that is, replacing a process unit before the end of its useful life, or campaign in this case), the replacement costing approach was applied instead of the NPV. Therefore, we agree with the commenter and have changed our cost estimation method to be consistent.

We also revised the capital cost estimate for rebuilding a furnace to include the cost ($700,000) of transferring production to another facility while the furnace is being rebuilt, based on information provided by the commenter. Based on the revised cost-estimating procedure and capital cost ($10.7 million), we estimated the total annualized cost for rebuilding a furnace to be $462,000.

Regarding the comment that the EPA used the wrong discount rate, the EPA's use of a 7-percent interest rate is in accordance with OMB guidance under Circular A–4 and Circular A–94. This interest rate has been used in the cost estimates for all rulemakings issued by the Office of Air Quality Planning and Standards (OAQPS) since Circular A–94 was issued in 1992 and affirmed by Circular A–4 in 2003. This includes the 2011 proposal for the mineral wool and wool fiberglass rules, and both supplemental proposals. In addition, the *EPA Air Pollution Control Cost Manual*[14], a key cost guidance document prepared by the EPA and widely used in the Agency as a basis for cost estimation that has been available in its current edition since 2003, discusses the use of the 7-percent interest rate for rulemakings at length. The adherence by OAQPS to OMB guidance with regards to annualizing capital costs in its rulemaking has been consistent, and the information provided by the commenter on interest rates is not germane to the analysis for this rulemaking.

Comment: One commenter stated that the EPA's proposed chromium limit in the 2014 supplemental proposal (79 FR 68011, November 13, 2014) was not cost effective because the EPA's cost analysis was missing the following costs associated with furnace rebuilds: New materials (refractory bricks); recycling and disposal of old material; installation

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[12] *http://www.epa.gov/ttncatc1/dir1/c_allchs.pdf.*

[13] *http://www.epa.gov/ttncatc1/dir1/c_allchs.pdf.*

[14] *http://www.epa.gov/ttncatc1/dir1/c_allchs.pdf.*

labor; maintenance; loss of production; and loss of labor force. The commenter retained a consultant to conduct a cost analysis of a furnace rebuild, and the analysis is provided by the commenter. The analysis concluded that the total investment of a furnace refractory rebuild is estimated to be about $28 million, assuming the EPA's furnace rebuild cost of $10 million. The $28 million includes approximately $7.9 million for all materials, $2 million for installation labor, $60,000 for brick recycling/disposal, $8 million for additional maintenance, $9 million for loss of production, and $384,000 for loss of labor force. The commenter explained that the loss of production cost is based on 200 tons per day throughput, $0.65 per pound of reproduction, and 35-day shutdown period. These costs are listed in Table 2 of Appendix 2 of Docket ID No. EPA–HQ–OAR–1042–0348. The commenter explained that the additional maintenance cost includes maintenance of control equipment performed while the furnace is shut down during rebuild, as follows:

> Maintaining safe and proper operation at a wool fiberglass manufacturing facility requires that the facility maintain melted glass within the furnace at all times. In addition to the furnace operating continuously, all other equipment used in the manufacturing process, including air pollution control equipment operates continuously during normal operation. During a scheduled rebuild of the furnace refractory, a facility will use that downtime to perform routine maintenance on the entire manufacturing line. This maintenance requires longer downtimes to accomplish because it includes the support equipment for the furnaces as well as the major down line equipment such as forming sections, curing ovens, and line drives. This maintenance is done at this time to avoid the other operational expenses and product supply issues incurred when taking extended downtimes. Therefore, when a facility plans a refractory rebuild, it must consider the additional costs and logistics associated with the routine repair and general maintenance of the entire manufacturing line. NAIMA [North American Insulation Manufacturers Association] members estimate these additional costs to be in the range of $6,000,000 to $10,000,000, and include material (wear part replacements, pollution control device maintenance, electrical preventative maintenance, etc.) and labor to perform this maintenance. (Appendix 2 of Docket ID No. EPA–HQ–OAR–1042–0348).

Response: As noted in the information provided by the commenter (see Appendix 2 of Docket ID No. EPA–HQ–OAR–2010–1042–0348), the EPA's capital cost estimate of $10 million includes material costs, installation labor, and brick recycling/disposal costs. We also revised the capital cost estimate for rebuilding a furnace to include the cost ($700,000) of transferring production to another facility while the furnace is being rebuilt, based on information provided by the commenter. We disagree that the cost of additional maintenance for control devices performed while the furnace is being rebuilt should be included in the total capital cost estimate because these costs are not directly related to rebuilding the furnace (*i.e.,* the furnace could be rebuilt without performing maintenance on control equipment). We also disagree with the commenter that the cost of lost labor force suggested by the comment should be included because we believe that workers would be reassigned to other duties at the facility (including activities related to rebuilding the furnace) while the furnace is shut down.

Comment: One commenter indicated that facilities will need to install control equipment to achieve the proposed chromium standard and that the EPA has grossly underestimated the cost of this equipment for major sources. One commenter provided cost-effectiveness estimates (in dollars per pound of chromium emission reduction) developed by Trinity Consultants for various technologies: HEPA filter would be $18,500 to $24,100; Venturi scrubber would be $29,700 to $41,700; 3-stage filter after DESP would be $49,100 to $63,900.

Response: The EPA amended the proposed chromium limit for major sources to be 0.00025 pounds chromium per ton of glass pulled. Based on emission data submitted to the EPA in 2010 and 2012 by all major source wool fiberglass manufacturers for every furnace type, the EPA determined that all but two major source furnaces currently meet this chromium limit. For those two sources that will not initially meet the finalized chromium limit, the EPA determined that a furnace rebuild may be conducted to achieve the limit with no additional control technologies (*e.g.,* scrubber).

Note that the finalized chromium limit applies to gas-fired furnaces and does not apply to electric furnaces. Electric furnaces at major sources will not be subject to the final chromium emission limits, so wool fiberglass manufacturing facilities operating electric furnaces will not incur any additional costs for compliance with the finalized chromium limits.

Comment: One commenter asserted that the EPA should subcategorize sources by furnace type because the chromium emissions test data indicate significant differences among wool fiberglass furnaces and furnace type. The commenter further asserted that non-oxyfuel furnaces should not have a chromium limit, and that oxyfuel furnaces should be further subcategorized to limit any applicable chromium emission limits to only those furnaces that warrant such limits. A second commenter asserted that the EPA should not subcategorize by furnace type.

One commenter suggested the following list of subcategories: Oxyfuel, specialty, steel shell, air-gas, cold-top electric. The commenter characterized the EPA's authority to subcategorize as broad and discretionary, noting that the CAA authorizes the EPA to ''distinguish among classes, types, and sizes of sources within a category'' in establishing MACT standards, and that the EPA retains discretion in important respects in setting floors for MACT standards within the statutory framework in order to promulgate MACT standards that best serve the public interest. The commenter continued, ''Congress authorized EPA to subcategorize source categories based on classes, types and sizes of sources which will result in different [f]loors for different subcategories.'' The commenter observed that the EPA's criteria for subcategorization include ''air pollution control differences, process operation . . ., emissions characteristics, control device applicability and costs, safety, and opportunities for pollution prevention.'' The commenter also noted that the EPA had incorrectly stated ''[f]urnace construction and refractory composition were not factors that were presented by industry as having an effect on HAP emissions, and those factors were not used as a basis of representativeness for the resulting data set,'' which contradicted the May 5, 2010 testing proposal letter sent to the EPA that categorized furnaces by construction and identified furnaces as having an effect on emissions. The commenter stated that this identification by furnace type in the May 5, 2010 letter is precisely what the EPA should consider when subcategorizing.

The commenter asserted that no subcategories except oxyfuel furnaces should have a chromium limit, noting that non-oxyfuel furnaces (steel shell, cold-top electric, air-gas, and specialty) have extremely low to non-detectable chromium emissions and referred to three supporting references: A summary of the chromium content of refractories and chromium emissions (attachment 8 of comment letter), the test reports sent to the EPA as a basis for the comment, and a technology review of glass furnaces (attachment 10 of the comment letter).[15] The commenter stated that the technology review (attachment 10) concluded that oxyfuel combustion has a much higher potential for generating hexavalent chromium emissions as compared to air-gas or other types of furnaces based on the following conclusions: (1) Chromium emissions result from volatilization from the surface of chromium alumina refractories used at or above the glass line in the melting furnaces, and (2) the most significant variable with respect to quantity of chromium volatilized and to the presence of hexavalent chromium is the flame temperature. The commenter cited the study's recommendations regarding subcategorization: ''Because of the very significant flame temperature differences between oxyfuel and air-gas furnaces (5,035 degrees Fahrenheit versus 3,562 degrees Fahrenheit, respectively), there is engineering rationale to differentiate or subcategorize the furnaces by combustion type from a standpoint of emissions . . . Other furnaces, such as cold-top melters and steel shell melters, should be in any lower emissions subcategory'' (attachment 10, p. 10).

The commenter further asserted that the EPA should go a step further and subcategorize oxyfuel furnaces to regulate only those furnaces that pose a concern. The commenter stated that the other oxyfuel furnaces other than the CertainTeed Kansas City, Kansas facility (a total of 12 furnaces) do not pose a concern because they show low chromium emissions and do not approach a level of emissions that would trigger MACT applicability. The commenter recommended the following possible approaches for subcategorizing oxyfuel furnaces: (1) Establish a subcategory of the oxyfuel furnaces based on variation in demonstrated chromium emissions; and (2) establish a subcategory of the oxyfuel furnaces based on sources that can demonstrate a less than 1-in-1 million risk (using a risk-based source threshold limit of 25 pounds per year).

Another commenter urged the EPA not to subcategorize the glass-melting furnaces used in the Wool Fiberglass Manufacturing source category. The commenter supported the EPA's recognition at proposal that it was inappropriate to subcategorize in the wool fiberglass source category, given that there are no relevant differences that distinguish among classes, types, and sizes of sources within the category. The commenter argued that use of different types of furnace bricks does not qualify as a basis for subcategorization because sources of the same class, type, and size use different bricks. According to the commenter, the EPA may not subcategorize the source category into high chromium-emitters and low chromium-emitters because that would violate the purpose of protecting public health and the purpose of ensuring that the best-performers drive CAA section 112(d) standards to become stronger. The commenter observed that best-performers may have lower emissions, in part, because of the materials they use in their process or in their equipment. The commenter emphasized that the EPA may not lawfully subcategorize in a way that would place the best and worst performers into their own separate subcategories. The commenter asserted that the EPA should ensure that it sets standards for the entire source category that meet CAA section 112 requirements, rather than subcategorizing in a way that may allow a source to evade stronger emission requirements.

Response: In today's final rule, we are promulgating a PM limit under CAA section 112(d)(6) that is applicable to all glass melting furnaces in the Wool Fiberglass Manufacturing major source category. In our November 2011 proposal, we explained that in conducting our technology review, we found that most sources had reported PM emissions that were less than 10 percent of the current limit with several sources achieving PM emissions that were two to three orders of magnitude lower than the current MACT limit. We reasoned that new furnace designs and improvements in control devices operations, design, and bags since promulgation of the 1999 MACT were most likely responsible for reductions in PM emissions. As previously explained, the EPA may use surrogates to regulate HAP if there is reasonable basis to do so. In several rulemakings, we have used PM as a surrogate ''for HAP metals because PM control technology traps HAP metal particles and other particulates indiscriminately.'' *National Lime Association* v. *EPA,* 233 F.3d at 639. We continue to believe that PM controls would be effective for chromium emissions commensurate with the levels from both steel and electric furnaces used by wool fiberglass manufacturing facilities.

In today's rule, we are also promulgating a chromium compounds limit under CAA section 112(d)(6) that will apply to gas-fired glass-melting furnaces. As explained in the April 2013 supplemental proposal, electric furnaces emit metal HAP including chromium at generally lower emission levels than gas-fired furnaces. For example, because they operate at higher temperatures, gas-fired furnaces are constructed with chromium refractories at various parts of the furnace that are above the molten glass, including the crown. Temperatures above the melt in gas-fired furnaces range from 2500 to 4500 degrees Fahrenheit, and these temperatures are sufficient to convert chromium to its hexavalent state. When chromium is available, as it is in the refractories above the melt in gas-fired furnaces, it may be converted to the hexavalent state by the heat of the gas-fired furnace. Thus, gas-fired furnaces have the potential to emit elevated levels of chromium, even when meeting the total PM limit (78 FR 22379–82; 78 FR 22386). These higher chromium emissions do not occur with electric furnaces because they are constructed with either non-chromium refractories (cold-top electric) or steel in place of refractories (electric steel shell) above the glass/metal line. As also explained in our 2013 supplemental proposal, available test data from both electric and steel shell glass-melting furnaces consistently showed chromium emissions below the detection level of the emissions measurement method (78 FR 22379–80). Furnace construction and source test data also show that electric furnaces are not constructed using high-chromium refractories above the glass-metal line, do not reach the temperatures necessary to transform chromium to the hexavalent state, and do not emit significant amounts of chromium compounds, as do the gas-fired furnaces. In fact, all test data for electric furnaces show that chromium emissions were below the detection limit or were at least one order of magnitude below the proposed limit. Based on test data and statements from industry, we confirmed that gas-fired glass-melting furnaces are constructed using similar high-chromium refractories as one high emitting glass-melting furnace, that chromium emissions increase with furnace age as the refractories age, and that the type of furnace at the high emitter is an emerging new technology that is preferred across the industry where a source of industrial oxygen is economically available.

Additionally, as also explained in today's final rule, we are finalizing a chromium compounds limit, under the ample margin of safety step of CAA section 112(f)(2), that will also apply to gas-fired glass-melting furnaces. As explained above, gas-fired (oxyfuel and

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[15] Denis A. Brosnan, Ph.D., PE, ''Technology Review, Chromium Emissions in Wool Fiberglass Melting Furnaces,'' December 10, 2011.

air-gas) furnaces have the greatest potential to emit chromium compounds because they have the internal temperature, the availability of oxygen, reactivity, and corrosivity of the furnace environment that are typical of wool fiberglass furnaces. In the 2013 supplemental proposal, we explained that the elevated chromium emissions from gas-fired furnaces are of concern due to the toxic nature of the type of chromium emitted—hexavalent chromium—and the effects associated with its inhalation. For example, hexavalent chromium is classified as a Class A known human carcinogen (78 FR 22374). In the November 2011 proposal, we also explained that an auxiliary risk characterization analysis, to assess the potential maximum individual lifetime cancer risks in the event that all wool fiberglass manufacturing facilities emitted at the level of the highest hexavalent chromium emitter, indicated that if other facilities were to emit at that reasonable highest measured level, emissions of hexavalent chromium could potentially pose unacceptable risks to public health due to inhalation exposures resulting from stack emissions of hexavalent chromium (76 FR 72801–80). We provided a detailed explanation on our decision to set both PM and total chromium standards in the memorandum titled ''Technical Basis for Separate Chromium Emission Limits for Wool Fiberglass Glass-Melting Furnaces'', which is in the docket for this rulemaking.

Comment: Two commenters predicted that the environmentally beneficial use of recycled mixed and green glass (cullet), and the businesses that provide it, will be adversely impacted by the chromium limit. The commenters pointed out that in 2008–2011, member companies used more than 5.4 billion pounds of recycled glass, and that they are the largest user of mixed glass and the only large user of green glass. These commenters surmise that some chromium may be emitted from cullet when it is remelted in the furnace, and that companies may reduce their use of green cullet to meet the chromium emission limits, an outcome that the commenters see as undesirable. The commenters added that the highest chromium emissions were measured from the furnace that also fed the most green glass cullet as a fraction of total raw materials into the furnace during the test period. One commenter noted that ''not all chrome was retained in the glass (cullet),'' and that green glass cullet ''can be a primary contributor of chrome emissions.''

Response: As discussed in an attachment to comments submitted on the EPA's 2011 proposal, the wool fiberglass ''recipe'' uses alkali or alkaline earth oxides, or boron oxide (borax) for its properties to terminate chains and sheets of silicon and oxygen tetrahedral in the glass melt.[16] The result of this process is the formation of macromolecules. These macromolecules are kinetically unable to crystallize at low temperature and, as a result, essentially polymerize the glass.

The comment attachment further explains that chromium enters the glass in wool fiberglass furnaces below the glass line, and goes into solution without having the potential for volatilization at glass-melting temperatures.[17] Chromium enters the silicate network structure of the glass as a ''modifier'' of the network, and cannot form glass on its own due to thermodynamic constraints. Chromium is held ''rigidly'' in the silicate structure in interstices in the atomic network, and is present in coordinated complexes with oxygen.[18]

Further, based upon comments from industry, technical literature, refractory product specifications, and other data, we conclude that the chromium is not released from the cullet when it is melted, but from the chromium refractories due to several influencing factors: The glass chemistry, furnace temperatures, refractory wear rate and glass pull rate. For more information regarding this topic, see memo titled ''Mechanisms of Chromium Emissions From Wool Fiberglass Glass-Melting Furnaces, June 2015'' in the docket to this rule.

However, we agree that the chemistry of the internal furnace environment may be influenced when green glass cullet comprises most or nearly all of the raw material mixture used in the furnace. This may be due to reaction of submetallic oxides (boron) with the chromium oxide of the refractory. As described in the comment attachment, ''the basics of glass melting are well-known, with fluxes acting on silicon dioxide or SiO_2 to achieve a melted state that forms an amorphous ''network'' of atoms of oxygen and silicon with ''fluxing'' metals resulting in rigid solids at room temperature.'' [19] The attachment concludes that, ''Below the glass line in mineral wool [20] (sic) furnaces, chromium from refractory corrosion enters the network structure of the molten glass where it is held to the extent that it is not volatile at the flame temperatures of batch temperature within these furnaces. Therefore, volatilization from chromium refractories within mineral fiberglass furnaces originates at or above the glass line in the furnaces from the exposed refractory surfaces.''

To summarize, according to the commenter, the minerals used to color these glasses is not re-emitted from the cullet when it is melted at the temperatures of wool fiberglass furnaces. According to the commenter, studies show that in order to volatilize chromium from glass, temperatures above 7,000 degrees Celsius (12,000 degrees Fahrenheit) (such as occurs at plasma processing temperatures) are required (Brosnan, 2012).

Therefore, we disagree with the commenter's assertion of the mechanism of chromium emissions from the furnace, *i.e.,* that chromium is volatilized from green glass cullet when it is remelted in the wool fiberglass furnace.

To the contrary, we maintain that chromium emissions are due to chromium refractory products in wool fiberglass furnaces. According to the literature and references, many of which were provided by the commenter, chromium emissions increase from the wool fiberglass furnace as a result of degradation of chromium refractories, which is influenced by the thermochemical interactions within the furnace environment. The rate of degradation of the chromium refractory in the wool fiberglass furnace is influenced by the thermochemical interactions which are influenced by the raw material mixture processed in the furnace and the use of cullet (of any color).

We note that the test results upon which the final limits are based include tests conducted while the furnace was processing cullet in the raw material

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[16] Technology Review. Chromium Emissions from Wool Fiberglass Melting Furnaces. Brosnan, Denis A. Ph.D., PE. Clemson University, Clemson, SC February 1, 2012.

[17] Chromium volatilization is only reported in the non-equilibrium melting of glasses at plasma processing temperatures, *i.e.,* with flame temperatures typically reported as above 7,000 degrees Celsius (>12,000 degrees Fahrenheit). Brosnan, 2012.

[18] C. Nelson, Transition Metal Ions in Glasses: Nework Modifiers or Quasi-Molecular Complexes, Mat. Res. Bull. 18 (1983) 959–966.

[19] W. David Kingery, H. Bowen, and D. Uhlmann, *Introduction to Ceramics* (2nd Edition), Wiley (1976).

[20] This report was attached to a comment to the November 25, 2011, Wool Fiberglass Manufacturing proposed RTR rule, and offers the author's view on the technology review for wool fiberglass furnaces. We conclude his use of the term 'mineral wool' in this context may have been either an error (the author advises on both industries) or an inclusion of wool fiberglass as a sub-classification under the overall classification (see NAICS codes) of mineral wool.

mixture. While the technology basis for the final standard is more frequent furnace rebuilds, wool fiberglass furnace operators may choose among a variety of options, as explained in section III.D of the 2014 preamble. Commenters previously identified several options to meet the final standard, including raw material substitution, *i.e.,* reducing the amount of cullet processed in the furnace. In addition to raw material substitution, industry commenters included the furnace rebuild and installation of a control technology at the outlet of the DESP as potential chromium reduction measures.

Regarding the prediction of the commenters that negative environmental impacts will result from the chromium limits because green glass will be landfilled instead of remelted by the wool fiberglass industry, we disagree for the following reasons. First, glass recycling in the past was accomplished through the color segregation of glass materials: Brown, or amber glass for amber containers; clear, or ''flint'' for flint containers; and green glass for green containers. Recycling centers no longer segregate their glass by color, but instead separate recyclable materials according to type: Paper, aluminum, steel, and glass, where glass of all colors is combined together in a single stream. Therefore, we disagree with the commenter that vast amounts of green glass would be landfilled because glass recycling no longer segregates waste glass by color.

Second, we acknowledge that while mixed glass from single stream recycling may be difficult to sell as a raw material, recyclers now decolorize used glass for resale into all glass markets (container glass in particular). One recycler (GMG) in particular shared a description of their process: ''GMG's basic technology provides for the de-colorization and subsequent recolorization of mixed color cullet in the production of glass containers. In so doing, it allows the glass manufacturer to use multiple colored cullet (amber, green, flint) to produce a single color glass, matching rigorous color and transmissivity standards required for many glass products. It accomplishes this in a manner that allows the glass manufacturer to replace virgin raw materials with a former waste product (mixed cullet). GMG's Batch Formulation System (BFS) is a user-friendly software program based upon a GMG proprietary series of algorithms representing the full spectrum of furnace batch materials and their chemistry. The BFS technology, combined with the optical scanning equipment, enables the manufacturer to further increase savings through the use of start-of-the-art optical scanner/feeder with advanced software that instantaneously reports color distribution weights and cullet chemistry in each batch sent to the furnace. Using these real time reports on the incoming cullet stream, the furnace operator can make formula modifications in chemicals and virgin materials to ensure uniform colored glass production.''

Third, the wool fiberglass industry is one of several glass industries, including mineral wool, container glass, pressed and blown glass, and flat glass, that purchase glass cullet as an inexpensive and energy efficient raw material. Therefore, we disagree that glass cullet would necessarily be landfilled instead of used in one of any number of glass industries.

Fourth, because chromium does not readily leach out of vitrified materials such as glasses, and would not further pollute the environment if disposed in a landfill, we believe that even if green glass cullet were landfilled in some areas, that would not result in a worse environmental impact than for chromium (particularly in its hexavalent form, as is most of the chromium from wool fiberglass) to be released into the air upon remelting.

Finally, according to the commenter, the use of cullet is required by Executive Order, and wool fiberglass companies avail themselves of cullet as a low-cost, energy efficient raw material which is also used to increase wool fiberglass production rates due to the lower melting temperature and eutectic point (as compared to all raw minerals). Wool fiberglass manufacturers have stated that they would need to greatly reduce or eliminate their use of cullet in the oxyfuel furnaces in order to meet the proposed chromium limit (0.00006 lb/ton of glass pulled), but that it is a moot point at the final chromium limit (0.00025 lb/ton of glass pulled). During meetings held in December 2014 and March 2015, industry stated that reducing or eliminating the use of cullet in the oxyfuel furnaces as a way to meet the chromium emission limit was no longer a concern to them. Furthermore, use of cullet in electric furnaces (which are not impacted by the chromium limit) does not seem to increase emissions of chromium as it does in gas-fired furnaces. Therefore, this is not an issue for electric furnaces, which will continue to use cullet. Therefore, we disagree with the commenter that cullet providers will be adversely affected by these final rules.

For the reasons stated above, we disagree with the commenter that there are environmental impacts associated with glass recycling that should be included in the impacts analysis. However, changing the content and mixture of raw materials used in a process can be a viable option for regulated sources to meet emissions limits.

4. What is the rationale for our final approach for the technology review?

In our technology review under CAA section 112(d)(6), for PM we found that while the use of ESPs is not new to this industry, the use of the DESPs in combination with gas-fired furnaces is more prevalent. We found that, in general, baghouses are no longer used for gas-fired glass-melting furnaces. We also found that all glass-melting furnaces were achieving emissions reductions that were well below the existing MACT standards regardless of the control technology in use.

Therefore, we determined that emissions controls on furnaces are capable of reducing PM to levels below those in the MACT standard, and, as previously proposed in our April 2013 supplemental proposal, we are finalizing under CAA section 112(d)(6) the PM limit for new and existing glass-melting furnaces.

Section 112(d)(6) of the CAA provides that the agency must review and revise ''as necessary'' existing MACT standards taking into consideration developments in practices, processes and control technologies by affected sources. The ''as necessary'' language must be read in the context of the provision, which focuses on the review of developments that have occurred in the industry since the time of the original promulgation of the MACT standard. Thus, our technology review was for all glass-melting furnaces located at both area and major sources, since all area sources were originally major sources. As explained in our April 2013 supplemental proposal, the number of area sources is continually increasing as a result of the definition of ''wool fiberglass facility'' in 40 CFR 63, subpart NNN. For example in 2002, two out of 33 facilities were area sources, but by December 2012, 20 facilities were area sources (78 FR 22377). As also previously explained, there are no differences between gas-fired glass-melting furnaces used at major and area sources (78 FR 22377). Therefore, we believe it was appropriate to consider all furnaces in our technology review under CAA section 112(d)(6).

Based on public comments and test data, we found that the DESP achieves an average of 97.5-percent efficiency in reducing PM, a fraction of which is chromium compounds. Test data indicate that the majority of this chromium is in the hexavalent state, which is the most toxic form of this pollutant. We concluded that, as earlier discussed, the mechanism of formation, the increasing rate of emission release (due to refractory degradation), and the pollutant toxicity warrant additional investigation. Our technology review indicates that options effective in reducing the chromium compound emissions from the furnaces are available to wool fiberglass companies. We, therefore, conclude that it is appropriate for us to set standards for the fraction of chromium in the total PM that is still emitted from the DESP.

Based on comments we received on the November 2014 supplemental proposal, we again reviewed the cost and control options and found using new cost information that the limit as proposed was not as cost effective as we initially believed. We reviewed the data to determine whether a higher limit than previously proposed would be more cost effective while still significantly reducing chromium emissions from wool fiberglass gas-fired glass-melting furnaces. We found that most wool fiberglass gas-fired glass-melting furnaces and all recently rebuilt gas-fired furnaces currently emit chromium compounds at rates below 0.00025 pounds chromium per ton of glass pulled. Two furnaces located at major sources, which together emit 583 pounds of chromium compounds per year after DESP control, would still have to reduce chromium emissions to meet the limit.

We compared the chromium emission reductions that would have resulted under the previously proposed emission limit of 0.00006 pounds chromium per ton of glass pulled to the reductions that result from the final limit of 0.00025 pounds chromium per ton of glass pulled. We found that the proposed limit would have reduced chromium from major sources by 567 pounds per year, and that the final limit reduces chromium by 524 pounds per year. These are comparable and substantial reductions in chromium due to two high-emitting furnaces at major sources. Moreover, the final limit sets a backstop so that another high-chromium-emitting, gas-fired glass-melting furnace cannot be operated again at a major source in this industry.

We revised our technology review to reflect our conclusions on the most cost-effective ways to meet the final chromium limit. We find that two approaches are likely to be used by industry to reduce chromium emissions from gas-fired furnaces. One approach is to rebuild the furnace early (instead of a furnace life of 10 or more years, rebuild the furnace after 7 years of service) at an annualized cost of $462,000 per year, and the other approach is to replace one raw material (cullet) with another material (raw minerals), which the industry stated would result in lower chromium emissions, at an average cost of about $620,000 per year. Industry test data show that major sources will reduce chromium emission by 524 pounds per year to meet the 0.00025 pounds chromium per ton of glass pulled limit. The cost effectiveness of both approaches is reasonable, and the option to rebuild the furnace has a cost effectiveness of approximately $880 per pound of chromium, which appears for most companies to be the most cost-effective option. This cost is extremely affordably compared to costs for chromium control in other rules. For example, in the Chromium Electroplating RTR (77 FR 58226, September 19, 2012), we accepted a cost effectiveness of $11,000 per pound of hexavalent chromium reduced. We also note that section 112(d) neither specifies nor mandates a cost methodology. We note that in *Husqvarna AB* v. *EPA,* 254 F.3d 195, 200 D.C. Cir. 2001), the DC Circuit Court found the EPA's chosen methodology ''reasonable'' because the statute ''did not mandate a specific method of cost analysis.''

Sources may choose a combination of these approaches to meet the final chromium limit: Raw material substitution may be used as the furnace begins to show refractory wear (and associated increase in chromium emissions), and then, toward the end of the useful life of the furnace, sources may choose to rebuild their process equipment. We discuss the technology review in more detail in the November 2011 (76 FR 72803–72804) and the April 2013 (78 FR 22379–382) proposals; in the ''Technology Review Memorandum for the Wool Fiberglass Manufacturing NESHAP''; and in the paper titled, ''Mechanisms of Chromium Emissions From Wool Fiberglass Glass-Melting Furnaces,'' June 2015; which are available in the docket to this rule.

C. MACT Standards for Pollutants Previously Regulated Under a Surrogate and Previously Unregulated Pollutants for the Wool Fiberglass Manufacturing Source Category (Major Sources)

1. What did we propose pursuant to CAA sections 112(d)(2) and (3) for the Wool Fiberglass Manufacturing source category (major sources)?

In the November 2011 proposal, we proposed to establish emissions limits for formaldehyde, methanol, and phenol from FA and RS manufacturing lines that were previously regulated under a surrogate, and previously unregulated HCl and HF from glass-melting furnaces. In the April 2013 supplemental proposal, we retained the proposed emission limits for formaldehyde, methanol, and phenol for FA and RS manufacturing lines; however, we proposed work practice standards under CAA section 112(h) for control of HF and HCl emissions from furnaces, instead of the numeric emission limits in the November 2011 proposal (see section V.D of this preamble). In the November 2014 supplemental proposal, we proposed revised emissions limits for formaldehyde, methanol, and phenol from RS and FA lines for new sources as a result of our updated approach to evaluate limited datasets. The emission limits for existing RS and FA lines in the November 2014 supplemental proposal remained the same as in the April 2013 supplemental proposal because the size of these datasets was sufficiently large that the limits were not changed by the updated approach.

For the sake of simplicity, we discuss these pollutants together in the following sections.

2. How did the formaldehyde, methanol, and phenol emission limits change for the Wool Fiberglass Manufacturing source category?

We have not changed any aspect of the emission limits for formaldehyde, methanol, and phenol for existing and new FA manufacturing lines since the November 2014 supplemental proposal. However, as explained in section V.H of this preamble, we are deferring evaluation of emissions limits for RS lines pending collection of new process and emissions data from the industry.

3. What key comments did we receive on the formaldehyde, methanol, and phenol emission limits, and what are our responses?

We received comments in support of and against our proposed formaldehyde, methanol, and phenol emission limits for FA lines. The following is a summary of the key comments received regarding the revised formaldehyde, methanol, and phenol emission limits for FA lines in the Wool Fiberglass Manufacturing source category and our responses to these comments. Additional comments on the standards and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: One commenter expressed concern that the EPA is changing the applicability of the MACT standard for products made on FA manufacturing lines, as the 2013 supplemental proposal (78 FR 22370, April 15, 2013) indicated that the limits apply to all products manufactured on an FA line, not only to pipe and heavy density products. The commenter interpreted this to expand applicability of MACT to lines not previously regulated, which is beyond the EPA's authority under section 112 of the CAA. In the commenter's opinion, the limits for FA lines should continue to apply only to pipe and heavy density products, and not to any other product made on an FA line.

Response: The EPA changed the applicability of the MACT standard for products made on FA manufacturing lines for two reasons. First, the EPA determined under this rulemaking that the EPA established the 1999 MACT floor as no control (*i.e.,* no limit was established) for formaldehyde emissions from FA lines producing light density products (new and existing), automotive products (new and existing), and heavy density products (existing). As stated in the March 31, 1997, proposal for the Wool Fiberglass Manufacturing NESHAP (61 FR 15230), we divided FA lines into four subcategories: light density, automotive, heavy density, and pipe products. In that proposal (61 FR 15239), we noted that we did not establish emission limits for existing FA manufacturing lines producing light-density, automotive or heavy-density products or emission limits for new FA manufacturing lines producing light-density or automotive products because the MACT floor was no control and because the cost effectiveness of additional controls beyond the floor was not reasonable. The DC Circuit Court explicitly rejected this approach—establishing the MACT floor as no control—in both *National Lime Association* v. *EPA,* 233 F. 3d at 633–34 and in *Portland Cement Association* v. *EPA,* 665 F.3d 177, 189 (D.C. Cir. 2011). Therefore, the EPA has both the authority and the obligation to change applicability for FA lines to ensure that all sources of HAP are regulated.

Furthermore, we believe that the data for these facilities clearly support the establishment of MACT floors that assure emissions controls. The standards are based on data we received on tested FA lines. The commenter did not provide additional test data or information on ''any other product made on an FA line'' that would lead us to change to the emission limits previously proposed for FA lines.

Second, in our April 2013 supplemental proposal, in response to comments on our November 2011 proposal, and consistent with our intent in the 2011 proposal, we stated that we were eliminating the subcategories for FA bonded lines because we believe that the technical or design differences that distinguished these subcategories in 1999 no longer exist (78 FR 22387). We stated in the 2013 preamble that, as part of rule development, industry provided test data that they claimed were representative of products manufactured on FA lines (refer to industry's May 10, 2010, letter to the EPA, available in the docket). The 2011 and 2012 ICR response data indicate that only one company uses FA processes to manufacture wool fiberglass products. This is the company that provided the test data on which the limits for FA lines are based. In comments, companies asked that the limits for FA lines apply only to pipe and heavy density, and not to ''any other product made on an FA line.'' However, no other companies provided additional data that could serve as a basis for a change to the proposed limits for FA lines for any other products being produced on FA lines. The data provided by industry, therefore, indicate that this one company is the only company engaged in manufacturing wool fiberglass products on an FA line. Because test data exist for multiple products from this one company reporting these activities, we disagree with the commenter that the limits for FA lines should continue to apply only to pipe and heavy density products, and we are finalizing limits developed for FA lines that are representative of all product types made on FA lines. Consistent with our 2013 supplemental proposal, we are establishing standards at the MACT floor level of control for phenol, formaldehyde and methanol emissions from FA bonded lines.

In 2007, the D.C. Circuit Court found that the EPA had erred in establishing emissions standards for sources of HAP in the NESHAP for Brick and Structural Clay Products Manufacturing and Clay Ceramics Manufacturing, 67 FR 26690 (May 16, 2003), and consequently vacated the rules. (*Sierra Club* v. *EPA,* 479 F. 3d 875 (D.C. Cir. March 13, 2007)). Among other things, the Court found the EPA erred by failing to regulate processes that emitted HAP. As required by CAA section 112, we must establish emission limits for all processes that emit HAP based on the information available to us. The data available to the EPA indicate that FA lines producing products other than pipe and heavy density products do emit HAP. Therefore, the EPA is obligated to set limits for formaldehyde, phenol, and methanol for any such FA lines.

Comment: One commenter expressed concerns regarding the EPA's proposed limits for formaldehyde, phenol, and methanol. Regarding the 2011 proposal, the commenter asked the EPA to consider the example of one company whose compliance test data indicate that after switching to a non-phenol/formaldehyde binder, the level of formaldehyde and methanol for its RS line would exceed the 2011 proposed standard of 0.02 pounds per ton for formaldehyde for RS lines and the proposed standard for methanol of 0.00067 pounds per ton for new and reconstructed RS lines. According to the commenter, the data also suggested that an RS line at an existing source using non-phenol/formaldehyde binders would not meet the 2011 proposed formaldehyde standard of 0.17 pounds per ton for RS lines. The commenter also contended that the phenol limit of 0.0011 pounds per ton in the 2011 proposal for RS lines is so low that it cannot be measured with normal test times or with the proposed method if the process is performing close to the limit. The commenter concluded that the sources that switch to non-phenol/formaldehyde binders would not be able to comply with the proposed standards without installing controls such as a thermal oxidizer, which suggested the proposed standards are inappropriate. The commenter objected to the EPA's calculating the MACT floor using data for RS lines using non-phenol/formaldehyde binders. The commenter asserted that non-phenol/formaldehyde binder lines are not representative of emissions in the affected units within the industry, and non-phenol/formaldehyde binder lines should not be used to set the MACT floor for formaldehyde, phenol, and methanol. The commenter requested that the EPA confirm that all test data used to set new and revised limits are based only on data from sources running a bonded product, and to confirm that none of the test data used to set the new and revised limits are based on data from sources running a non-phenol/formaldehyde binder or unbonded product.

Regarding the 2013 supplemental proposal, the commenter maintained that formaldehyde and methanol standards are not feasible for certain RS lines without installing both non-phenol/formaldehyde binder and additional controls such as thermal oxidizers, because of the formaldehyde created through combustion of natural gas. The commenter specifically mentioned the formaldehyde standard of 0.19 pounds per ton for RS lines as being borderline achievable for non-phenol/formaldehyde binders in RS lines for existing sources.

Regarding the 2014 supplemental proposal, the commenter indicated that the level of formaldehyde and methanol emitted by RS lines would exceed the 2014 proposed standard of 0.087 pounds per ton for formaldehyde and the 2014 proposed standard for methanol of 0.61 pounds per ton for new and reconstructed sources because of the formaldehyde created through combustion of natural gas. The commenter added that the data also suggest that the formaldehyde standard of 0.19 pounds per ton is borderline passing for non-phenol/formaldehyde binder on some existing sources. The commenter explained that formaldehyde is a by-product of natural gas combustion from burners used in the process. The commenter indicated that the proposed phenol limit of 0.26 pounds per ton is greatly improved since the 2011 proposed limit, but that it is still not consistently achievable. The commenter concluded that the proposed standards may not be able to be achieved even after switching to non-phenol/formaldehyde binders without installing controls such as a thermal oxidizer, which themselves will emit additional formaldehyde as a result of the combustion of natural gas to operate the control device.

Response: We agree with the commenter that the data used to calculate MACT for major sources must not include data for RS lines that run a non-phenol/formaldehyde binder or unbonded product. As discussed in the 2013 supplemental proposal (78 FR 22387), in response to the comment on the 2011 proposed emission limits for RS lines, we recalculated the emission limits after removing the emission test data for RS lines using non-phenol/formaldehyde binders, and we re-proposed emission limits for RS lines. However, based on this comment, we determined that our proposed formaldehyde, phenol, and methanol limits for RS lines may not accurately represent the average performance of the best performing sources. In 2015, after considering further information provided by industry representatives, we determined that the limits proposed in 2014 for RS lines likely included RS lines using non-phenol/formaldehyde binders and that the EPA could not determine (based on the 2011 ICR data) which data represented manufacturing lines that were using phenol/formaldehyde binders, and which data represented manufacturing lines that were not using the phenol/formaldehyde binder. As a result, we are not establishing in this final action RTR standards for formaldehyde, phenol, and methanol for RS manufacturing lines at wool fiberglass manufacturing facilities. We have issued an ICR under section 114 of the CAA to collect updated emissions and process information from the industry, and we will analyze the ICR data and evaluate limits for RS lines at wool fiberglass manufacturing facilities at a future date.

Comment: One commenter argued that the EPA should not recalculate the MACT floor for formaldehyde emissions and that the current MACT floor for formaldehyde emissions is still valid. The commenter contended that the EPA should not set a MACT floor for formaldehyde for the second time, explaining that (1) the EPA has not provided an explanation or asserted any rational basis for choosing to calculate a new MACT floor and standard for formaldehyde, as opposed to using its discretion under CAA section 112(d)(6) to make an appropriate adjustment without recalculating the floor and standard; and (2) there is no basis under the technology review to recalculate a MACT floor.

The commenter stated that nothing in CAA section 112(d) suggests that the EPA is required to establish a floor under CAA section 112(d)(3) more than once in issuing or revising MACT standards under CAA section 112(d). The commenter pointed out that this proposal is not consistent with other RTRs, for which the EPA has taken the position that Congress did not intend EPA to establish MACT floors for a second time when it revised a standard. The commenter provided the example of the Coke Oven RTR rulemaking, in which the EPA stated its rationale for CAA section 112(d)(6) not requiring additional floor determinations because this would ‘‘effectively convert existing source standards into new source standards . . . The EPA sees no indication that section 112(d)(6) was intended to have this type of inexorable downward ratcheting effect.’’ The commenter further pointed out litigation challenging the Hazardous Organic NESHAP RTR rule, in which the DC Circuit Court upheld the position that there should not be an inexorable downward ratcheting effect for the MACT floors (*NRDC* v. *EPA*, 529 F.3d 1077, 1083–84 (D.C. Cir. 2008)). The commenter urged the EPA to consider the statutorily-prescribed factors in recalculating the MACT floor.

The commenter stated that the EPA is conducting a MACT on MACT analysis by recalculating the MACT floor, citing *NRDC* v. *EPA*, 529 F.3d 1077, 1083–84 (D.C. Cir. 2008), where the U.S. Court of Appeals for the D.C. Circuit upheld the position that there should not be an inexorable downward ratcheting effect for the MACT floors. The commenter agreed that the EPA should calculate the floor for phenol and methanol, since standards for these HAP were missing from the NESHAP.

The commenter urged the EPA to retain the 1999 formaldehyde limit, saying that the 1999 limit is still the MACT floor and lowering the limit would be ‘‘beyond-the-floor’’ and would need to be justified accordingly. The commenter noted that in the proposal for the 1999 MACT rule, the EPA found that the floor for FA lines making both heavy density and pipe products was no control. The commenter observed that the EPA had also considered controls beyond-the-floor at the time, but concluded that the cost effectiveness was unreasonable. According to the commenter, nothing has changed since this proposal for FA lines. The commenter noted that because no new HAP controls have been added, the floor is still no control for these products.

Response: The EPA does not agree that CAA section 112(d)(6) provides the exclusive authority to address MACT standards when a MACT determination has already been issued for the source category. The D.C. Circuit Court has held that the EPA may permissibly amend improper MACT determinations, including amendments to improperly promulgated floor determinations, using its authority under CAA sections 112(d)(2) and (3). *Medical Waste Institute and Energy Recovery Council* v. *EPA*, 645 F. 3d 420, 425–27 (D.C. Cir. 2011). The absence of standards for these HAP is not proper. *National Lime Association* v. *EPA*, 233 F. 3d at 633–34; see also *Medical Waste Institute and Energy Recovery Council* v. *EPA*, 645 F. 3d at 426 (resetting MACT floor, based on post-compliance data, is permissible when originally-established floor was improperly established, and permissibility of EPA’s action does not turn on whether the prior standard was remanded or vacated). Similarly, the D.C. Circuit Court’s December 9, 2011 decision in *Portland Cement Association* v. *EPA*, 665 F.3d 177, 189 (D.C. Cir. 2011) confirms that CAA section 112(d)(6) does not constrain the EPA and it may reassess its standards more often, including revising existing floors if need be. The commenter is, thus, incorrect in arguing that CAA section 112(d)(6) provides the exclusive authority to address MACT standards when a MACT determination has already been issued for the source category. Further, CAA section 112(d)(6) itself provides that the agency must review and revise ''as necessary.'' The ''as necessary'' language must be read in the context of CAA section 112(d)(6), which focuses on the review of developments that have occurred since the time of the original promulgation of the MACT standard and, thus, can be used as an opportunity to correct flaws that existed at the time of the original promulgation.

The EPA is amending the 1999 formaldehyde MACT floor for FA lines because the floor was improperly determined. First, the EPA determined under this rulemaking that the MACT floor for formaldehyde emissions for new FA lines making heavy density products and for new and existing FA lines making pipe products were set at the highest measured value for each of the subcategories. As such, the 1999 MACT floor for formaldehyde was improperly set at a level achievable by all sources within the Wool Fiberglass Manufacturing source category and not at a level defined by the CAA. Again, as explained in the November 2011 proposal, when the EPA had in the past (incorrectly) interpreted CAA section 112(d) as requiring standards that can be achieved by all sources, the D.C. Circuit Court has rejected that interpretation. ''EPA may not deviate from section 7413(d)(3)'s requirement that floors reflect what the best performers actually achieve by claiming that floors must be achievable by all sources using MACT technology.'' *Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d at 861. ''EPA may not deviate from section 7413(d)(3)'s requirement that floors reflect what the best performers actually achieve by claiming that floors must be achievable by all sources using MACT technology.'' *Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d at 861 (''EPA cannot circumvent *Cement Kiln's* holding that section 7412(d)(3) requires floors based on the emission level actually *achieved* by the best performers (those with the lowest emission levels), not the emission level achievable by all sources, simply by redefining ''best performing'' to mean those sources with emission levels *achievable* by all sources.'' *Sierra Club* v. *EPA*, 479 F. 3d at 881. (Emphasis in original). In revising the MACT floor for formaldehyde, the EPA is ensuring that the floor reflects the method established in CAA section 112(d) for establishing the MACT floor for major sources of HAP: (1) For existing sources, MACT standards must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing five sources for source categories with less than 30 sources, as is the case here; and (2) for new sources, the MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source (CAA section 112(d)(3)).

Second, the EPA determined under this rulemaking that the EPA established the MACT floor for the formaldehyde limits for FA lines producing light density products (new and existing), automotive products (new and existing), and heavy density products (existing) as no control (*i.e.*, no limit was established). Therefore, these sources of HAP emissions are unregulated under the NESHAP, which is an approach soundly rejected by the D.C. Circuit Court in both *National Lime Association* v. *EPA*, 233 F. 3d at 633–34 and in *Portland Cement Association* v. *EPA*, 665 F.3d 177, 189 (D.C. Cir. 2011). The EPA disagrees with the commenter that the EPA should retain the current MACT floor of ''no control'' and that the EPA's recalculating the floor represents a level ''beyond the floor.'' Put another way, since the EPA did not adopt a proper MACT standard initially, it is not amending a MACT standard but adopting one for the first time. Consequently, the EPA is not barred from making MACT floor determinations and issuing MACT standards for formaldehyde pursuant to CAA sections 112(d)(2) and (3).

Third, the EPA is removing formaldehyde as a surrogate for phenol and methanol emissions, as supported by the commenter. The EPA may attribute characteristics of a subclass of substances to an entire class of substances if doing so is scientifically reasonable. *Dithiocarbamate Task Force* v. *EPA*, 98 F.3d 1394, 1399 (D.C. Cir. 1996). We no longer believe that there is a correlation and, therefore, reasonable bases, between formaldehyde and phenol and methanol. Further discussion of the EPA's rationale for removing formaldehyde as a surrogate for phenol and methanol emissions is provided in the preamble to the 2011 proposal (76 FR 72788, 72791, and 72796) for.

Regarding the comment that this proposal is not consistent with other RTRs, we note that in several recent rulemakings we have chosen to fix underlying defects in existing MACT standards under CAA sections 112(d)(2) and (3), provisions that directly govern the initial promulgation of MACT standards (see National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries, October 28, 2009, 74 FR 55670; and National Emission Standards for Hazardous Air Pollutants: Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and the Printing and Publishing Industry, April 21, 2011, 76 FR 22566). Regarding the comment that the EPA had not provided an explanation or asserted any rational basis for choosing to calculate a new MACT floor and standard for formaldehyde, in our 2011 proposal, we explained that the D.C. Circuit Court had found that we erred in establishing emissions standards for sources of HAP in the NESHAP for Brick and Structural Clay Products Manufacturing and Clay Ceramics Manufacturing, and, consequently, vacated the rule. *Sierra Club* v. *EPA*, 479 F. 3d 875 (D.C. Cir. 2007). These errors included incorrectly calculating MACT emissions limit, failure to set emission limits and failure to regulated processes that emitted HAP. We explained that we were taking action to correct similar errors in the 1999 Wool Fiberglass Manufacturing NESHAP. We identified certain HAP that we failed to establish standards for in these rules. We also explained that we had not established standards for phenol and methanol because they were represented by a surrogate (*i.e.*, formaldehyde).

With regard to formaldehyde emissions from the Wool Fiberglass Manufacturing source category, we explained we were proposing MACT limits for existing, new, and reconstructed RS and FA manufacturing lines and presented these limits in Tables 4–6 of the 2011 proposal (76 FR 72791). We also explained that we had a ''clear obligation to set emissions standards for each listed HAP.'' *National Lime Association* v. *EPA*, 233 F. 3d 625, 634 (D.C. Cir. 2000).

4. What is the rationale for our final approach for the formaldehyde, methanol, and phenol emission limits?

As explained elsewhere in this preamble, we are eliminating the subcategories for FA bonded lines because we believe that the technical or design differences that distinguished these subcategories when the original rule was developed no longer exist (CAA section 112(d)(1)). We are also establishing standards at the MACT floor level of control for formaldehyde, methanol, and phenol emissions from FA bonded lines.

The data available to us at proposal were emissions test data from various products within the heavy density products subcategory only, and industry indicated that the test data for this subcategory were representative of all products manufactured on FA bonded lines. Since our various proposals, no additional source test data have been provided to support continued subcategorization of FA lines. We, therefore, concluded in the various proposals that the limits developed for FA lines were representative of all products made on FA lines and that further subcategorization was no longer supportable.

As also explained in our November 25, 2011 proposal, we examined the 1999 MACT rule and found that it does not include emissions standards for certain products manufactured on FA lines which do not fall into the regulated subcategories ''pipe'' and ''heavy density.'' [21] The EPA has a ''clear statutory obligation to set emission standards for each listed HAP. Although *Sierra Club* v. *EPA* permits the Agency to look at technological controls to set emissions standards, it does not say that the EPA may avoid setting standards for HAP not controlled with technology.'' *National Lime Association* v. *EPA*, 233 F.3d 625, 634 (D.C. Cir. 2000) (internal citation omitted). In our review, we found that the foundation supporting the 1999 MACT standard for formaldehyde was developed incorrectly. Instead of being based upon the emission limit achieved by the average of the best performing 12 percent of existing sources, it was set at a level that was achievable by all existing sources. As explained in our November 25, 2011 proposal, this approach has been consistently rejected by the D.C. Circuit. ''EPA may not deviate from section 7413(d)(3)'s requirement that floors reflect what the best performers actually achieve by claiming that floors must be achievable by all sources using MACT technology.'' *Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d at 861.

For the reasons provided above, as proposed in the November 2014 supplemental proposal and in the comment summary and response document available in the docket, we are eliminating the subcategories for FA lines and finalizing emissions limits at the MACT level of control for formaldehyde, phenol, and methanol, as shown in Table 3 of this preamble.

D. Work Practice Standards for HCl and HF Emissions From Furnaces in the Wool Fiberglass Manufacturing Source Category (Major Sources)

1. What did we propose pursuant to CAA section 112(h) for wool fiberglass manufacturing (major sources)?

In our November 2011 proposal, we proposed emission limits for HF and HCl from glass-melting furnaces. In our April 2013 supplemental proposal, we proposed work practice standards in lieu of numeric emission limits, under CAA section 112(h), in response to comments and our evaluation of test data from industry regarding our November 2011 proposed limits. We explained that in response to comments on the November 2011 proposed limits, we re-evaluated test data that we used to calculate the MACT floor for the proposed HCl and HF standards and found that most of the test data reflected values below the detection limit of the test method. Specifically, over 80 percent of the test results were values indicating that either HCl or HF, or both pollutants, in the exhaust gas stream were below the detection limit of the test methods. We, therefore, proposed work practice standards for the control of HCl and HF emissions from furnaces. However, in the 2013 supplemental proposal we did not specifically identify the work practice standards. In our November 2014 supplemental proposal, we noted that the source of HF and HCl in furnace emissions was cullet made from glass used in products such as cathode ray tubes (CRTs), microwave ovens, televisions, computer screens, and other electronics. Therefore, we proposed work practice standards that would require owners and operators of wool fiberglass glass-melting furnaces to ensure that the cullet did not contain glass from these types of sources either by conducting their own internal inspection and recordkeeping program, or by receiving certification from their cullet suppliers.

2. How did the work practice standards change for the Wool Fiberglass Manufacturing source category since proposal?

In the November 2014 supplemental proposal, we explained the proposed work practice standards for HF and HCl in the preamble, but received comment that because the rule language did not accurately reflect the preamble language, that it left to interpretation the other sources of fluoride in the cullet (such as municipal water supply used to wash cullet). We did not intend that interpretation, which would be beyond the purposes of the NESHAP. In this final rule, we are correcting that deficiency in the November 2014 supplemental proposal, withdrawing that previously proposed rule language and specifying in the rule text at 40 CFR 63.1382(a)(1)(iii) the correct requirements, as previously proposed and as indicated above.

3. What key comments did we receive on the work practice standards, and what are our responses?

We received comments in support of and against our work practice standards for HCl and HF emissions from furnaces at wool fiberglass facilities. The following is a summary of the key comments received regarding the work practice standards and our responses to these comments. Additional comments on the work practice standards and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: One commenter objected to the EPA establishing work practice standards for HCl and HF instead of numerical emission limits without first establishing that ''measuring emission levels is technologically or economically impracticable'' (*Sierra Club* v. *EPA*, 479 F.3d at 883–84) or that setting work practice standards ''is consistent with the provisions of subsection (d) or (f).'' 42 U.S.C. 7412(h)(1). The commenter understands that 80 percent of emission tests were below the detection limit, but contends that this fact demonstrates that measuring emissions is difficult, not technologically impracticable. The commenter argues that the EPA must explain why it cannot use the 20 percent of the tests above that limit, taking the detection level into account, to set appropriate emission limits.

Another commenter requested that the EPA remove all of these sources from the calculation for the MACT floor because data that are below the minimum detection limit (MDL) of the

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[21] We divided the FA lines into four subcategories: 1. Light density, 2. automotive, 3. heavy density and 4. pipe products, but set standards for only two subcategories—heavy density (new) and pipe product (new and existing). We explained that ''[b]ecause no controls are currently used, the MACT floor is no control and because the cost effectiveness of additional controls beyond the floor is not reasonable, the Agency is not setting emission limits for existing FA manufacturing lines producing light-density, automotive or heavy-density products or new FA manufacturing lines producing light-density or automotive products.'' 61 FR 15239 (March 31, 1997).

test method (BDL) are unquantifiable and that using BDL data are likely to set limits so stringent that the best performing sources cannot even meet those limits. The commenter observed that the data for every source in the MACT floor ranking is BDL; and the majority of HCl data points are BDL. The commenter contended that facilities will have difficulty showing compliance with an emission limit that is based on data from testing that was BDL. The commenter cited a memorandum from RMB Consulting about relying on BDL data.[22]

According to the commenter, the EPA should only use values that are above the MDL (*i.e.*, actual values) in calculating the MACT floor, and that the emissions floor must be determined by quantifiable data. According to the commenter, in the Boiler MACT, the EPA reassessed the proposed emission limits for dioxins/furans. The commenter noted that, as explained by the EPA, a large amount of the emission measurement used to set the dioxin/furan limits were below the level that could be accurately measured.

Alternatively, the commenter stated that the EPA could propose a work practice standard in order for facilities to show compliance. Under the Boiler MACT, the commenter noted that the EPA chose to regulate dioxins/furans by using a work practice standard. In that case, the commenter stated that 55 percent of facilities tested had dioxin/furan emissions below the MDL for EPA Method 23. The commenter stated that a work practice standard would allow facilities to decrease HCl and HF emissions and be able to show compliance.

In addition, the commenter stated that the EPA has made no effort to take into account reductions achieved as a result of the original MACT implementation as part of establishing the MACT floor. If a MACT floor is calculated, the commenter contended that it must consider what the emissions would have been at the time of the initial MACT promulgation in establishing the floor.

Response: The EPA did not set any standard for HCl and HF in the original 1999 MACT rule and is rectifying that deficiency (see *National Lime Association* v. *EPA,* 233 F. 3d at 634) here by establishing standards pursuant to CAA sections 112(d)(2) and (3). Sections 112(h)(1) and (2)(B) of the CAA indicate that the EPA may adopt a work practice standard rather than a numeric standard when ''the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.'' We evaluated test data that we originally used to calculate the MACT floor limits for HCl and HF in response to comments such as this one. Industry conducted testing in an attempt to obtain data for the acid gases HF and HCl, under the terms of the voluntary survey. Emissions tests were conducted over three 1-hour test runs, which is, for similar industries, sufficient time to detect these acid gases when they are emitted. However, we found that most of the test data reflected values that were BDL. Specifically, over 80 percent of the test results were values BDL for both HF and HCl, indicating that neither HF nor HCl are present in measurable amounts in the exhaust gas stream for these sources.

Because of the high percentage on non-detect test runs, we proposed work practice standards for HF and HCl in our April 2013 supplemental proposal. As explained in our April 2013 supplemental proposal, the EPA regards situations where, as here, the majority of measurements are BDL as being a situation where measurement is not ''technologically practicable'' within the meaning of CAA section 112(h). The EPA also believes that unreliable measurements raise issues of practicability, feasibility and enforceability. The application of measurement methodology in this situation would also not be ''practicable due to . . . economic limitation'' within the meaning of CAA section 112(h) because it would result in cost expended to produce analytically suspect measurements (78 FR 22387).

As discussed in the preamble to the 2013 supplemental proposal (78 FR 22387, April 15, 2013), under these circumstances, the EPA does not believe that it is technologically and economically practicable to measure HCl and HF emissions from this source category. ''[A]pplication of measurement methodologies'' (CAA section 112(h)(2)(B)) means more than taking a measurement. It must also mean that a measurement has some reasonable relation to what the source is emitting (*i.e.,* that the measurement yields a meaningful value). That is not the case here and the EPA does not believe it reasonable to establish numeric emission limits for HCl and HF in this rule. Therefore, in the final rule, we are promulgating work practice standards consistent with our April 2013 supplemental proposal.

However, we disagree with the comment that in revising or promulgating MACT standards, the EPA may not use current test data showing that sources may have achieved much lower emissions levels as a result of complying with earlier standards. ''EPA acted lawfully, in resetting the MACT floors based on post-compliance emissions data.'' *Medical Waste Institute and Energy Recovery Council* v. *EPA,* 645 F. 3d 420, 426–27 (D.C. Cir. 2011). In addition to the work practice standards in the final rule, control of HCl and HF can also occur as a ''cobenefit'' of conventional control technologies that have been installed for other purposes. These acid gases may be absorbed and neutralized when a scrubber is present. We, thus, believe that the work practice standards will result in the level of control of the exceedingly small amounts of HCl and HF present in wool fiberglass furnace emissions achieved by the best performing facilities in the source category.

When testing for indications that a pollutant is emitted by a source, if the results are below the detection limits of the method, that means that the pollutant was not, in fact, detected. We do not set emission limits for all 188 HAP on the list in CAA section 112(b), but only for those that are emitted from the processes. We required sources to test for HF and HCl, and most (over 80 percent) of sources did not detect either of those HAP in their emissions streams. When this is the case for over half the sources in the category, we believe it is not appropriate to set numerical limits for such pollutants.

Comment: One commenter stated that glass cullet cannot be guaranteed by providers or facilities to be ''free of chloride-, fluoride-, and fluorine-bearing constituents,'' as we proposed because (1) cullet must be cleaned before use and city supplied water contains chloride and fluoride; (2) non-glass materials in cullet (including coatings on the glass) contain fluorides or chlorides; (3) recycled cullet currently used by the industry may contain trace amounts of chlorides and fluorides; and (4) to meet product performance requirements, certain glass formulations require glass fibers to contain small levels of fluoride. The commenter argued that the proposed requirement goes beyond what the industry is currently doing to achieve HF and HCl emissions below the detection limit, and to achieve the requirement, facilities would need to cease cullet use and substitute with other materials.

The commenter recommended revising the rule to require facilities to ''maintain internal documentation that work practices are in place that

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[22] RMB Consulting & Research, Inc. Memorandum, Comments on Proposed EGU MACT Rule, July 19, 2011, p. 18.

maintain low HF and HCl emissions,'' for 5 years, including but not limited to the following options:

- Record that cullet is reasonably consistent with previous cullet used that has sustained low to non-detect HF and HCl emissions; or
- Monitor chloride and/or fluoride content of the cullet or finished glass to verify and maintain insignificant trace levels of emissions using standard chemical analytic techniques; or
- Use feedstock of raw materials having a 12-month rolling average of chloride content at or below 0.1 percent as measured once a year using methods similar to ASTM 1152C/1152M or company-developed methods; or
- Maintain glass formulation records that show that no ingredient contains intentionally added chloride; or
- Maintain records from a sampling program, or obtain annual certification from cullet providers verifying that the cullet does not contain excessive CRT glass; or
- Monitor fluoride content of the finished glass to verify that the content is consistent with historic levels of similar glass formulations; or
- In lieu of work practices, measure HF and HCl emissions during emission testing once every 5 years to confirm that the level of HF and HCl emissions is not a statistically significant higher level than the level measured for the furnace during the rulemaking process.

The commenter also expressed support for the proposed requirement that these records would be maintained for inspection by a permitting authority.

Response: We acknowledge that municipal water can contain chloride and fluoride; however, our prohibition on chlorides and fluorides pertains to the cullet composition. In the final rule, we are revising the proposed work practice standards for the Wool Fiberglass Manufacturing source category to address this comment. Specifically, we are replacing the proposed requirement that cullet be ''free of chloride-, fluoride-, and fluorine-bearing constituents'' with work practice standards that require wool fiberglass facilities to maintain records from either cullet suppliers or their internal inspections showing that cullet is free of the following components that would form HF or HCl in the furnace exhaust (*i.e.,* chlorides, fluorides, and fluorine): Glass from industrial (also known as continuous strand, or textile) fiberglass, CRTs, computer monitors that include CRTs, and glass from microwave ovens, televisions or other electronics. Wool fiberglass facilities would ensure their feedstock does not contain chloride-, fluoride-, or fluorine-bearing cullet by one of two approaches: (1) Require the providers of external cullet to verify that the cullet does not include waste glass from the chloride-, fluoride- or fluorine-bearing sources mentioned above, or (2) Sample their raw materials to show the cullet entering the furnace does not contain glass from these types of sources. To demonstrate compliance, facilities would maintain quality assurance records for raw materials and/or records of glass formulations indicating the facility does not process fluoride-, fluorine-, or chloride-bearing materials in their furnaces, and that they thereby maintain low HF and HCl emissions. Major source facilities would be required to make these records available for inspection by the permitting authority upon demand.

4. What is the rationale for our final decisions for the work practice standards?

The EPA may adopt a work practice standard rather than a numeric standard when ''the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.'' CAA sections 112(h)(1) and (2)(B). As previously explained, in response to comments, we had re-evaluated test data that we used to calculate the MACT floor for the proposed HCl and HF standards in our November 2011 proposal, and found that most of the test data reflected values below the detection limit of the test method. Specifically, over 80 percent of the test results were values indicating that both HCl and HF in the exhaust gas stream were below the detection limit of the methods. We believe such values are not a measurement of pollutants but rather an indication that such pollutants are not present in measurable concentrations. The EPA regards situations where, as here, the majority of measurements are below the detection limit as being a situation where measurement is not ''technologically practicable'' within the meaning of CAA section 112(h). The EPA also believes that unreliable measurements raise issues of practicability, feasibility and enforceability. The application of measurement methodology in this situation would also not be ''practicable due to . . . economic limitation'' within the meaning of CAA section 112(h) because it would result in cost expended to produce analytically suspect measurements. Therefore, for the reasons provided above, in the preambles for the 2013 and 2014 supplemental proposals, and in the comment summary and response document available in the docket, we are finalizing the work practice standards for HCl and HF emissions from furnaces at wool fiberglass manufacturing facilities that are major sources.

As we explained in our November 2014 supplemental proposal (79 FR 68012 at 68023), in order to protect furnace components, wool fiberglass facilities identify, isolate and screen out fluoride- and chloride-bearing materials such as glass from industrial (also known as continuous strand, or textile) fiberglass, CRTs, computer monitors that include CRTs, glass from microwave ovens and glass from televisions. The furnace emissions testing shows this is an effective work practice to reduce emissions of these acid gases. HF and HCl emissions occur when recycled glass from these types of materials enters the external cullet stream from the recycling center.

Owners/operators have two options for work practice standards. The first option is to require the providers of the external cullet to verify that the cullet does not include waste glass from the chloride-, fluoride, or fluorine-bearing sources mentioned above. The second option is to sample the raw materials to show the cullet entering the furnace does not contain glass from these types of sources.

We are finalizing work practice standards for the Wool Fiberglass Manufacturing source category that require wool fiberglass facilities to maintain records from either cullet suppliers or their internal inspections showing that the external cullet is free of components that can form HF or HCl in the furnace exhaust (*i.e.,* chlorides, fluorides and fluorine). Facilities are required to maintain quality assurance records for raw materials and/or records of glass formulations indicating the facility does not process fluoride-, fluorine-, or chloride-bearing materials in their furnaces, and that they thereby maintain low HF and HCl emissions. Major source facilities are required to make these records available for inspection by the permitting authority upon demand. Failure to maintain such records constitutes a violation from the requirement.

E. Startup, Shutdown, and Malfunction Provisions for the Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

1. What SSM provisions did we propose for the Wool Fiberglass Manufacturing source category (major and area sources)?

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the DC Circuit Court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously. We proposed eliminating the SSM exemption in the Wool Fiberglass Manufacturing rules for major sources (40 CFR part 63, subpart NNN). Consistent with *Sierra Club* v. *EPA,* the EPA proposed work practice standards in these rules (both 40 CFR part 63, subpart NNN and the new 40 CFR part 63, subpart NN) for periods of startup and shutdown. We proposed the incorporation of work practice standards at startup and shutdown for major sources into the GACT standards for area sources. This would mean that gas-fired glass-melting furnaces at area sources would have to comply with an alternative compliance provision for startup and shutdown that would require sources to keep records showing that emissions were routed to the air pollution control devices and that these control devices were operated at the parameters established during the most recent performance test that showed compliance with the applicable emission limits.

We also provided proposed regulatory text in the General Provisions applicability tables in each subpart in several respects consistent with vacatur of the SSM exemption. For example, we proposed eliminating the incorporation of the General Provisions' requirement in 40 CFR part 63, subpart NNN that the source develop an SSM plan. We also proposed eliminating and revising certain recordkeeping and reporting requirements that are related to the SSM exemption.

In our November 2014 supplemental proposal, we proposed that affected sources comply with practices that are used by the best performers in the source category (7968016).

2. How did the SSM provisions change for the Wool Fiberglass Manufacturing source category (major and area sources)?

We have not changed any aspect of the proposed SSM provisions for 40 CFR part 63, subparts NN and NNN since the 2014 supplemental proposal.

3. What key comments did we receive on the SSM provisions for the Wool Fiberglass Manufacturing source category (major and area sources), and what are our responses?

We received comments for and against the proposed revisions to remove the SSM exemptions for the Wool Fiberglass Manufacturing source category. The commenters who were against the proposed revisions did not provide new information or a basis for the EPA to change the proposed provisions and did not provide sufficient information to show that facilities cannot comply with the work practice standards during periods of startup and shutdown. The comments and our specific responses to those comments can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

4. What is the rationale for our final decisions for the SSM provisions for the Wool Fiberglass Manufacturing source category (major and area sources)?

For the reasons provided above, in the preamble for the proposed rules, and in the comment summary and response document available in the docket, we have removed the SSM exemption from the Wool Fiberglass Manufacturing NESHAP for major and area sources; eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption; and removed or modified inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. We are, therefore, finalizing our proposed determination that facilities comply with the work practice standards for periods of startup and shutdown for gas-fired glass-melting furnaces in 40 CFR part 63, subparts NN and NNN.

F. Other Changes Made to the Wool Fiberglass Manufacturing NESHAP (Major and Area Sources)

1. What other changes did we propose for the Wool Fiberglass Manufacturing NESHAP (major and area sources)?

a. Electronic Reporting (Wool Fiberglass Manufacturing Major and Area Sources)

As stated in the preamble to the November 2011 proposal, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is requiring owners and operators of wool manufacturing facilities to submit electronic copies of certain required performance test reports. See the discussion in section III.G of this preamble for more detail.

b. Test Methods and Testing Frequency (Wool Fiberglass Manufacturing Major and Area Sources)

For both major and area sources, we are finalizing, as proposed, the addition of EPA Method 29 for measuring the concentrations of chromium.

For major sources only, we are finalizing requirements for methods to measure PM, phenol, formaldehyde, and methanol. We are finalizing the requirement, as proposed, to maintain the filter temperature at 248 ± 25 degrees Fahrenheit when using Method 5 to measure PM emissions from furnaces. We are also amending the NESHAP to allow owners or operators to measure PM emissions from furnaces using either EPA Method 5 or Method 29.

We are finalizing, as proposed, the addition of EPA Method 318 for measuring the concentration of phenol and alternative test methods for measuring the concentration of methanol (EPA Methods 318 or 308). We are finalizing, as proposed, the replacement of a minimum sampling time of 1 hour with the specification to collect 10 spectra when using EPA Method 318. For Method 316, we are finalizing, as proposed, the requirement to collect a minimum sampling volume of 2 dscm; however, we are not finalizing the proposed minimum sampling run time for EPA Method 316 of 2 hours. We are also finalizing editorial changes to the performance testing and compliance procedures to specify formaldehyde, methanol, phenol, and chromium; and compliance procedures for HF and HCl.

Additionally, we are finalizing, as proposed, the requirement for existing sources to conduct performance tests to demonstrate compliance with the chromium emission limit for gas-fired furnaces no later than July 31, 2017, and annually thereafter. We are also finalizing, as proposed, the requirement for existing sources to conduct performance tests to demonstrate compliance with the phenol, formaldehyde, and methanol emissions limits for FA lines no later than July 31, 2017, and every 5 years thereafter. We are finalizing the requirement for new sources to conduct performance tests to demonstrate compliance with the emissions limits no later than January 25, 2016 or 180 days after initial startup, whichever is later. Gas-fired glass-melting furnaces must demonstrate compliance with the chromium emission limits annually after the first compliance test, and whenever the amount of cullet increases from that used in the most recent performance test showing compliance with the standard, and all other processes must demonstrate compliance with the other emission limits every 5 years after the first successful compliance test.

c. Applicability and Compliance Period (Wool Fiberglass Manufacturing Major and Area Sources)

For major sources, we are clarifying, as proposed, that 40 CFR part 63, NNN applies to FA lines regardless of the product being manufactured on the FA line and we are finalizing the compliance period of 2 years for existing sources subject to the chromium, formaldehyde, HCl, HF, phenol, PM, and methanol emission limits.

For area sources, we are finalizing, as proposed, the compliance period of 2 years for existing sources subject to the chromium emission limits.

d. Definitions (Wool Fiberglass Manufacturing Major and Area Sources)

In this action, we are finalizing, as proposed, definitions that apply to both major and area sources. These include a definition for ''gas-fired glass-melting furnace'', revisions to the definition of ''new source'', and the notification requirements to update the citation to the November 2011 proposal. We are finalizing, as proposed, a definition for ''incinerator'' in 40 CFR part 63, NNN (major sources).

e. Parameter Monitoring (Wool Fiberglass Manufacturing Major and Area Sources)

For both major and area sources, we are finalizing, as proposed, the monitoring requirements for furnaces to provide flexibility in establishing appropriate monitoring parameters. We are also requiring that facilities operating gas-fired furnaces maintain a 30-day rolling average of the percentage of cullet used in the raw materials fed to the furnace. To demonstrate compliance with this operating parameter, owners or operators must record a daily average value of the percentage of cullet used for each operating day and must include all of the daily averages recorded during the previous 30 operating days in calculating the rolling 30-day average.

For major sources only, we are also finalizing, as proposed, the monitoring requirements for FA lines, to provide flexibility in establishing appropriate monitoring parameters.

f. General Provisions Applicability Table (Wool Fiberglass Manufacturing Major and Area Sources)

For major sources, we are also making minor corrections to the citations in Table 1 (40 CFR part 63 General Provision applicability table) to reflect the final amendments in this action, and the revisions that have been made to the General Provisions since 1999.

For area sources, we are identifying the applicability of part 40 CFR part 63 General Provisions to subpart NN.

2. How did the provisions regarding these other changes to the Wool Fiberglass Manufacturing NESHAP (major and area sources) change since proposal?

We have not made any changes to the proposed provisions for electronic reporting; testing methods and frequency; applicability; compliance period; definitions; or the General Provision applicability table. However, we are revising the parameter monitoring standards of 40 CFR part 63, subpart NNN to require daily monitoring and recording of the percentage of cullet used in the raw materials fed to gas-fired glass-melting furnaces and calculation of a rolling 30-day average. The parameter monitoring requirements for area sources regulated by subpart NN reference the same requirements for major sources in 40 CFR part 63, subpart NNN.

3. What key comments did we receive on the other changes to the Wool Fiberglass Manufacturing NESHAP (major and area sources), and what are our responses?

We received several comments received regarding electronic reporting; testing methods and frequency; applicability; compliance period; parameter monitoring; definitions or revisions to the General Provisions applicability table. The following is a summary of the key comments received regarding the technology review and our responses to these comments. Additional comments regarding these changes to the NESHAP and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: For both the major (NNN) and the area (NN) source rules, one commenter requested a one-time performance test, or alternatively a 5-year testing requirement for furnaces, instead of the proposed annual performance tests, and asked that sources be allowed to test one 'representative' furnace instead of having to test every furnace subject to the rule. The commenter contended that the EPA's rationale that chromium emissions increase with age has no factual basis because age is not a causative factor for increased chromium emissions. The commenter also pointed out that annual testing is not consistent with other MACT (the Hazardous Waste MACT requires testing every 5 years), GACT, and NSPS standards, as well as state performance testing requirements.

Response: In our April 2013 supplemental proposal (72 FR 22378), the EPA proposed reduced testing requirements for sources with emissions that are 75 percent or less of the proposed chromium limit. Subsequent to that proposal, the EPA determined that this reduced testing frequency would not provide sufficient information to determine compliance with the rule for either the plant operator or the EPA because chromium emissions increase with furnace age. Refer to the EPA's memorandum ''Chromium Emissions and Furnace Age'' (EPA–HQ–OAR–2010–1042–0332) for a summary of the data and information that EPA used to determine that furnace age causes and increase in chromium emissions for gas-fired furnaces. Regarding the comment that there are some federal and state regulations that require only initial testing, there are also federal and state regulations that require annual testing (*e.g.,* Portland Cement NESHAP, 40 CFR part 63, subpart LLL). Each regulation establishes a testing frequency based on the particular characteristics of the industry that will allow the EPA to ensure compliance with the standards. We have determined that annual testing is appropriate here because the data and the technical literature show that a furnace's chromium emissions can increase over a period of a few years. The wool fiberglass furnace refractory products degrade due to the corrosive and erosive nature of the wool fiberglass furnace environment. The wool fiberglass oxyfuel furnaces operate continuously over the furnace campaign of 10–12 years, and, according to industry statements, as the furnace ages, it loses an average of 20,000 pounds annually from the refractory. The pattern of refractory erosion is semi-spherical, and the exposed refractory surface area increases exponentially because it is constantly being eroded in a curved 3-dimensional surface pattern. This pattern of furnace refractory wear is responsible for the exponential increase in chromium emissions from wool fiberglass furnaces. For more information on the relationship between wool fiberglass furnace age and increasing chromium emissions, see the paper ''Mechanisms of Chromium Emissions From Wool Fiberglass Furnaces,'' June 2015, in the docket to this rule).

Comment: One commenter disagreed with the EPA's listing all gas-fired furnaces for regulation under the area source rule for chromium emissions, and asserted that for both the major source rule and the area source rule, only certain gas-fired furnaces, oxyfuel furnaces, should be regulated for emissions of chromium compounds. The commenter suggested that the furnace type and design, not the chromium content of furnace refractories, impacts chrome emissions, and only oxyfuel furnaces have the specific design features associated with high chromium emissions. The commenter listed the following factors as responsible for oxyfuel furnaces emitting high hexavalent chromium: Higher flame temperature, high bulk wall temperature (oxyfuel temperatures peak at 5,000 degrees Fahrenheit; other gas furnaces peak at 3,560 degrees Fahrenheit), more chrome refractory brick above glass level, higher water vapor concentration, and an oxidizing atmosphere. The commenter argued that some of the air-gas furnaces that are not oxyfuel have lower surface temperature, and the surface temperature above the glass line is the single most influential variable influencing hexavalent chromium emissions, not the fuel type. In the commenter's opinion, air-gas furnaces should not be regulated in the area source rule alongside oxyfuel furnaces.

The commenter noted that one air-gas furnace was measured emitting high levels of chromium compounds, pointing out that it is different from other non-oxyfuel air-gas furnaces because it is not standard construction and it was at the end of its life. The commenter also added that furnace has now been shut down.

The commenter also indicated that, despite their potential for increased chrome emissions, oxyfuel furnaces will continue to be used for a number of important reasons, including environmental benefits: (1) Oxyfuel furnaces reduce NO_X and CO emissions because they emit less of these pollutants than does combustion with air, and some state and local regulations require reduced NO_X emissions; (2) oxyfuel firing reduces NO_X emissions because it does not introduce nitrogen from combustion air into the furnace; (3) oxyfuel furnaces use less energy than air-gas furnaces by obviating the need to heat nitrogen contained in ambient air and, thus, produce less greenhouse gas emissions; and (4) oxyfuel firing also produces a reduced volume of flue gases which lowers the gas velocity in the furnace combustion zone and lowers the potential to entrain PM.

Response: We note that this is a comment addressing the furnace technology of the wool fiberglass manufacturing industry, and as such applies to both major sources (under NNN) and area sources (under NN). This comment is addressed here as it first applies to major sources. We note that the same principles apply to area sources in this source category.

We disagree with the commenter that air-gas furnaces do not warrant a chromium emission limit. Furnace emissions test data were collected from all wool fiberglass manufacturing facilities to determine the scope and extent of the area source rule limits. The data collected for gas-fired furnaces show that oxyfuel furnaces, as the commenter correctly points out, have the greatest potential to emit chromium compounds, followed by air-gas furnaces. This is because both types of gas-fired furnaces operate at elevated temperatures (exceeding 3,000 degrees Fahrenheit) at and above the level of the glass melt (well in excess of the temperature required to liberate and oxidize chromium compounds from the chromium refractory of the furnace vessel), are heated with natural gas and air (air-gas) or natural gas and oxygen (oxyfuel), and are constructed using chromium refractories that are capable of resisting the corrosive and erosive wear inherent in wool fiberglass furnace environment.

In addition, as the commenter acknowledged, one air-gas furnace constructed using what the commenter described as a ''non-standard design,'' measured chromium emissions at levels higher than most of the oxyfuel furnaces that were tested. Additionally, according to industry comments and the information we collected under the 2012 ICR, all the oxyfuel furnaces in the source category are constructed using materials similar in type and chromium content to those used to construct the highest emitting oxyfuel furnace. There is nothing to prevent a similar furnace from being constructed at any site. However, as required, we set emissions limits based on the information available to us, and we find that both oxyfuel furnaces and air-gas furnaces have greater propensity than electric furnaces, by virtue of their construction, design, and operating temperatures, to form and emit chromium compounds.

As explained in the preamble to the 2013 supplemental proposal, these conditions (high temperatures, available chromium and corrosive furnace gases) are factors that contribute to higher chromium emissions at wool fiberglass furnaces. As stated by the commenter and by other industry representatives, wool fiberglass companies intend to expand their use of chromium refractories in furnace designs.

We disagree with the commenter's view that we should address specific facilities only for this regulation. First, we note that NESHAP are national rules that apply to source categories rather than individual facilities, and while we do have the ability to subcategorize by process size, type, or class, we cannot simply target an individual facility or facilities. Second, nothing prevents an oxyfuel or air-gas furnace similar to the high emitting furnaces to be constructed at any existing or new wool fiberglass facility, and it is incumbent upon the EPA to prevent the danger to public health that would result from such a furnace being located at other sites. As the commenter pointed out, ''Despite their potential for increased chrome emissions, oxyfuel furnaces will continue to be used for a number of important reasons . . ..'', and as discussed in our 2011 proposal, we considered the resulting impact if the same furnace were to be constructed at any other existing wool fiberglass manufacturing site. As documented in our auxiliary risk characterization ''Draft Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing Source Categories'' and ''Maximum Predicted HEM–3 Chronic Risks (Wool Fiberglass Manufacturing) based on Revised—What If Analysis,'' available in the docket for this rulemaking (EPA–HQ–OAR–2010–1042–0086 and EPA–HQ–OAR–2010–1042–0263, respectively), we found that the CertainTeed facility in Athens, Georgia would have a risk of 400-in-1 million if it were to install a furnace similar to the high-chromium emitting furnace at Kansas City; and that the Athens, GA facility is now an area source that will be subject to the new area source standard (having recently phased out the use of phenol/formaldehyde on the bonded lines). While most wool fiberglass furnaces at area sources currently emit chromium at levels well below the proposed level of the chromium emission limits, the limits serve as a backstop to prevent high emitters from emitting chromium compounds in an uncontrolled manner.

Comment: One commenter expressed concern about the proposed changes to Method 5 that reduced the testing temperature of the probe by 100 degrees to improve the accuracy of the method, and whether this change will increase the potential for noncompliance with the PM standard. Specifically, the commenter stated that ''what once may have passed through the apparatus now may become filterable'' and, thus, be counted as PM because of the temperature difference. Further, the commenter pointed out that the data used to establish MACT for PM were collected at the higher temperature specified in 40 CFR 63.1385(a)(5) of subpart NNN.

Response: In the final regulation, we are requiring that owners or operators conduct annual emissions tests for chromium, and to test for PM emissions every 5 years. To reduce the testing burden on facilities, the final rule specifies that owners or operators can measure PM emissions from furnaces using either EPA Method 5 or Method 29. Consequently, for the years when the facility must test for both chromium and filterable PM emissions, owners or operators can use Method 29 to obtain measurements for both chromium and filterable PM, rather than having to use Methods 5 and 29 separately.

The 1999 NESHAP specified that owners or operators must use EPA Method 5 with the filter temperature maintained at 350 ± 25 degrees Fahrenheit during for the test. However, Method 29 refers to the filter temperature specifications in Method 5 which requires that the filter be maintained at 248 ± 25 degrees Fahrenheit during testing. To maintain consistency with Method 29, we are amending the NESHAP to specify that owners or operators must maintain the filter temperature at 248 ± 25 degrees Fahrenheit when using Method 5 to measure filterable PM concentrations. We acknowledge that maintaining the Method 5 filter at 248 ± 25 degrees Fahrenheit during testing has the potential capture to more PM than would be captured at the higher filter temperature; however, we do not believe that the change in filter temperature that we are specifying in the final rule will result in wool fiberglass manufacturing facilities being in noncompliance with the final PM standards. As noted in the 2013 supplemental proposal (78 FR 22383), the data submitted to EPA, which includes filterable PM data collected using Method 29 and a filter temperature operating at 248 ± 25 degrees Fahrenheit, show that all gas-fired glass-melting furnaces are currently meeting the PM standard, as proposed, of 0.33 pounds of PM per ton of glass pulled.

Comment: One commenter disagreed with the EPA's proposal to reduce testing frequency to every 3 years. Due to the past history of unknown and unreported chromium emissions, innovation and changes within the wool fiberglass industry, the potential for unpredictable changes in chromium emissions, and the environmental justice impacts of the industry, the commenter requested the EPA to increase the frequency and quality of the monitoring and reporting requirements of the rules.

Response: The EPA is finalizing annual testing, and removing the option proposed in 2013 to test every 3 years. The EPA agrees with the commenter that annual testing is required due to the fact that emission test data show that emissions can significantly increase with furnace age. Refer to section III.D.4 of this preamble and to the 2014 supplemental proposal for further discussion about the EPA's rationale for requiring annual testing.

4. What is the rationale for our final decisions regarding these other changes to the Wool Fiberglass Manufacturing NESHAP (major and area sources)?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing the proposed provisions regarding electronic reporting; testing methods and frequency; applicability; compliance period; parameter monitoring; definitions; and the General Provision applicability table.

VII. What is included in the final Wool Fiberglass Manufacturing Rule for area sources?

A. Generally Available Control Technology (GACT) Analysis for Wool Fiberglass Manufacturing Area Sources

We are finalizing, as described in this final action, the chromium emission limits for both new and existing gas-fired glass-melting furnaces at area sources in the Wool Fiberglass Manufacturing source category (see Table 4 in section V.E of this preamble).

1. What did we propose pursuant to CAA sections 112(c)(3) and (d)(5) for area sources in the Wool Fiberglass Manufacturing source category?

We initially proposed GACT standards for area sources in the Wool Fiberglass Manufacturing source category on April 15, 2013 (78 FR 22377). In that proposal, we proposed emission limits for chromium (0.00006 pounds per ton of glass pulled) and PM (0.33 pounds per ton of glass pulled) for gas-fired glass-melting furnaces at area sources. To maintain consistency with the major source rule, we proposed that facilities use the same requirements for PM and chromium test methods and monitoring, reporting and recordkeeping specified in 40 CFR part 63, subpart NNN. We also proposed to include an affirmative defense to civil penalties for violations of emission limits that are caused by malfunctions. In the 2014 supplemental proposal (79 FR 68024), we proposed removal of the PM emission limit based on public comments the EPA received asserting that setting both PM and chromium limits was not necessary. We reviewed the technologies and emissions test data for controls that are in place at wool fiberglass furnaces. In some test reports, we had both inlet and outlet measurements of both PM and chromium. From these tests we saw that, in order for furnaces to meet the chromium limit, they would have to control PM, a fraction of which is chromium compounds. Because chromium is the specific pollutant of concern from the furnace process, and because under the Strategy we may either address pollutants of concern through an appropriate surrogate, or directly regulate the pollutant of concern, we are setting emission limits only for chromium from area sources. However, affected sources will still need to achieve PM reductions in order to meet the chromium limit. The PM controls in place at gas-fired glass-melting furnaces achieve an average efficiency of 98 percent. PM in the furnace exhaust includes chromium, and due to the high production rate of the continuous furnace process, this can be a significant amount of chromium emitted during the course of a year. Source testing conducted on two wool fiberglass furnaces at one facility[23] measured chromium at both the inlet and the outlet of the DESP. This test showed chromium entering the DESP averaged 1,500 pounds per year. Both PM and chromium were measured at the outlet of the DESP: Emissions of PM averaged 1.5 tons per year, and emissions of chromium averaged 11.4 pounds per year. This indicates to us that if sources attempted to remove their PM controls they would not be able to meet the chromium limit.

In the 2014 supplemental proposal, we also withdrew our proposal to include an affirmative defense to civil penalties for violations of emission limits that are caused by malfunctions (79 FR 68015).

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[23] Testing was conducted at the Certainteed, Inc. facility in Mountaintop, PA in December 1991, October 1995, and during several tests conducted during the 1998–1999 time period for the state compliance reports.

2. How did the GACT analysis change for Wool Fiberglass Manufacturing area sources?

In response to comments on our proposed chromium compounds limits, and as discussed in section VI.A of this preamble, we are finalizing a chromium compounds emission limit for gas-fired glass-melting furnaces for major sources at wool fiberglass manufacturing facilities of 0.00025 pounds per ton of glass pulled. Consistent with our November 2014 supplemental proposal, we are not finalizing a PM emissions limit for gas-fired glass-melting furnaces at area sources.

Based on comments we received in response to the November 2014 supplemental proposal, we again reviewed the cost and control options and found using new cost information that the limit as proposed was not as cost effective as we initially believed. We determined that it was appropriate to modify the proposed limit of 0.00006 pounds per ton of glass pulled because the cost effectiveness for the emission reduction option was $660,000 per pound of chromium reduced for the raw material substitution option, and $620,000 per pound chromium reduced for the furnace rebuild option. We believe these costs are not reasonable compared to other cases where the EPA has regulated highly toxic pollutants, such as hexavalent chromium. We, therefore, reviewed the data to determine whether a higher limit than previously proposed would be more cost effective while still significantly reducing chromium emissions from wool fiberglass gas-fired glass-melting furnaces. We found that all gas-fired glass-melting furnaces located at wool fiberglass area sources currently emit chromium compounds at rates below 0.00025 pounds per ton of glass pulled. These area sources together emit 18 pounds of chromium compounds annually.

We compared the chromium emission reductions that would have resulted under the previously proposed emission limit of 0.00006 pounds per ton of glass pulled to the reductions that result from the final limit of 0.00025 pounds per ton of glass pulled. The limit of 0.00006 pounds per ton of glass pulled would have resulted in a chromium emissions reduction of 8.5 pounds per year at area sources. The final limit of 0.00025 pounds per ton of glass pulled does not result in any chromium emissions reductions. This is due to the overall low emissions of chromium at area sources based on the most recent test data. The furnaces at area sources are mostly new furnaces of advanced design. While immediate emission reductions would not be realized, this final limit sets a backstop so that another high-chromium-emitting, gas-fired glass-melting furnace cannot be operated at an area source in this industry. This is important for this industry because certain furnaces have been shown to emit increasing amounts of chromium as their high-chromium refractory lining begins to degrade.

We revised our GACT analysis as two approaches could be used by industry to reduce chromium emissions from gas-fired furnaces. One approach is to rebuild the furnace at an annualized cost of $462,000 per year per furnace, and the other is to replace one raw material (cullet) with another material (raw minerals), which the industry stated would result in lower chromium emissions, at an average cost of about $1.3 million per year, depending on the production rate of each area source facility. Industry test data show that area sources will need to maintain their currently low levels of chromium emissions to meet the 0.00025 pounds per ton limit.

Further, in evaluating available technology at area sources, we also considered the furnace technology for gas-fired glass-melting furnaces in use at major sources. Under CAA section 112(d)(5), we may set the GACT emission limit for area sources that provides for the use of generally available control technologies to reduce HAP, and we are not precluded from setting the limits for area sources equivalent to the limits for major sources. In this instance, as previously explained, there are no differences between gas-fired glass-melting furnaces in use at area and major sources. Moreover, major sources become area sources only by virtue of eliminating formaldehyde from their processes. Therefore, we believe that the control measure for reducing chromium emissions (*i.e.,* furnace rebuild) used by major sources is generally available for area sources, and we are finalizing the same emission limit of 0.00025 pounds total chromium per ton of glass pulled for gas-fired glass-melting furnaces at area sources, under CAA section 112(d)(5).

3. What key comments did we receive on the GACT analysis for Wool Fiberglass Manufacturing area sources, and what are our responses?

We received comments in support of and against our GACT analyses. The following is a summary of the key comments received regarding the GACT analysis for area sources in the Wool Fiberglass Manufacturing source category and our responses to these comments. Additional comments on the risk assessment and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2010–1042).

Comment: One commenter asserted that the EPA has not met procedural requirements necessary to regulate area sources under CAA section 112. The commenter contended that the EPA does not have the authority to list or regulate area sources under CAA section 112 unless the agency first finds that the source category presents a threat of adverse effects to human health or the environment. The commenter argued that the EPA's own risk assessment indicates ''risks due to hexavalent chromium and formaldehyde are acceptable.'' In the commenter's opinion ''all the EPA has done is claim that: (1) Because area sources, like major sources, contribute chromium compounds, and (2) because many sources that once were major sources have since become area sources, it follows that area sources should also be regulated.'' Further, the commenter stated that the EPA, in listing area sources, has not complied with section 307 of the CAA, which requires the EPA to provide to the public a summary of the basis for its decision to list the wool fiberglass industry as an area source (*i.e.,* factual data underlying the decision, methodology used in obtaining data, and the major legal interpretations and policy considerations underlying the proposal). The commenter also argued that section 553 of the Administrative Procedures Act (APA) mandates a ''notice and comment'' period for the EPA's decision to list this industry as an area source due to an ''adverse effects'' finding, to give stakeholders an opportunity to comment on findings that form the basis of the proposed rulemaking.

Response: In section II.D of the preamble to our 2013 supplemental proposal (78 FR 22375, April 15, 2013), we presented the legal basis for our decision to add gas-fired glass-melting furnaces to the list of area source categories to be regulated. Sections 112(c) and 112(k) of the CAA require the EPA to identify and list the area source categories that represent not less than 90 percent of the emissions of the 30 urban air toxics associated with area sources and subject them to standards under the CAA section 112(d). Specifically, sections 112(c)(3) and 112(k)(3)(B)(ii) of the CAA require the EPA to list area sources representing 90 percent or more of emissions of the 30 urban HAP regardless of whether the EPA has issued an adverse effects finding for each individual area source category that contributes to achieving the 90 percent emissions goal.

As documented in the preamble to the 2013 supplemental proposal (78 FR 22375, April 15, 2013) and in the memorandum ''Technical Memorandum—Emission Standards for Meeting the 90 Percent Requirement under Section 112(c)(3) and Section 112(k)(3)(B) of the Clean Air Act'' (February 18, 2011; EPA–HQ–OAR–2010–1042–0262), the EPA has achieved the 90 percent reduction of national chromium emissions required by the Strategy; however, as further stated in the 2013 supplemental proposal, nothing in the CAA prevents the agency from going beyond the statutory minimum of 90 percent, especially if generally available control technology for the source category is available at a reasonable cost. Indeed, to date, we have established emission standards for sources accounting for almost 100 percent of area source emissions of certain urban HAP (*e.g.,* 99 percent of arsenic and beryllium compound emissions).

Regarding the commenter's opinion that the reason the EPA is regulating gas-fired glass-melting furnaces as area sources is that these sources were once regulated under the NESHAP and that they are similar to major sources, the EPA did discuss these facts in the preamble to the 2013 supplemental proposal (78 FR 22382, April 15, 2013). These facts serve to inform the EPA's understanding of this area source category, but they are not the reason the EPA is regulating these area sources. The EPA is regulating gas-fired furnaces located at area sources to comply with the Strategy to address the annual emissions of chromium from these sources, as the EPA explained in the preamble to the 2013 supplemental proposal (78 FR 22375, April 15, 2013). In doing so, the EPA is addressing the high levels of chromium emissions, in particular hexavalent chromium emissions. As explained in the 2013 supplemental proposal preamble, gas-fired glass-melting furnaces in this source category have the potential to emit high emissions of chromium and to experience emission increases in the future:

> ''. . . we have determined that gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities can emit higher levels of metal HAP, and also higher than expected levels of chromium than electric glass-melting furnaces. This is due to the use of high chromium refractories above the glass melt line, and use of these refractories is essential to obtain the desired glass-melting furnace life. Also, the industry has indicated that the current trend is to replace air-gas glass-melting furnaces with oxyfuel glass-melting furnaces. Oxyfuel glass-melting furnaces have the highest potential for elevated chromium emissions as discussed further in section IV.A of this preamble. Accordingly, we believe it is appropriate to add gas-fired glass-melting furnaces at wool fiberglass manufacturing facilities that are located at area sources to the list of area sources regulated in the Urban Air Toxics Program.'' (78 FR 22377, April 15, 2013)

Based on the chromium emissions data for gas-fired glass-melting furnaces in the source category available to the EPA, we have established that emissions for a furnace can vary according to its type, design, operation, and age. The EPA provided an example in the preamble to the 2013 supplemental proposal of such variability for the CertainTeed's Kansas City facility, the highest-emitting glass-melting furnace, for which chromium emissions (93 percent of which were in the hexavalent state) increased from 5 pounds per year to 540 pounds per year over a period of 7 years (78 FR 22381). These facts demonstrate the current and potential future high levels of chromium emitted from area sources. Further, the EPA has clearly indicated the high level of health risk associated with chromium emissions. In the preamble to the 2013 supplemental proposal, the EPA stated ''Hexavalent chromium inhalation is associated with lung cancer, and EPA has classified it as a Class A known human carcinogen, per EPA's classification system for the characterization of the overall weight of evidence for carcinogenicity'' (78 FR 22374, April 15, 2013).

Regarding the comment that the EPA has not complied with section 307 of the CAA because it has not provided to the public a summary of the basis for its decision to list gas-fired glass-melting furnaces as area sources (*i.e.,* factual data underlying the decision, methodology used in obtaining data, and the major legal interpretations and policy considerations underlying the proposal), the EPA disagrees. We stated our intention in our 2013 supplemental proposal to exceed the 90 percent threshold for chromium emissions under the Strategy by listing gas-fired glass-melting furnaces at area sources (78 FR 22376, April 15, 2013), and we made clear our intent to regulate chromium due to the toxicity of the substance (78 FR 22374, April 15, 2013). We did not conduct a health assessment and finding for chromium from this area source category because we are not obligated to do so under sections 112(c)(3), (d)(5), or (k) of the CAA. For example, in our notice of revision to the area source category list in 2002 (67 FR 70427, November 22, 2002), we listed 23 new source categories as area sources to meet or exceed the 90 percent threshold for all 30 HAP addressed by the Strategy, and the document included no risk-based rationale for listing each source category that exceeded the 90 percent target.

Further, regarding the comment that the EPA has not complied with APA section 553 and section 307 of the CAA, we described our methodology for collecting these emissions data, as described in section II.E of the 2013 supplemental proposal preamble (78 FR 22376, April 15, 2013), and provided an opportunity for comment following that supplemental proposal. Regarding the legal basis for our listing area sources in section II.D, we presented this information in section II.E of the preamble to the 2013 supplemental proposal (78 FR 22376, April 15, 2013) in compliance with section 307.

Comment: One commenter objected to the proposed regulation of area sources because it is inappropriate and unjustified for the EPA to draw firm conclusions at this time about the need to regulate area sources, in particular regarding a threat of adverse effects to human health from area sources. The commenter contended that the EPA's assessment of chromium emissions from the major source category in the 2011 proposal was fundamentally flawed and did not support the 2011 proposal, and that the EPA admitted in the 2011 proposal preamble that it must collect more information before drawing a conclusion regarding the wool fiberglass area source category and ''a threat of adverse effects to human health or the environment.'' The commenter argued that both of these facts reflect on the EPA's readiness to regulate area sources. The commenter further observed that the EPA may regulate a category of area sources only after making a finding under CAA section 112(c)(3) that HAP emissions from such source category present ''a threat of adverse effects to human health or the environment'' that warrant regulation.

Another commenter objected to the proposed regulation of area sources, given the limited value such a rule would provide. The commenter stated that the majority of wool fiberglass manufacturers are no longer major sources, observing that the most significant change since 1999 is the voluntary substitution of phenol/formaldehyde binders with non-phenol/formaldehyde binders, resulting in reduction in HAP emissions from this industry of the chief HAP regulated by the Wool Fiberglass MACT Standard.

The commenter suggested that the health risk arising from the production of wool fiber glass insulation products has been significantly and sufficiently reduced and that any remaining residual risk does not justify subjecting the industry to additional regulatory requirements in the form of an area source standard.

Response: As described in the preamble to the April 2013 supplemental proposal (78 FR 22379), the EPA conducted a CAA section 114 survey to collect additional test data on chromium emissions from glass-melting furnaces, so that the EPA would have test data for all glass-melting furnaces. The area source standards proposed in 2013 and being finalized in this rulemaking are based on this complete set of emission data. Regarding the comments that there is insufficient health risk to warrant regulation of area sources and that the EPA is required to establish a ''threat of adverse health effects'' to regulate area sources, as noted in the comment above, the legal basis for our decision to add gas-fired glass-melting furnaces to the list of area source categories to be regulated is based on sections 112(c) and 112(k) of the CAA which require the EPA to identify and list the area source categories that represent not less than 90 percent of the emissions of the 30 urban air toxics associated with area sources and subject them to standards under the CAA section 112(d), and is not based on CAA section 112(c)(3).

4. What is the rationale for our final approach for the GACT analysis for Wool Fiberglass Manufacturing area sources?

Because of the considerations discussed above in this preamble, as well as in the preamble for the November 2014 supplemental proposal and in the comment summary and response document available in the docket (EPA–HQ–OAR–2010–1042), we are finalizing revised GACT standards.

B. What are the final requirements for the Wool Fiberglass Manufacturing area sources?

In this action, we are revising the proposed chromium emission limit for gas-fired, glass-melting furnaces from 0.00006 to 0.00025 pounds of total chromium per ton of glass pulled, based on our re-assessment of emissions data for newly-rebuilt furnaces (see section VI.A.2 of this preamble for a discussion of the basis of the revised emission limit for chromium compounds). We are also requiring that facilities at both major and area sources establish the materials mix, including the percentages of raw minerals and cullet used in gas-fired glass-melting furnaces during the performance test conducted to demonstrate compliance with the chromium emission limit. The source must maintain the percentage of cullet in the raw material mixture at or below the level established during the most recent performance test showing compliance with the standard. If the gas-fired glass-melting furnace uses 100-percent cullet during the performance test and is in compliance with the chromium emissions limit, then the source is not required to monitor cullet usage. Other requirements for Wool Fiberglass Manufacturing area sources, including startup and shutdown, compliance dates, test methods, monitoring, recordkeeping, and reporting are the same requirements as those specified for major source facilities in 40 CFR part 63, subpart NNN. Therefore, 40 CFR part 63, subpart NN cites 40 CFR part 63, subpart NNN, for these requirements.

C. What are the effective and compliance dates of the standards for Wool Fiberglass Manufacturing area sources?

The GACT standards for gas-fired glass-melting furnaces located at Wool Fiberglass Manufacturing area sources being promulgated in this action are effective on July 29, 2015. The compliance date for existing sources is July 31, 2017. New sources must comply with the all of the standards immediately upon the effective date of the standard, July 29, 2015, or upon initial startup, whichever is later.

The effective and compliance dates finalized in this action are consistent with the dates we presented in the 2014 supplemental proposal.

D. What are the requirements for submission of performance test data to the EPA for Wool Fiberglass Manufacturing area sources?

The requirements for electronic reporting of performance test data for wool fiberglass manufacturing area sources are the same as the requirements for the mineral wool production source category. See section III.G of this preamble for a description of the requirements.

VIII. Summary of Cost, Environmental and Economic Impacts and Additional Analyses Conducted

A. What are the affected facilities?

1. Mineral Wool Production Source Category

We estimate that there are eight mineral wool facilities that are major sources and, therefore, would be subject to the final NESHAP provisions.

2. Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

We estimate that there are 30 facilities in this source category (10 major sources and 20 area sources). Based on the responses to the CAA section 114 ICR, we believe that two of the 10 wool fiberglass manufacturing facilities that are major sources would rebuild two furnaces before the end of their operational lifecycles. We believe that all furnaces at area sources can comply with the final chromium emission limit without rebuilding before the end of their operational lifecycles.

B. What are the air quality impacts?

1. Mineral Wool Production Source Category

Emissions of HAP from mineral wool production facilities have declined over the last decade as a result of federal and state rules and the industry's own initiatives. The amendments we are finalizing in this action would maintain COS, formaldehyde, phenol, and methanol emissions at their current low levels.

2. Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

We expect that these final RTR amendments would result in reductions of 524 pounds of chromium compounds, 490 pounds of which is in the hexavalent form. Available information indicates that all affected facilities will be able to comply with the final work practice standards for HF and HCl without additional controls, and that there will be no measurable reduction in emissions of these gases.

Also, we anticipate that there will be continued reductions in PM emissions due to these final PM standards, which all sources currently are meeting due to the use of well-performing PM controls. Industry comments, statements, and sources in the technical literature indicate that as sources of industrial oxygen become available in areas proximate to wool fiberglass facilities, such sources will convert their existing furnaces to oxyfuel technology. As described in the ''Mechanisms of Chromium Emissions From Wool Fiberglass Glass-Melting Furnaces,'' June 2015, PM emissions are greatly reduced compared to electric furnaces and air-gas furnace technology.

Indirect or secondary air quality impacts include impacts that will result from the increased electricity usage associated with the operation of control devices. We do not anticipate significant secondary impacts from the final amendments to the Wool Fiberglass Manufacturing MACT.

C. What are the cost impacts?

1. Mineral Wool Production Source Category

All lines currently in operation can meet the emission limits finalized in this action without installing new control equipment or using different input materials. The total annualized costs for these final amendments are estimated at $48,800 (2013 dollars) for additional testing and monitoring.

2. Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

The capital costs for each facility were estimated based on the ability of each facility to meet the final emissions limits for PM, chromium compounds, formaldehyde, phenol, and methanol. The memorandum, ''Cost Impacts of the Final NESHAP RTR Amendments for the Wool Fiberglass Manufacturing Source Category,'' includes a complete description of the cost estimate methods used for this analysis and is available in the docket.

There are a total of eight gas-fired glass-melting furnaces located at five major source facilities. Compliance testing is $10,000 per furnace, resulting in total testing costs for glass-melting furnaces of $80,000. At this time, there are two facilities with a total of two gas-fired glass-melting furnaces that do not meet the final emissions limit for chromium compounds. We anticipate that these facilities would opt to reduce the operational lifecycle for both of the gas-fired glass-melting furnaces.

Based on the public comments and information received in response to November 2014 supplemental proposal, we revised our cost estimate from reducing the operational furnace lifecycle (from 10 to 7 years), to a cost estimate for rebuilding gas-fired glass-melting furnaces. In this cost estimate, we included the cost of transferring production to another facility while the furnace is being rebuilt.

For major sources, the estimated capital cost of rebuilding the furnace is $10.7 million per furnace with a total annualized cost of $462,000 per furnace.

Two major source facilities operate 13 FA manufacturing lines, and, therefore, would incur testing costs (annualized cost of $10,400 in 2013 dollars). The total annualized costs for the final amendments to the Wool Fiberglass Manufacturing NESHAP for major sources are estimated at $1.01 million (2013 dollars).

Of the 20 area source facilities, five facilities operate a total of eight gas-fired glass-melting furnaces. Under these final amendments, none of the area source wool fiberglass facilities will incur any capital costs to comply with the final chromium compounds emissions limit. Five area source facilities would be subject to new costs for compliance testing on gas-fired glass-melting furnaces, which will total $80,000 annually (2013 dollars).

D. What are the economic impacts?

1. Mineral Wool Production Source Category

As noted in the November 2014 supplemental proposal (79 FR 68025), we performed an economic impact analysis for mineral wool consumers and producers nationally. The impacts to producers affected by this final rule are annualized costs of less than 0.01 percent of their revenues, using 2013 year revenue data to be consistent with the cost year for our analysis. Prices and output for mineral wool products should increase by no more than the impact of cost to revenues for producers; thus, mineral wool prices should increase by less than 0.01 percent. Hence, the overall economic impact of this final rule would be negligible to the affected industries and their consumers. For more information, please refer to the ''Economic Impact and Small Business Analysis'' for this final rulemaking that is in the docket (EPA–HQ–OAR–2010–1042).

2. Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

We performed an economic impact analysis for wool fiberglass consumers and producers nationally, using the annual compliance costs estimated for both the RTR and area source final rules. The impacts to producers affected by this final rule are annualized costs of less than 0.01 percent of their revenues, using 2013 revenue data to be consistent with the cost year for our analysis. Prices and output for wool fiberglass products should increase by no more than the impact on cost to revenues for producers; thus, wool fiberglass prices should increase by less than 0.01 percent. Hence, the overall economic impact of this final rule would be negligible on the affected industries and their consumers. For more information, please refer to the ''Economic Impact and Small Business Analysis'' for this final rulemaking that is in the docket (EPA–HQ–OAR–2010–1042).

E. What are the benefits?

1. Mineral Wool Production Source Category

The amendments we are finalizing in this action will maintain the reductions in COS, formaldehyde, phenol, and methanol emissions that the industry has achieved over time at their currently low levels.

2. Wool Fiberglass Manufacturing Source Category (Major and Area Sources)

We estimate that this action will achieve HAP emissions reduction of 524 pounds per year of chromium compounds from the Wool Fiberglass Manufacturing source category. The final standards will result in significant reductions in the actual and MACT-allowable emissions of chromium compounds and will reduce the actual and potential cancer risks and non-cancer health effects due to emissions of chromium compounds from this source category.

In the November 2014 supplemental proposal (79 FR 68026), we estimated that the proposed emission limits for FA and RS manufacturing lines would reduce organic HAP emissions by 123 tons per year. Based on the available data, we believe that all FA lines currently meet the final emission limits; therefore, all of the emission reductions of organic HAP presented in the 2014 supplemental proposal were attributed to RS lines. As discussed in section V.H of this preamble, we are not establishing emission limits for RS manufacturing lines in this final action. Consequently, the emissions limits for formaldehyde, methanol, and phenol finalized in this action do not achieve reductions of organic HAP; however, the emission limits codify the reductions in organic HAP from FA lines that have been achieved by the industry since the 1999 NESHAP was promulgated. We have issued a CAA section 114 ICR to obtain process and emissions data for RS manufacturing lines and we will evaluate RTR limits for these sources, based on the CAA section 114 ICR data, at a future date.

F. What analysis of environmental justice did we conduct?

The EPA is making environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations in the United States. The EPA has established policies regarding the integration of environmental justice into the agency's rulemaking efforts, including recommendations for the consideration and conduct of analyses to evaluate potential environmental justice concerns during the development of a rule.

Following these recommendations, to gain a better understanding of the source category and near source populations, the EPA conducted a proximity analysis for mineral wool production and wool fiberglass manufacturing facilities prior to proposal to identify any overrepresentation of minority, low income, or indigenous populations. This analysis gives an indication of the prevalence of sub-populations that may be exposed to air pollution from the sources.

The EPA also conducted a risk-based socio-economic analysis for populations living near wool fiberglass facilities titled ''Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Wool Fiberglass Facilities,'' which is available in the docket. The analysis indicated that 1,207,000 individuals living within 50 km of the wool fiberglass facilities have a cancer risk of 1-in-1 million or greater due to emissions from wool fiberglass facilities. The specific demographic results indicate that the percentage of minority population potentially impacted by emissions from wool fiberglass facilities (*i.e.,* within 50 km) is greater than the national minority percentage (44 percent for the source category compared to 28-percent nationwide). Furthermore, other demographic groups with source category percentages greater than the corresponding national percentage include: The population over 25 without a high school diploma (18 percent compared to 15 percent); the population from 18 to 64 years of age (66 percent compared to 63 percent), and the population below the poverty level (15 percent compared to 14 percent). The other demographic categories potentially impacted by emissions from wool fiberglass facilities (*i.e.,* African American, Native American, ages less than 18, and ages 65 and up) are less than or equal to the corresponding national percentage.

The EPA's integration of environmental justice into the agency's rulemaking efforts was also thoroughly demonstrated by EPA's Region 7 response to emissions data obtained through this rulemaking. Region 7 proactively engaged the local community and identified potential environmental concerns; conducted air monitoring and modeling; and opened lines of communication and launched several opportunities for the community to voice concerns, ask questions, and receive additional information. Additionally, EPA Headquarters and Region 7 worked together to provide resources for communities, as well as to ensure that feedback received from the Region 7 communities was being considered in this rulemaking.

Through our analyses, the EPA has determined that these final rules for 40 CFR part 63, subparts NN, DDD, and NNN will not have disproportionately high and adverse human health or environmental effects on minority, low income, or indigenous populations. Additionally, the final changes to the NESHAP for Mineral Wool Production and Wool Fiberglass Manufacturing source categories increase the level of environmental protection for all affected populations by reducing emissions of chromium compounds by over 524 pounds per year and will not cause any disproportionately high and adverse human health or environmental effects on any population, including any minority, low income, or indigenous populations. Our demographic analysis shows that disproportionately impacted minority areas will benefit from the lower emissions. Further details concerning this analysis are presented in the memorandum titled, ''Updated Environmental Justice Review: Mineral Wool Production and Wool Fiberglass Manufacturing RTR,'' a copy of which is available in the dockets for this action.

G. What analysis of children's environmental health did we conduct?

As part of the health and risk assessments, risk-based demographic analysis conducted for this action, risks to infants and children were assessed. This analysis is documented in the following memoranda which are available in the dockets for this action:

- ''Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing Source Categories in Support of the June 2015 Final Rule''
- ''Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Wool Fiberglass Facilities''

The results of the risk-based socio-economic analysis for populations living near wool fiberglass facilities indicates that there are 1,207,000 individuals living within 50 km of the wool fiberglass facilities have a cancer risk of 1-in-1-million or greater (based on actual emissions). The distribution of the population with risks above 1-in-1 million is 24 percent for ages 0 to 17, 66 percent for ages 18 to 64, and 10 percent for ages 65 and up. Children ages 0 to 17 also constitute 24 percent of the population nationwide. Therefore, the analysis shows that actual emissions from wool fiberglass facilities do not have a disproportionate impacts on children ages 0 to 17.

The results of the demographic analysis show that the average percentage of children 17 years and younger in close proximity to mineral wool production and wool fiberglass manufacturing facilities is similar to the percentage of the national population in this age group. The difference in the absolute number of percentage points of the population 17 years and younger from the national average indicates a 7-percent over-representation near mineral wool production and wool fiberglass manufacturing facilities.

Consistent with the EPA's ''Policy on Evaluating Health Risks to Children'', we conducted inhalation and multipathway risk assessments for the Mineral Wool Production and Wool Fiberglass Manufacturing source categories considering risk to infants and children.[24] Children are exposed to chemicals emitted to the atmosphere via two primary routes: Either directly via inhalation, or indirectly via ingestion or dermal contact with various media that have been contaminated with the emitted chemicals. The EPA considers the possibility that children might be more sensitive than adults might be to toxic chemicals, including chemical carcinogens.

For our multipathway screening assessment (*i.e.,* ingestion), we assessed risks for adults and various age groups of children to determine what age group was most at risk for purposes of developing the screening/emission threshold for each persistent and bioaccumulative—HAP (PB–HAP). Childrens' exposures are expected to differ from exposures of adults due to differences in body weights, ingestion rates, dietary preferences, and other factors. It is important, therefore, to evaluate the contribution of exposures during childhood to total lifetime risk using appropriate exposure factor values, applying age-dependent adjustment factors (ADAF) as appropriate. The EPA developed a health protective exposure scenario whereby the receptor, at various lifestages, receives ingestion exposure via both the farm food chain and the fish ingestion pathways.

Based on the analyses described above, the EPA has determined that the

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[24] Policy on Evaluating Health Risks to Children, U.S. Environmental Protection Agency, Washington, DC. May 2014. Available at *http://www2.epa.gov/sites/production/files/2014-05/documents/1995_childrens_health_policy_statement.pdf.*

changes to these rules, which will reduce emissions of chromium compounds by over 524 pounds per year, will lead to reduced risk to children and infants. The final amendments will also codify the reductions in emissions (COS, formaldehyde, phenol, and methanol from mineral wool facilities, and formaldehyde, methanol, and phenol from wool fiberglass facilities) that the industries have achieved since the NESHAP for the respective source categories were promulgated in 1999.

IX. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/lawsregulations/laws-and-executive-order.*

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in these rules have been submitted for approval to the OMB under the PRA. The ICR document that the EPA prepared for the Mineral Wool Production source category has been assigned EPA ICR number 1799.06. The ICR document that the EPA prepared for the Wool Fiberglass Manufacturing source category has been assigned EPA ICR number 1160.10. You can find a copy of these ICRs in the dockets for these rules, and they are briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information requirements in these rulemakings are based on the notification, recordkeeping and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These notifications, reports and records are essential in determining compliance, and are specifically authorized by CAA section 114 (42 U.S.C. 7414).

Mineral Wool Production source category:

Respondents/affected entities: Existing, new, or reconstructed mineral wool production facilities that are major sources.

Respondent's obligation to respond: Mandatory (42 U.S.C 7414).

Estimated number of respondents: 8.

Frequency of response: Annual.

Total estimated burden: 123 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $25,150 (per year), includes $0 annualized capital or operation and maintenance costs.

Wool Fiberglass Manufacturing source category (major sources):

Respondents/affected entities: Existing, new, or reconstructed wool fiberglass manufacturing facilities that are major sources.

Respondent's obligation to respond: Mandatory (42 U.S.C 7414).

Estimated number of respondents: 10.

Frequency of response: Annual.

Total estimated burden: 156 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $46,142 (per year), includes $0 annualized capital or operation & maintenance costs.

Wool Fiberglass Manufacturing source category (area sources):

Respondents/affected entities: Existing, new, or reconstructed gas-fired glass-melting furnaces at a wool fiberglass manufacturing facility that are located at a plant site that is an area source.

Respondent's obligation to respond: Mandatory (42 U.S.C 7414).

Estimated number of respondents: 5.

Frequency of response: Annual.

Total estimated burden: 78 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $32,334 (per year), includes $0 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. Five of the eight mineral wool production parent companies affected in the final rule are considered to be small entities per the definition provided in this section. There are no small businesses in the Wool Fiberglass Manufacturing source category. We estimate that these final rules will not have a significant economic impact on any of those companies.

While there are some costs imposed on affected small businesses as a result of these rulemakings, the costs associated with this action are less than the costs associated with the limits proposed on November 25, 2011. Specifically, the cost to small entities in the Mineral Wool Production source category due to the changes in COS, HF, and HCl are lower as compared to the limits proposed on November 25, 2011, and April 15, 2013. None of the five small mineral wool parent companies is expected to have an annualized compliance cost of greater than 1 percent of its revenues. All other affected parent companies are not small businesses according to the SBA small business size standard for the affected NAICS code (NAICS 327993). Therefore, we have determined that the impacts for this final rule do not constitute a significant economic impact on a substantial number of small entities.

Although these final rules would not have a significant economic impact on a substantial number of small entities, the EPA nonetheless has tried to mitigate the impact that these rules would have on small entities. The actions we took to mitigate impacts on small businesses include less frequent compliance testing for the entire mineral wool industry and subcategorizing the Mineral Wool Production source category in developing the proposed COS, HF and HCl emissions limits. For more information, please refer to the economic impact and small business analysis that is in the docket.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments, or on the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. These final rules impose requirements on owners and operators of specified area and major sources, and not tribal governments. There are no wool fiberglass manufacturing facilities or mineral wool production facilities owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in sections IV.A, VI.A, VIII.F, VIII.G of this preamble and in the ''Residual Risk Assessment for the Mineral Wool Production and Wool Fiberglass Manufacturing Source Categories'' memorandum available in the dockets for this rulemaking.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking involves technical standards. Therefore, the EPA conducted searches for the Wool Fiberglass Manufacturing Area Source NESHAP through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We also contacted voluntary consensus standards (VCS) organizations and accessed and searched their databases.

As discussed in the November 2014 supplemental proposal (79 FR 68029), under 40 CFR part 63 subpart DDD, we conducted searches for EPA Methods 5, 318, and 320 of 40 CFR part 60, Appendix A. Under 40 CFR part 63, subpart NNN, we conducted searches for EPA Methods 5, 318, 320, 29, and 0061 of 40 CFR part 60, Appendix A. Under 40 CFR part 63, subpart NN, we conducted searches for EPA Methods 5 and 29. These searches did not identify any VCS that were potentially applicable for this rule in lieu of EPA reference methods. The EPA solicited comments on VCS and invited the public to identify potentially-applicable VCS; however, we did not receive comments regarding this aspect of 40 CFR part 63, subparts NN, DDD, or NNN.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment. As explained in the November 2014 supplemental proposal (79 FR 68029), the EPA determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. Further details concerning this analysis are presented in the memorandum titled, ''Updated Environmental Justice Review: Mineral Wool Production and Wool Fiberglass Manufacturing RTR'', a copy of which is available in the dockets for this action. Additionally, the EPA engaged meaningfully with communities throughout this rulemaking process, to help them engage in the rulemaking process and to get their feedback on the proposed rulemaking. Also, EPA worked closely with Region 7, to ensure that communities that raised concerns by the sectors covered in this rulemaking, were being adequately engaged throughout this process.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Mineral wool production, Reporting and recordkeeping requirements, Wool fiberglass manufacturing.

Dated: June 25, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, part 63 of title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Subpart NN is added to part 63 to read as follows:

Subpart NN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources

Subpart NN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources

§ 63.880 Applicability.

(a) The requirements of this subpart apply to the owner or operator of each wool fiberglass manufacturing facility that is an area source or is located at a facility that is an area source.

(b) The requirements of this subpart apply to emissions of chromium compounds, as measured according to the methods and procedures in this subpart, emitted from each new and existing gas-fired glass-melting furnace located at a wool fiberglass manufacturing facility that is an area source.

(c) The provisions of subpart A of this part that apply and those that do not apply to this subpart are specified in Table 1 to this subpart.

(d) Gas-fired glass-melting furnaces that are not subject to subpart NNN of this part are subject to this subpart.

(e) Gas-fired glass-melting furnaces using electricity as a supplemental energy source are subject to this subpart.

§ 63.881 Definitions.

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, or in this section as follows:

Bag leak detection system means systems that include, but are not limited to, devices using triboelectric, light scattering, and other effects to monitor relative or absolute particulate matter emissions.

Gas-fired glass-melting furnace means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric glass-melting furnaces as defined in subpart NNN of this part are not gas-fired glass-melting furnaces.

Glass pull rate means the mass of molten glass that is produced by a single glass-melting furnace or that is used in the manufacture of wool fiberglass at a single manufacturing line in a specified time period.

Incinerator means an enclosed air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases. For the purposes of this subpart, the term ''incinerator'' means ''regenerative thermal oxidizer''.

Manufacturing line means the manufacturing equipment for the production of wool fiberglass that consists of a forming section where molten glass is fiberized and a fiberglass mat is formed and which may include a curing section where binder resin in the mat is thermally set and a cooling section where the mat is cooled.

New source means any affected source the construction or reconstruction of which is commenced after April 15, 2013.

Wool fiberglass means insulation materials composed of glass fibers made from glass produced or melted at the same facility where the manufacturing line is located.

Wool fiberglass manufacturing facility means any facility manufacturing wool fiberglass.

§ 63.882 Emission standards.

(a) *Emission limits for gas-fired glass-melting furnaces.* For each existing, new, or reconstructed gas-fired glass-melting furnace, on and after the compliance date specified in § 63.887 whichever date is earlier, you must not discharge or cause to be discharged into the atmosphere emissions in excess of 0.00025 lb of chromium compounds per ton of glass pulled (0.25 lb per thousand tons glass pulled).

(b) *Operating limits.* On and after the date on which the performance test required by §§ 63.7 and 63.1384 is completed, you must operate all affected control equipment and processes according to the following requirements.

(1)(i) You must initiate corrective action within one hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the bag leak detection system alarm is sounded for more than 5 percent of the total operating time in a 6-month block reporting period.

(2)(i) You must initiate corrective action within one hour when any 3-hour block average of the monitored electrostatic precipitator (ESP) parameter is outside the limit(s) established during the performance test as specified in § 63.884 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the monitored ESP parameter is outside the limit(s) established during the performance test as specified in § 63.884 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) You must operate the ESP such that the monitored ESP parameter is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(3)(i) You must initiate corrective action within one hour when any 3-hour block average value for the monitored parameter(s) for a gas-fired glass-melting furnace, which uses no add-on controls, is outside the limit(s) established during the performance test as specified in § 63.884 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the monitored parameter(s) is outside the limit(s) established during the performance test as specified in § 63.884 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) You must operate a gas-fired glass-melting furnace, which uses no add-on technology, such that the monitored parameter(s) is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(4)(i) You must initiate corrective action within one hour when the average glass pull rate of any 4-hour block period for gas-fired glass-melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass-melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in § 63.884, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in § 63.884 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) You must operate each gas-fired glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the most recent successful performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

(5)(i) You must initiate corrective action within one hour when the average pH (for a caustic scrubber) or pressure drop (for a venturi scrubber) for any 3-hour block period is outside the limits established during the performance tests as specified in § 63.884 for each wet scrubbing control device and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) You must implement a Quality Improvement Plan consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when any scrubber parameter is outside the limit(s) established during the performance test as specified in § 63.884 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) You must operate each scrubber such that each monitored parameter is not outside the limit(s) established during the performance test as specified in § 63.884 for more than 10 percent of the total operating time in a 6-month block reporting period.

§ 63.883 Monitoring requirements.

You must meet all applicable monitoring requirements contained in subpart NNN of this part.

§ 63.884 Performance test requirements.

(a) If you are subject to the provisions of this subpart you must conduct a performance test to demonstrate compliance with the applicable emission limits in § 63.882. For existing sources, compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in § 63.882 by July 31, 2017. For new sources compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in § 63.882 by January 25, 2016 or 180 days after initial startup, whichever is later. You must conduct the performance test according to the procedures in subpart A of this part and in this section.

(b) You must meet all applicable performance test requirements contained in subpart NNN of this part.

§ 63.885 Test methods and procedures.

(a) You must use the following methods to determine compliance with the applicable emission limits:

(1) Method 1 at 40 CFR part 60, appendix A–1 for the selection of the sampling port location and number of sampling ports;

(2) Method 2 at 40 CFR part 60, appendix A–1 for volumetric flow rate;

(3) Method 3 or 3A (40 CFR part 60, appendix A–2) for oxygen and carbon dioxide for diluent measurements needed to correct the concentration measurements to a standard basis;

(4) Method 4 at 40 CFR part 60, appendix A–4 for moisture content of the stack gas;

(5) Method 29 (40 CFR part 60, appendix A–8) for the concentration of chromium compounds. Each run must consist of a minimum sample volume of two dry standard cubic meters.

(6) An alternative method, subject to approval by the Administrator.

(b) Each performance test must consist of three runs. You must use the average of the three runs in the applicable equation for determining compliance.

§ 63.886 Notification, recordkeeping, and reporting requirements.

You must meet all applicable notification, recordkeeping and reporting requirements contained in subpart NNN of this part.

§ 63.887 Compliance dates.

(a) *Compliance dates.* The owner or operator subject to the provisions of this subpart must be in compliance with the requirements of this subpart by no later than:

(1) Except as noted in paragraph (a)(3) of this section, the compliance date for an owner or operator of an existing source subject to the provisions in this subpart would be July 31, 2017.

(2) Except as noted in paragraph (a)(3) of this section, the compliance date for new and reconstructed sources is upon initial startup of a new gas-fired glass-melting furnace or on July 29, 2015, whichever is later.

(3) The compliance date for the provisions related to the electronic reporting provisions of § 63.886 is on July 29, 2015.

(b) *Compliance extension.* The owner or operator of an existing source subject to this subpart may request from the Administrator an extension of the compliance date for the emission standards for one additional year if such additional period is necessary for the installation of controls. You must submit a request for an extension according to the procedures in § 63.6(i)(3).

§ 63.888 Startups and shutdowns.

You must meet all applicable startup and shutdown provisions contained in subpart NNN of this part.

§§ 63.889–63.899 [Reserved]

TABLE 1 TO SUBPART NN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NN

General provisions citation	Requirement	Applies to subpart NN	Explanation
§ 63.1(a)(1)–(5)	Applicability	Yes	
§ 63.1(a)(6)		Yes	
§ 63.1(a)(7)–(9)		No	[Reserved].
§ 63.1(a)(10)–(12)		Yes	
§ 63.1(b)(1)	Initial Applicability Determination	Yes	
§ 63.1(b)(2)		No	[Reserved].
§ 63.1(b)(3)		Yes	
§ 63.1(c)(1)–(2)		Yes	
§ 63.1(c)(3)–(4)		No	[Reserved].
§ 63.1(c)(5)–(e)		Yes	
§ 63.2	Definitions	Yes	Additional definitions in § 63.881.
§ 63.3	Units and Abbreviations	Yes	
§ 63.4(a)(1)–(2)	Prohibited Activities	Yes	
§ 63.4(a)(3)–(5)		No	[Reserved].
§ 63.4(b)–(c)		Yes	
§ 63.5(a)–(b)(2)	Construction/Reconstruction Applicability	Yes	
§ 63.5(b)(3)–(4)		Yes	
§ 63.5(b)(5)		No	[Reserved].
§ 63.5(b)(6)		Yes	
§ 63.5(c)		No	[Reserved].
§ 63.5(d)	Application for Approval of Construction/Reconstruction.	Yes	

TABLE 1 TO SUBPART NN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NN—Continued

General provisions citation	Requirement	Applies to subpart NN	Explanation
§ 63.5(e)	Approval of Construction/Reconstruction	Yes	
§ 63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes	
§ 63.6(a)–(d)	Compliance with Standards and Maintenance Requirements.	Yes	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.882 for general duty requirements.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions As Soon As Possible.	No	
§ 63.6(e)(1)(iii)		Yes	
§ 63.6(e)(2)		No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction (SSM) Plan.	No	Startups and shutdowns addressed in § 63.888.
§ 63.6(f)(1)	SSM Exemption	No	
§ 63.6(f)(2)–(3)	Methods for Determining Compliance	Yes	
§ 63.6(g)	Use of an Alternative Nonopacity Emission	Yes	
§ 63.6(h)(1)	SSM Exemption	No	
§ 63.6(h)(2)–(j)		Yes	
§ 63.7(a)–(d)		Yes	§ 63.884 has specific requirements.
§ 63.7(e)(1)	Performance Testing	No	See § 63.882.
§ 63.7(e)(2)–(4)		Yes	
§ 63.7(f)	Alternative Test Method	Yes	
§ 63.7(g)(1)	Data Analysis	Yes	
§ 63.7(g)(2)		No	[Reserved].
§ 63.7(g)(3)		Yes	
§ 63.7(h)	Waiver of Performance Test	Yes	
§ 63.8(a)–(b)	Monitoring Requirements	Yes	
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No	See § 63.882(b) for general duty requirement.
§ 63.8(c)(1)(ii)		Yes	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No	
§ 63.8(c)(2)–(d)(2)		Yes	
§ 63.8(d)(3)	Written Procedures for CMS	Yes, except for last sentence, which refers to SSM plan. SSM plans are not required	
§ 63.8(e)–(g)		Yes	
§ 63.9(a)	Notification Requirements	Yes	
§ 63.9(b)(1)–(2)	Initial Notifications	Yes	
§ 63.9(b)(3)		No	[Reserved].
§ 63.9(b)(4)–(5)		Yes	
§ 63.9(c)–(j)		Yes	
§ 63.10(a)	Recordkeeping and Reporting-Requirements	Yes	
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes	
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No	
§ 63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.886 for recordkeeping of occurrence and duration of malfunctions and recordkeeping of actions taken during malfunction.
§ 63.10(b)(2)(iii)	Maintenance Records	Yes	
§ 63.10(b)(2)(iv)–(v)	Actions Taken to Minimize Emissions During SSM.	No	
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions	Yes	
§ 63.10(b)(2)(vii)–(xiv)	Other CMS Requirements	Yes	
§ 63.10(b)(3)	Recordkeeping Requirement for Applicability Determinations.	Yes	
§ 63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes	
§ 63.10(c)(7)–(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions.	Yes	
§ 63.10(c)(9)		No	[Reserved].
§ 63.10(c)(10)–(11)		No	See § 63.886 for recordkeeping of malfunctions.
§ 63.10(c)(12)–(14)		Yes	
§ 63.10(c)(15)	Use of SSM Plan	No	
§ 63.10(d)(1)–(4)	General Reporting Requirements	Yes	
§ 63.10(d)(5)	SSM Reports	No	See § 63.886(c)(2) for reporting of malfunctions.

TABLE 1 TO SUBPART NN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NN—Continued

General provisions citation	Requirement	Applies to subpart NN	Explanation
§ 63.10(e)–(f)	Additional CMS Reports Excess Emission/CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver.	Yes	
§ 63.11(a)–(b)	Control Device Requirements Applicability Flares.	No	Flares will not be used to comply with the emissions limits.
§ 63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes	
§ 63.11(d)	Alternative Work Practice Standard	Yes	
§ 63.11(e)	Alternative Work Practice Requirements	Yes	
§ 63.12	State Authority and Delegations	Yes	
§ 63.13	Addresses	Yes	
§ 63.14	Incorporation by Reference	Yes	
§ 63.15	Information Availability/Confidentiality	Yes	
§ 63.16	Performance Track Provisions	Yes	

Subpart DDD—National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production

■ 3. Section 63.1178 is amended by revising paragraphs (a) and (b)(3) to read as follows:

§ 63.1178 For cupolas, what standards must I meet?

(a) You must control emissions from each cupola as specified in Table 2 to this subpart.

(b) * * *

(3) Additionally, on or after the applicable compliance date for each new or reconstructed cupola, you must either:

(i) Maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test, or

(ii) Maintain the percent excess oxygen in the cupola at or above the level established during the performance test. You must determine the percent excess oxygen using the following equation:

$$\text{Percent excess oxygen} = \left(\left(\frac{\text{Oxygen available}}{\text{Fuel demand for oxygen}}\right) - 1\right) * 100$$

Where:

Percent excess oxygen = Percentage of excess oxygen present above the stoichiometric balance of 1.00, (%).

1.00 = Ratio of oxygen in a cupola combustion chamber divided by the stoichiometric quantity of oxygen required to obtain complete combustion of fuel.

Oxygen available = Quantity of oxygen introduced into the cupola combustion zone.

Fuel demand for oxygen = Required quantity of oxygen for stoichiometric combustion of the quantity of fuel present.

■ 4. Section 63.1179 is amended by revising the section heading, paragraph (a), and paragraph (b) introductory text to read as follows:

§ 63.1179 For curing ovens or combined collection/curing operations, what standards must I meet?

(a) You must control emissions from each curing oven or combined collection/curing operations as specified in Table 2 to this subpart.

(b) You must meet the following operating limits for each curing oven or combined collection/curing operation:

* * * * *

■ 5. Section 63.1180 is revised to read as follows:

§ 63.1180 When must I meet these standards?

(a) Cupolas and curing ovens or combined collection/curing operations. You must comply with the emissions limits specified in Table 2 to this subpart no later than the dates specified in Table 2 to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 6. Section 63.1182 is amended by revising the section heading, the introductory text, and paragraphs (a) and (b) to read as follows:

§ 63.1182 How do I comply with the carbon monoxide, carbonyl sulfide, hydrogen fluoride, and hydrogen chloride standards for existing, new, and reconstructed cupolas?

To comply with the carbon monoxide, carbonyl sulfide, hydrogen fluoride, and hydrogen chloride standards, you must meet the following:

(a) Install, calibrate, maintain, and operate a device that continuously measures the operating temperature in the firebox of each thermal incinerator.

(b) Conduct a performance test as specified in § 63.1188 that shows compliance with the carbon monoxide, carbonyl sulfide, hydrogen fluoride, and hydrogen chloride emissions limits specified in Table 2 to this subpart, while the device for measuring incinerator operating temperature is installed, operational, and properly calibrated. Establish the average operating temperature based on the performance test as specified in § 63.1185(a).

* * * * *

■ 7. Section 63.1183 is amended by revising the section heading, the introductory text, and paragraphs (b) and (d) to read as follows:

§ 63.1183 How do I comply with the formaldehyde, phenol, and methanol standards for existing, new, and reconstructed combined collection/curing operations?

To comply with the formaldehyde, phenol, and methanol standards, you must meet all of the following:

* * * * *

(b) Conduct a performance test as specified in § 63.1188 while manufacturing the product that requires a binder formulation made with the resin containing the highest free-formaldehyde content specification range. Show compliance with the formaldehyde, phenol, and methanol emissions limits, specified in Table 2 to this subpart, while the device for measuring the control device operating parameter is installed, operational, and properly calibrated. Establish the average operating parameter based on the performance test as specified in § 63.1185(a).

* * * * *

(d) Following the performance test, monitor and record the free-formaldehyde content of each resin lot and the formulation of each batch of binder used, including the formaldehyde, phenol, and methanol content.

* * * * *

■ 8. Section 63.1188 is amended by revising paragraphs (b), (c), (d), (e), and (f) to read as follows:

§ 63.1188 What performance test requirements must I meet?

* * * * *

(b) Conduct a performance test, consisting of three test runs, for each cupola and curing oven or combined collection/curing operation subject to this subpart at the maximum production rate to demonstrate compliance with each of the applicable emissions limits specified in Table 2 to this subpart.

(c) Following the initial performance or compliance test to be conducted within 180 days of the effective date of this rule, you must conduct a performance test to demonstrate compliance with each of the applicable emissions limits specified in Table 2 to this subpart, at least once every 5 years.

(d) To demonstrate compliance with the applicable emission limits specified in Table 2 to this subpart, measure emissions of PM, carbon monoxide, carbonyl sulfide, hydrogen fluoride, and hydrogen chloride from each existing, new, or reconstructed cupola.

(e) To demonstrate compliance with the applicable emission limits specified in Table 2 to this subpart, measure emissions of formaldehyde, phenol, and methanol from each existing, new, or reconstructed curing oven or combined collection/curing operation.

(f) To demonstrate compliance with the applicable emission limits specified in Table 2 to this subpart, measure emissions at the outlet of the control device for PM, carbon monoxide, carbonyl sulfide, hydrogen fluoride, hydrogen chloride, formaldehyde, phenol, and methanol.

* * * * *

■ 9. Section 63.1189 is amended by revising paragraph (g) and adding paragraph (i) to read as follows:

§ 63.1189 What test methods do I use?

* * * * *

(g) Method 318 at 40 CFR part 60, appendix A to this part for the concentration of formaldehyde, phenol, methanol, and carbonyl sulfide.

* * * * *

(i) Method 26A or 320 at 40 CFR part 60, appendix A to this part for the concentration of hydrogen fluoride and hydrogen chloride.

■ 10. Section 63.1190 is amended by revising paragraph (b) introductory text and the definition of ''MW,'' and by removing paragraph (c) to read as follows:

§ 63.1190 How do I determine compliance?

* * * * *

(b) Using the results from the performance tests, you must use the following equation to determine compliance with the carbon monoxide, carbonyl sulfide, hydrogen fluoride, hydrogen chloride, formaldehyde, phenol, and methanol numerical emissions limits as specified in Table 2 to this subpart:

* * * * *

MW = Molecular weight of measured pollutant, g/g-mole: Carbon monoxide = 28.01, carbonyl sulfide = 60.07, hydrogen fluoride = 20.01, hydrogen chloride = 36.46, Formaldehyde = 30.03, Phenol = 94.11, Methanol = 32.04.

* * * * *

■ 11. Section 63.1191 is amended by revising the introductory text to read as follows:

§ 63.1191 What notifications must I submit?

You must submit written or electronic notifications to the Administrator as required by § 63.9(b) through (h). Electronic notifications are encouraged when possible. These notifications include, but are not limited to, the following:

* * * * *

■ 12. Section 63.1192 is amended by revising paragraph (d) to read as follows:

§ 63.1192 What recordkeeping requirements must I meet?

* * * * *

(d) Records must be maintained in a form suitable and readily available for expeditious review, according to § 63.10 of the General Provisions that are referenced in Table 1 to this subpart. Electronic recordkeeping is encouraged.

* * * * *

■ 13. Section 63.1193 is amended by revising paragraph (a), removing and reserving paragraph (b), and adding a new paragraph (g) to read as follows:

§ 63.1193 What reports must I submit?

* * * * *

(a) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (a)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–

02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(b) [Reserved]

* * * * *

(g) All reports required by this subpart not subject to the requirements in paragraph (a) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (a) of this section in paper format.

■ 14. Section 63.1196 is amended by:

■ a. Adding in alphabetical order definitions for ''Closed-top cupola'', ''Combined collection/curing operations'', ''Open-top cupola'', and ''Slag''; and

■ b. Revising the definition of ''Incinerator'' and ''New Source''.

The additions and revision read as follows:

§ 63.1196 What definitions should I be aware of?

* * * * *

Closed-top cupola means a cupola that operates as a closed (process) system and has a restricted air flow rate.

* * * * *

Combined collection/curing operations means the combination of fiber collection operations and curing ovens used to make bonded products.

* * * * *

Incinerator means an enclosed air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases. For the purposes of this subpart, the term ''incinerator'' means ''regenerative thermal oxidizer''.

* * * * *

New Source means any affected source that commences construction or reconstruction after May 8, 1997 for purposes of determining the applicability of the emissions limits in Rows 1–4 of Table 2. For all other emission limits new source means any affected source that commences construction or reconstruction after November 25, 2011.

* * * * *

Open-top cupola means a cupola that is open to the outside air and operates with an air flow rate that is unrestricted and at low pressure.

* * * * *

Slag means the by-product materials separated from metals during smelting and refining of raw ore.

* * * * *

■ 15. Section 63.1197 is added to read as follows:

§ 63.1197 Startups and shutdowns.

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are utilized for compliance with this subpart during times when emissions are being, or are otherwise required to be, routed to such items of equipment.

(c) Startup begins when fuels are ignited in the cupola. Startup ends when the cupola produces molten material.

(d) Shutdown begins when the cupola has reached the end of the melting campaign and is empty. No molten material continues to flow from the cupola during shutdown.

(e) During periods of startups and shutdowns you must operate your cupola according to one of the following methods:

(1) You must keep records showing that your emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard; or

(2) You must keep records showing the following:

(i) You used only clean fuels during startup and shutdown; and

(ii) You operate the cupola during startup and shutdown with three percent oxygen over the fuel demand for oxygen.

■ 16. Table 1 to subpart DDD of part 63 is revised to read as follows:

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD

General provisions citation	Requirement	Applies to subpart DDD?	Explanation
§ 63.1(a)(1)–(6)	General Applicability	Yes.	
§ 63.1(a)(7)–(9)		No	[Reserved].
§ 63.1(a)(10)–(12)		Yes.	
§ 63.1(b)(1)	Initial Applicability Determination	Yes.	
§ 63.1(b)(2)		No	[Reserved].
§ 63.1(b)(3)		Yes.	
§ 63.1(c)(1)–(2)	Applicability After Standard Established	Yes.	
§ 63.1(c)(3)–(4)		No	[Reserved].
§ 63.1(c)(5)–(e)		Yes.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4(a)(1)–(2)	Prohibited Activities	Yes.	
§ 63.4(a)(3)–(5)		No	[Reserved].
§ 63.4(b)–(c)		Yes.	
§ 63.5(a)(1)–(b)(2)	Construction/Reconstruction Applicability	Yes.	
§ 63.5(b)(3)–(4)		Yes.	
§ 63.5(b)(5)		No	[Reserved].
§ 63.5(b)(6)		Yes.	
§ 63.5(c)		No	[Reserved].
§ 63.5(d)–(f)		Yes.	
§ 63.6(a)–(d)		Yes.	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.1180(d) for general duty requirement.

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD—Continued

General provisions citation	Requirement	Applies to subpart DDD?	Explanation
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions As Soon As Possible.	No	§ 63.1187(b) specifies additional requirements.
§ 63.6(e)(1)(iii)		Yes.	
§ 63.6(e)(2)		No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, Malfunction (SSM) Plan	No	Startups and shutdowns addressed in § 63.1197.
§ 63.6(f)(1)	SSM Exemption	No.	
§ 63.6(f)(2)–(g)		Yes.	
§ 63.6(h)(1)	SSM Exemption	No.	
§ 63.6(h)(2)–(j)		Yes.	
§ 63.7(a)–(d)	Performance Testing Requirements	Yes.	
§ 63.7(e)(1)	Conduct of Performance Tests	No	See § 63.1180.
§ 63.7(e)(2)–(f)		Yes.	
§ 63.7(g)(1)	Data Analysis, Recordkeeping, and Reporting	Yes.	
§ 63.7(g)(2)		No	[Reserved].
§ 63.7(g)(3)–(h)		Yes.	
§ 63.8(a)–(b)	Monitoring Requirements	Yes.	
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No	See § 63.1180(e) for general duty requirement.
§ 63.8(c)(1)(ii)		Yes.	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No.	
§ 63.8(c)(2)–(d)(2)		Yes.	
§ 63.8(d)(3)	Written Procedures for CMS	Yes, except for last sentence, which refers to SSM plan. SSM plans are not required..	
§ 63.8(e)–(g)		Yes.	
§ 63.9(a)	Applicability and General Information	Yes.	
§ 63.9(b)(1)–(2)	Initial Notifications	Yes.	
§ 63.9(b)(3)		No	[Reserved].
§ 63.9(b)(4)–(b)(5)		Yes.	
§ 63.9(c)–(j)		Yes.	
§ 63.10(a)	Recordkeeping and Reporting Requirements	Yes.	
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes.	
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No.	
§ 63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.1193(c) for recordkeeping of (ii) occurrence and duration and (iii) actions taken during malfunction.
§ 63.10(b)(2)(iii)	Maintenance Records	Yes.	
§ 63.10(b)(2)(iv)–(v)	Actions Taken to Minimize Emissions During SSM.	No.	
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions	Yes.	
§ 63.10(b)(2)(vii)–(xiv)	Other CMS Requirements	Yes.	
§ 63.10(b)(3)	Recordkeeping Requirement for Applicability Determinations.	Yes.	
§ 63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes.	
§ 63.10(c)(7)–(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions.	Yes.	
§ 63.10(c)(9)		No	[Reserved].
§ 63.10(c)(10)–(11)		No	See § 63.1192 for recordkeeping of malfunctions.
§ 63.10(c)(12)–(14)		Yes.	
§ 63.10(c)(15)	Use of SSM Plan	No.	
§ 63.10(d)(1)–(4)	General Reporting Requirements	Yes.	
§ 63.10(d)(5)	SSM Reports	No	See § 63.1193(f) for reporting of malfunctions.
§ 63.10(e)–(f)	Additional CMS Reports Excess Emission/CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver.	Yes.	
§ 63.11(a)–(b)	Control Device Requirements Applicability Flares.	No	Flares will not be used to comply with the emissions limits.
§ 63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes.	
§ 63.11(d)	Alternative Work Practice Standard	Yes.	
§ 63.11(e)		Yes.	
§ 63.12	State Authority and Delegations	Yes.	
§ 63.13	Addresses	Yes.	

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD—Continued

General provisions citation	Requirement	Applies to subpart DDD?	Explanation
§ 63.14	Incorporation by Reference	Yes.	
§ 63.15	Information Availability/Confidentiality	Yes.	
§ 63.16	Performance Track Provisions	Yes.	

■ 17. Subpart DDD is amended by adding Table 2 to read as follows:

TABLE 2 TO SUBPART DDD OF PART 63—EMISSIONS LIMITS AND COMPLIANCE DATES

If your source is a:	And you commenced construction:	Your emission limits are: [1]	And you must comply by: [2]
1. Cupola	On or before May 8, 1997	0.10 lb PM per ton of melt	June 2, 2002.
2. Cupola	After May 8, 1997	0.10 lb PM per ton of melt	June 1, 1999.
3. Cupola	On or before May 8, 1997	a. 0.10 lb carbon monoxide (CO) per ton of melt,[3] or b. Reduction of uncontrolled CO by at least 99 percent [3].	June 2, 2002.
4. Cupola	After May 8, 1997 but on or before November 25, 2011.	a. 0.10 lb CO per ton of melt,[3] or b. Reduction of uncontrolled CO by at least 99 percent.[3]	June 1, 1999.
5. Closed-top cupola	On or before November 25, 2011	3.4 lb of carbonyl sulfide (COS) per ton melt.	July 30, 2018.
6. Closed-top cupola	After November 25, 2011	0.062 lb of COS per ton melt	July 29, 2015.[4]
7. Open-top cupola	On or before November 25, 2011	6.8 lb of COS per ton melt	July 30, 2018.
8. Open-top cupola	After November 25, 2011	3.2 lb of COS per ton melt	July 29, 2015.[4]
9. Cupola using slag as a raw material	On or before November 25, 2011	0.16 lb of hydrogen fluoride (HF) per ton melt. 0.44 lb of hydrogen chloride (HCl) per ton melt.	July 30, 2018.
10. Cupola using slag as a raw material.	After November 25, 2011	0.015 lb of HF per ton melt 0.012 lb of HCl per ton melt.	July 29, 2015.[4]
11. Cupola not using slag as a raw material.	On or before November 25, 2011	0.13 lb of HF per ton melt 0.43 lb of HCl per ton melt.	July 30, 2018.
12. Cupola not using slag as a raw material.	After November 25, 2011	0.018 lb of HF per ton melt 0.015 lb of HCl per ton melt.	July 29, 2015.[4]
17. Curing oven	On or before May 8, 1997	a. 0.06 lb of formaldehyde per ton of melt,[3] or b. Reduction of uncontrolled formaldehyde by at least 80 percent.[3]	June 2, 2002.
18. Curing oven	After May 8, 1997 but before November 25, 2011.	a. 0.06 lb of formaldehyde per ton of melt,[3] or b. Reduction of uncontrolled formaldehyde by at least 80 percent.[3]	June 1, 1999.
19. Combined drum collection/curing operation.	On or before November 25, 2011	0.17 lb of formaldehyde per ton of melt. 0.28 lb of methanol per ton melt. 0.85 lb of phenol per ton melt.	July 30, 2018.
20. Combined drum collection/curing operation.	After November 25, 2011	0.17 lb of formaldehyde per ton of melt. 0.28 lb of methanol per ton melt. 0.85 lb of phenol per ton melt.	July 29, 2015.[4]
21. Combined horizontal collection/curing operation.	On or before November 25, 2011	0.63 lb of formaldehyde per ton of melt. 0.049 lb of methanol per ton melt. 0.12 lb of phenol per ton melt.	July 30, 2018.
22. Combined horizontal collection/curing operation.	After November 25, 2011	0.63 lb of formaldehyde per ton of melt. 0.049 lb of methanol per ton melt. 0.12 lb of phenol per ton melt.	July 29, 2015.[4]
23. Combined vertical collection/curing operation.	On or before November 25, 2011	2.4 lb of formaldehyde per ton melt 0.92 lb of methanol per ton melt. 0.71 lb of phenol per ton melt.	July 30, 2018.
24. Combined vertical collection/curing operation.	After November 25, 2011	2.4 lb of formaldehyde per ton melt 0.92 lb of methanol per ton melt. 0.71 lb of phenol per ton melt.	July 29, 2015.[4]

[1] The numeric emissions limits do not apply during startup and shutdown.

[2] Existing sources must demonstrate compliance by the compliance dates specified in this table. New sources have 180 days after the applicable compliance date to demonstrate compliance.

[3] This emissions limit does not apply after July 30, 2018.

[4] Or upon initial startup, whichever is later.

Subpart NNN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing

■ 18. Section 63.1380 is amended by revising paragraph (b)(3) to read as follows:

§ 63.1380 Applicability.

* * * * *

(b) * * *

(3) Each new and existing flame attenuation wool fiberglass manufacturing line producing a bonded product.

* * * * *

■ 19. Section 63.1381 is amended by:

■ a. Adding in alphabetical order a definition for ''Gas-fired glass-melting furnace''; and

■ b. Revising the definitions of ''Incinerator'' and ''New source''.

The addition and revisions read as follows:

§ 63.1381 Definitions.

* * * * *

Gas-fired glass-melting furnace means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric furnaces as defined in this subpart are not gas-fired glass-melting furnaces.

* * * * *

Incinerator means an enclosed air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases. For the purposes of this subpart, the term ''incinerator'' means ''regenerative thermal oxidizer''.

* * * * *

New source means any affected source that commences construction or reconstruction after March 31, 1997 for purposes of determining the applicability of the emission limits in rows 1, 2 and 7 through 11 in Table 2. New source means any affected source that commences construction or reconstruction after November 25, 2011 for purposes of determining the applicability of all other emissions limits.

* * * * *

■ 20. Section 63.1382 is amended by revising paragraph (a), redesignating paragraph (b) as paragraph (c), and adding new pargraph (b) and paragraph (c)(11) to read as follows:

§ 63.1382 Emission standards.

(a) You must control emissions from each glass-melting furnace, rotary spin manufacturing line, and flame attenuation manufacturing line as specified in Table 2 to this subpart.

(b) On or after July 29, 2015 to reduce emissions of hydrogen chloride and hydrogen fluoride from each existing, new, or reconstructed glass-melting furnace, you must either:

(1) Require cullet providers to provide records of their inspections showing that no glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, and glass from microwave ovens, televisions or other electronics is included in the cullet; or

(2) Sample your raw materials and maintain records of your sampling showing that the cullet is free of glass from industrial fiberglass, cathode ray tubes, computer monitors that include cathode ray tubes, and glass from microwave ovens, televisions or other electronics.

(c) * * *

(11) The owner or operator must maintain the percentage of cullet in the materials mix for each gas-fired glass-melting furnace at or below the level established during the performance test as specified in § 63.1384(a)(4).

■ 21. Section 63.1383 is amended by revising paragraphs (f) and (m) to read as follows:

§ 63.1383 Monitoring requirements.

* * * * *

(f) If you use a control device to control HAP emissions from a glass-melting furnace, RS manufacturing line, or FA manufacturing line, you must install, calibrate, maintain, and operate a monitoring device that continuously measures an appropriate parameter for the control device. You must establish the value of that parameter during the performance test conducted to demonstrate compliance with the applicable emission limit as specified in Table 2 to this subpart.

* * * * *

(m) For all control device and process operating parameters measured during the initial performance tests, including the materials mix used in the test, you may change the limits established during the initial performance tests if you conduct additional performance testing to verify that, at the new control device or process parameter levels, you comply with the applicable emission limits specified in Table 2 to this subpart. You must conduct all additional performance tests according to the procedures in this part 63, subpart A and in § 63.1384.

■ 22. Section 63.1384 is amended by revising paragraphs (a)(4) and (c) introductory text, and the definitions of ''E'', ''C'', and ''MW'', and adding paragraphs (d) and (e) to read as follows:

§ 63.1384 Performance test requirements.

(a) * * *

(4) The owner or operator shall conduct a performance test for each existing and new gas-fired glass-melting furnace. During the performance test of each gas-fired glass-melting furnace, the owner or operator must measure and record the materials mix, including the percentages of raw materials and cullet, melted in the furnace during the performance test.

* * * * *

(c) To determine compliance with the emission limits specified in Table 2 to this subpart, for formaldehyde for RS manufacturing lines; formaldehyde, phenol, and methanol for FA manufacturing lines; and chromium compounds for gas-fired glass-melting furnaces, use the following equation:

* * * * *

E = Emission rate of formaldehyde, phenol, methanol, chromium compounds, kg/Mg (lb/ton) of glass pulled;

C = Measured volume fraction of formaldehyde, phenol, methanol, chromium compounds, ppm;

MW = Molecular weight of formaldehyde, 30.03 g/g-mol; molecular weight of phenol, 94.11 g/g-mol; molecular weight of methanol, 32.04 g/g-mol; molecular weight of chromium compounds tested in g/g-mol.

* * * * *

(d) Following the initial performance or compliance test conducted to demonstrate compliance with the chromium compounds emissions limit specified in Table 2 to this subpart, you must conduct an annual performance test for chromium compounds emissions from each gas-fired glass-melting furnace (no later than 12 calendar months following the previous compliance test).

(e) Following the initial performance or compliance test to demonstrate compliance with the PM, formaldehyde, phenol, and methanol emissions limits specified in Table 2 to this subpart, you must conduct a performance test to demonstrate compliance with each of the applicable PM, formaldehyde, phenol, and methanol emissions limits in § 63.1382 at least once every five years.

■ 23. Section 63.1385 is amended by revising paragraphs (a)(5) and (6), redesignating paragraph (a)(10) as paragraph (a)(13), and adding paragraphs (a)(10) through (12) to read as follows:

§ 63.1385 Test methods and procedures.

(a) * * *

(5) Method 5 or Method 29 (40 CFR part 60, appendix A–3) for the concentration of total PM. When using Method 5, each run must consist of a minimum sample volume of 2 dry standard cubic meters (dscm). When using Method 29, each run must consist of a minimum sample volume of 3 dscm. When measuring PM concentration using either Method 5 or 29, the probe and filter holder heating system must be set to provide a gas temperature no greater than 120±14°C (248±25 °F).

(6) For measuring the concentration of formaldehyde, use one of the following test methods:

(i) Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(ii) Method 316 (appendix A of this part). Each test run must consist of a minimum of 2 dry standard cubic meters (dscm) of sample volume.

* * * * *

(10) For measuring the concentration of phenol, use Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(11) For measuring the concentration of methanol, use one of the following test methods:

(i) Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(ii) Method 308 (appendix A of this part). Each test run must consist of a minimum of 2 hours.

(12) Method 29 (40 CFR part 60, appendix A–8) for the concentration of chromium compounds. Each test run must consist of a minimum sample volume of 3 dscm.

* * * * *

■ 24. Section 63.1386 is amended by revising paragraphs (a)(2) through (4), removing and reserving paragraph (b), revising paragraph (c), and adding paragraphs (d)(2)(x) and (xi), (f) and (g) to read as follows:

§ 63.1386 Notification, recordkeeping, and reporting requirements.

(a) * * *

(2) Notification that a source is subject to the standard, where the initial startup is before November 25, 2011.

(3) Notification that a source is subject to the standard, where the source is new or has been reconstructed the initial startup is after November 25, 2011, and for which an application for approval of construction or reconstruction is not required;

(4) Notification of intention to construct a new affected source or reconstruct an affected source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after November 25, 2011, and for which an application for approval or construction or reconstruction is required (See § 63.9(b)(4) and (5));

* * * * *

(c) *Records and reports for a failure to meet a standard.* (1) In the event that an affected unit fails to meet a standard, record the number of failures since the prior notification of compliance status. For each failure record the date, time, and duration of each failure.

(2) For each failure to meet a standard record and retain a list of the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with § 63.1382, including corrective actions to restore process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(4) If an affected unit fails to meet a standard, report such events in the notification of compliance status required by § 63.1386(a)(7). Report the number of failures to meet a standard since the prior notification. For each instance, report the date, time, and duration of each failure. For each failure the report must include a list of the affected units or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(d) * * *

(2) * * *

(x) Records of your cullet sampling or records of inspections from cullet providers.

(xi) For each gas-fired glass-melting furnace that uses cullet, records of the daily average cullet percentage, and the 30-day rolling average percent cullet in the materials mix charged to the furnace. The initial daily average should be recorded on the compliance date and the first 30-day rolling average should be calculated 30 days after the compliance date.

* * * * *

(f) Within 60 days after the date of completing each performance test (as defined in § 63.2) required in this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (f)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(g) All reports required by this subpart not subject to the requirements in paragraph (f) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (f) of this section in paper format.

■ 25. Section 63.1387 is amended by revising paragraph (a) and adding paragraph (c) to read as follows:

§ 63.1387 Compliance dates.

(a) *Compliance dates.* You must comply with the emissions limits by the dates specified in Table 2 to this subpart.

* * * * *

(c) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 26. Section 63.1389 is added to read as follows:

§ 63.1389 Startups and shutdowns.

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being, or are otherwise required to be, routed to such items of equipment.

(c) Startup begins when the wool fiberglass glass-melting furnace has any raw materials added and reaches 50 percent of its typical operating temperature. Startup ends when molten glass begins to flow from the wool fiberglass glass-melting furnace. For cold-top electric furnaces, startup ends when the batch cover is established and the temperature of the glass batch-cover surface is below 300 °F.

(d) Shutdown begins when the heat sources to the glass-melting furnace are reduced to begin the glass-melting furnace shut down process. Shutdown ends when the glass-melting furnace is empty or the contents are sufficiently viscous to preclude glass flow from the glass-melting furnace.

(e) During periods of startup and shutdown in a cold-top furnace that is routed to a baghouse during normal operation, you must establish the batch cover and operate your furnace according to the following requirements during startup and shutdown:

(1) You must keep records showing that you used only natural gas or other clean fuels to heat each furnace; and

(2) Except after batch cover is established, you must keep records showing that you used only cullet as a raw material during the startup of each cold-top furnace; and

(3) Once a batch cover is established and a control device can be safely operated, you must keep records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

(4) During periods of shutdown in a cold-top furnace, until the conditions above the glass reach a point at which the control device may be damaged if it continues to operate, you must keep records showing furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

(f) During both periods of startups and shutdowns for all furnace types other than cold-top furnaces, you must operate each furnace according to the following requirements:

(1) You must record the type of fuel used to heat the furnace during startup and shutdown to demonstrate that you used only natural gas or other clean fuels; and

(2) You must keep records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

■ 27. Table 1 to subpart NNN of part 63 is revised to read as follows:

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN

General provisions citation	Requirement	Applies to subpart NNN?	Explanation
§ 63.1(a)(1)–(5)	Applicability	Yes.	
§ 63.1(a)(6)		Yes.	
§ 63.1(a)(7)–(9)		No	[Reserved].
§ 63.1(a)(10)–(12)		Yes.	
§ 63.1(b)(1)	Initial Applicability Determination	Yes.	
§ 63.1(b)(2)		No	[Reserved].
§ 63.1(b)(3)		Yes.	
§ 63.1(c)(1)–(2)		Yes.	
§ 63.1(c)(3)–(4)		No	[Reserved].
§ 63.1(c)(5)–(e)		Yes.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4(a)(1)–(2)	Prohibited Activities	Yes.	
§ 63.4(a)(3)–(5)		No	[Reserved].
§ 63.4(b)–(c)		Yes.	
§ 63.5(a)–(b)(2)	Construction/Reconstruction Applicability	Yes.	
§ 63.5(b)(3)–(4)		Yes.	
§ 63.5(b)(5)		No	[Reserved].
§ 63.5(b)(6)		Yes.	
§ 63.5(c)		No	[Reserved].
§ 63.5(d)	Application for Approval of Construction or Reconstruction.	Yes.	
§ 63.5(e)	Approval of Construction/Reconstruction	Yes.	
§ 63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes.	

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN—Continued

General provisions citation	Requirement	Applies to subpart NNN?	Explanation
§ 63.6(a)–(d)	Compliance with Standards and Maintenance Requirements.	Yes.	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.1382(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions As Soon As Possible.	No	§ 63.1382(b) specifies additional requirements.
§ 63.6(e)(1)(iii)		Yes.	
§ 63.6(e)(2)		No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, Malfunction (SSM) Plan	No	Startups and shutdowns addressed in § 63.1388.
§ 63.6(f)(1)	SSM Exemption	No.	
§ 63.6(f)(2)–(3)	Methods for Determining Compliance	Yes.	
§ 63.6(g)	Use of an Alternative Nonopacity Emission Standard.	Yes.	
§ 63.6(h)(1)	SSM Exemption	No.	
§ 63.6(h)(2)–(j)		Yes.	
§ 63.7(a)–(d)		Yes.	
§ 63.7(e)(1)	Performance Testing	No	See § 63.1382(b).
§ 63.7(e)(2)–(e)(4)		Yes.	
§ 63.7(f)	Alternative Test Method	Yes.	
§ 63.7(g)(1)	Data Analysis	Yes.	
§ 63.7(g)(2)		No	[Reserved].
§ 63.7(g)(3)		Yes.	
§ 63.7(h)	Waiver of Performance Test	Yes.	
§ 63.8(a)–(b)	Monitoring Requirements	Yes.	
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No	See § 63.1382(c) for general duty requirement.
§ 63.8(c)(1)(ii)		Yes.	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No.	
§ 63.8(d)(1)–(2)	Quality Control Program	Yes.	
§ 63.8(d)(3)	Written Procedures for CMS	Yes, except for last sentence, which refers to SSM plan. SSM plans are not required.	
§ 63.8(e)–(g)		Yes.	
§ 63.9(a)	Notification Requirements	Yes.	
§ 63.9(b)(1)–(2)	Initial Notifications	Yes.	
§ 63.9(b)(3)		No	[Reserved].
§ 63.9(b)(4)–(j)		Yes.	
§ 63.10(a)	Recordkeeping and Reporting Requirements	Yes.	
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes.	
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No.	
§ 63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.1386 (c)(1) through (3) for recordkeeping of occurrence and duration and actions taken during a failure to meet a standard.
§ 63.10(b)(2)(iii)	Maintenance Records	Yes.	
§ 63.10(b)(2)(iv)–(v)	Actions Taken to Minimize Emissions During SSM.	No.	
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions	Yes.	
§ 63.10(b)(2)(vii)–(xiv)	Other CMS Requirements	Yes.	
§ 63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations.	Yes.	
§ 63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes.	
§ 63.10(c)(7)–(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions.	Yes.	
§ 63.10(c)(9)		No	[Reserved].
§ 63.10(c)(10)–(11)		No	See § 63.1386 for recordkeeping of malfunctions.
§ 63.10(c)(12)–(c)(14)		Yes.	
§ 63.10(c)(15)	Use of SSM Plan	No.	
§ 63.10(d)(1)–(4)	General Reporting Requirements	Yes.	
§ 63.10(d)(5)	SSM Reports	No	See § 63.1386(c)(iii) for reporting of malfunctions.

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN—Continued

General provisions citation	Requirement	Applies to subpart NNN?	Explanation
§ 63.10(e)–(f)	Additional CMS Reports Excess Emission/ CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver.	Yes.	
§ 63.11(a)–(b)	Control Device Requirements Applicability Flares.	No	Flares will not be used to comply with the emissions limits.
§ 63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes.	
§ 63.11(d)	Alternative Work Practice Standard	Yes.	
§ 63.11(e)	Alternative Work Practice Requirements	Yes.	
§ 63.12	State Authority and Delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by Reference	Yes.	
§ 63.15	Availability of Information/Confidentiality	Yes.	
§ 63.16	Performance Track Provisions	Yes.	

■ 28. Subpart NNN is amended by adding Table 2 to read as follows:

TABLE 2 TO SUBPART NNN OF PART 63—EMISSIONS LIMITS AND COMPLIANCE DATES

If your source is a:	And you commenced construction:	Your emission limits are:[1]	And you must comply by:[2]
1. Glass-melting furnace	On or before March 31, 1997	0.5 lb PM per ton of glass pulled[3]	June 14, 2002.
2. Glass-melting furnace	After March 31, 1997 but on or before November 25, 2011.	0.5 lb PM per ton of glass pulled[3]	June 14, 1999.
3. Glass-melting furnace	On or before November 25, 2011	0.33 lb PM per ton of glass pulled	July 31, 2017.
4. Glass-melting furnace	After November 25, 2011	0.33 lb PM per ton of glass pulled	July 29, 2015.[4]
5. Gas-fired glass-melting furnace	On or before November 25, 2011	0.00025 lb chromium compounds per ton of glass pulled.	July 31, 2017.
6. Gas-fired glass-melting furnace	After November 25, 2011	0.00025 lb chromium compounds per ton of glass pulled.	July 29, 2015.[4]
7. Rotary spin manufacturing line	On or before March 31, 1997	1.2 lb Formaldehyde per ton of glass pulled.	June 14, 2002.
8. Rotary spin manufacturing line	After March 31, 1997	0.8 lb Formaldehyde per ton of glass pulled.	June 14, 1999.
9. Flame-attenuation line manufacturing a heavy-density product.	After March 31, 1997 but on or before November 25, 2011.	7.8 lb formaldehyde per ton of glass pulled[3].	June 14, 1999.
10. Flame-attenuation line manufacturing a pipe product.	On or before March 31, 1997	6.8 lb formaldehyde per ton of glass pulled[3].	June 14, 2002.
11. Flame-attenuation line manufacturing a pipe product.	After March 31, 1997 but before November 25, 2011.	6.8 lb formaldehyde per ton of glass pulled[3].	June 14, 1999.
12. Flame-attenuation line manufacturing any product.	On or before November 25, 2011	1.4 lb phenol per ton of glass pulled 5.6 lb formaldehyde per ton of glass pulled. 0.50 lb methanol per ton of glass pulled.	July 31, 2017.
13. Flame-attenuation line manufacturing any product.	After November 25, 2011	0.44 lb phenol per ton of glass pulled 2.6 lb formaldehyde per ton of glass pulled. 0.35 lb methanol per ton of glass pulled.	July 29, 2015.[4]

[1] The numeric limits do not apply during startup and shutdown.

[2] Existing sources must demonstrate compliance by the compliance dates specified in this table. New sources have 180 days after the applicable compliance date to demonstrate compliance.

[3] This limit does not apply after July 31, 2017.

[4] Or initial startup, whichever is later.

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Part II

Environmental Protection Agency

40 CFR Parts 60 and 63
Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2012–0522; FRL–9931–01–OAR]

RIN 2060–AQ20

Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review conducted for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories regulated under national emission standards for hazardous air pollutants (NESHAP). In addition, this action finalizes an 8-year review of the current new source performance standards (NSPS) for five source categories. We are also taking final action addressing Clean Air Act (CAA) provisions related to emission standards for hazardous air pollutants, review and revision of emission standards, and work practice standards. The final amendments to the Phosphoric Acid Manufacturing NESHAP include: Numeric emission limits for previously unregulated mercury (Hg) and total fluoride emissions from calciners; work practice standards for hydrogen fluoride (HF) emissions from previously unregulated gypsum dewatering stacks and cooling ponds; clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for startup, shutdown, and malfunction (SSM); adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM. The final amendments to the Phosphate Fertilizer Production NESHAP include: Clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for SSM; adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM. The revised NESHAP for Phosphoric Acid Manufacturing facilities will mitigate future increases of Hg emissions from phosphate rock calciners by requiring pollution prevention measures. Further, based on the 8-year review of the current NSPS for these source categories, the EPA determined that no revisions to the numeric emission limits in those rules are warranted.

DATES: This final action is effective on August 19, 2015. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of August 19, 2015.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2012–0522. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov,* or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Dr. Tina Ndoh, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–2750; fax number: (919) 541–5450; and email address: *Ndoh.Tina@epa.gov.* For specific information regarding the risk modeling methodology, contact James Hirtz, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0881; fax number: (919) 541–0359; and email address: *Hirtz.James@epa.gov.* For information about the applicability of the NESHAP or NSPS to a particular entity, contact Scott Throwe, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 562–7013; and email address: *Throwe.Scott@epa.gov.*

SUPPLEMENTARY INFORMATION: *Preamble Acronyms and Abbreviations.* We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI	Activated carbon injection
AEGL	Acute exposure guideline levels
AFPC	Association of Fertilizer and Phosphate Chemists
AOAC	Association of Official Analytical Chemists
BACT	Best available control technology
BSER	Best System of Emissions Reduction
BTF	Beyond the floor
CAA	Clean Air Act
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CPMS	Continuous parameter monitoring system
DAP	Diammonium phosphate
DOE	Department of Energy
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
FR	Federal Register
FTIR	Fourier transform infrared spectroscopy
GMCS	Gore Mercury Control System
GTSP	Granular triple superphosphate
HAP	Hazardous air pollutants
HF	Hydrogen fluoride
Hg	Mercury
HI	Hazard index
HQ	Hazard quotient
ICR	Information Collection Request
LAER	Lowest achievable emissions rate
lb/MMBtu	Pounds per million Btu
LOAEL	Lowest-observed-adverse-effect level
MACT	Maximum achievable control technology
MAP	Monoammonium phosphate
mg/dscm	Milligrams per dry standard cubic meter
MIBK	Methyl isobutyl ketone
MIR	Maximum individual risk
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NETL	National Energy Technology Laboratory
NOAEL	No-observed-adverse-effect level
NSPS	New source performance standard
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
P_2O_5	Phosphorus pentoxide
PAC	Powdered activated carbon

PB–HAP Hazardous air pollutants known to be persistent and bio-accumulative in the environment
PM Particulate matter
POM Polycyclic organic matter
PPA Purified phosphoric acid
ppm Parts per million
RACT Reasonably available control technology
RBLC RACT/BACT/LAER Clearinghouse
REL Reference exposure level
RFA Regulatory Flexibility Act
RTR Residual risk and technology review
SBA Small Business Administration
SiF4 Silicon tetrafluoride
SPA Superphosphoric acid
SSM Startup, shutdown, and malfunction
TOSHI Target organ-specific hazard index
tpy Tons per year
TRIM Total Risk Integrated Modeling System
TRIM.FaTE Total Risk Integrated Methodology.Fate, Transport, and Ecological Exposure model
TSP Triple superphosphates
TTN Technology Transfer Network
UMRA Unfunded Mandates Reform Act
UPL Upper prediction limit
VCS Voluntary consensus standards
WESP Wet electrostatic precipitator
WPPA Wet-process phosphoric acid
WWW World Wide Web

Background Information. On November 7, 2014 (79 FR 66511), the EPA proposed revisions to the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production national emission standards for hazardous air pollutants (NESHAP) in conjunction with the residual risk and technology review (RTR) for those NESHAP, 40 CFR part 63, subparts AA and BB, and required 8-year review of the Standards of Performance for the Phosphate Fertilizer Industry new source performance standards (NSPS) for 40 CFR part 60, subparts T, U, V, W and X. In this action, we are finalizing decisions and revisions for the rules. We summarize some of the more significant comments we received regarding the proposed rule and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in ''Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing—Summary of Public Comments and Responses'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522. A ''track changes'' version of the regulatory language that incorporates the changes in this action for each NSPS is available in the docket. The NESHAP were replaced in their entirety to assist in readability of the language and to ensure that citations were accurate.

Organization of this Document. The information in this preamble is organized as follows:

Significantly Affect Energy Supply, Distribution or Use

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

K. Congressional Review Act

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS [a] code
Phosphoric Acid Manufacturing Phosphate Fertilizer Production	325312

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at *http://www.epa.gov/ttn/atw/phosph/phosphpg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, links to project Web sites for the RTR source categories and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States (U.S.) Court of Appeals for the District of Columbia Circuit by October 19, 2015. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

1. NESHAP Authority

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems or techniques, including, but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, see 79 FR 66512 (November 7, 2014).

2. NSPS Authority

NSPS implement CAA section 111, which requires that each NSPS reflect the degree of emission limitation achievable through the application of the best system of emission reduction (BSER) which (taking into consideration the cost of achieving such emission reductions, any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

Existing affected facilities that are modified or reconstructed are also subject to NSPS. Under CAA section 111(a)(4), ''modification'' means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. Changes to an existing facility that do not result in an increase in emissions are not considered modifications.

Rebuilt emission units would become subject to the NSPS under the reconstruction provisions in 40 CFR 60.15, regardless of changes in emission rate. Reconstruction means the replacement of components of an existing facility such that: (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility; and (2) it is technologically and economically feasible to meet the applicable standards (40 CFR 60.15).

Section 111(b)(1)(B) of the CAA requires the EPA to periodically review and, if appropriate, revise the standards of performance as necessary to reflect improvements in methods for reducing emissions. The EPA need not review an NSPS if the Agency determines that such review is not appropriate in light of readily available information on the efficacy of the standard. When conducting the review under CAA section 111(b)(1)(B), the EPA considers both: (1) Whether developments in technology or other factors support the conclusion that a different system of emissions reduction has become the BSER and (2) whether emissions limitations and percent reductions beyond those required by the current standards are achieved in practice.

B. What are the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories and how do the NESHAP and NSPS regulate emissions from these source categories?

1. Description of Phosphoric Acid Manufacturing Source Category

In 2014, 12 facilities in the U.S. manufactured phosphoric acid. The basic step for producing phosphoric acid is acidulation of phosphate rock. Typically, sulfuric acid, phosphate rock, and water are combined together and allowed to react to produce phosphoric acid and gypsum. When phosphate rock is acidulated to manufacture wet-process phosphoric acid (WPPA), fluorine contained in the rock is released. Fluoride compounds, predominately HF, are produced as particulates and gases that are emitted to the atmosphere unless removed from the exhaust stream. Some of these same fluoride compounds also remain in the product acid and are released as air pollutants during subsequent processing of the acid. Gypsum is pumped as a slurry to ponds atop stacks of waste gypsum where the liquids separate from the slurry and are decanted for return to the process. The gypsum, which is discarded on the stack, is a solid waste stream produced in this process. Five facilities concentrate WPPA to make superphosphoric acid (SPA), typically using the vacuum evaporation process. While one manufacturer is permitted to use a submerged combustion process for the production of SPA, that process was indefinitely shutdown on June 1, 2006. The majority of WPPA is used to produce phosphate fertilizers.

Additional processes may also be used to further refine phosphoric acid. At least two facilities have a defluorination process to remove fluorides from the phosphoric acid product, and one company uses a solvent extraction process to remove metals and organics and to further refine WPPA into purified phosphoric acid (PPA) for use in food manufacturing or specialized chemical processes. In addition, four facilities have oxidation processes to remove organics from the acid (*i.e.,* the green acid process). One of these facilities also calcines the ore prior to the acidulation process to help achieve the desired organic content reduction for the final acid product.

Sources of HF emissions from phosphoric acid plants include gypsum dewatering stacks, cooling ponds, cooling towers, calciners, reactors, filters, evaporators and other process equipment.

2. Federal Air Emission Standards Applicable to the Phosphoric Acid Manufacturing Source Category

The following federal air emission standards are associated with the Phosphoric Acid Manufacturing source category and are the subject of this final action:

- National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants (40 CFR part 63, subpart AA);
- Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants (40 CFR part 60, subpart T); and
- Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants (40 CFR part 60, subpart U).

a. Phosphoric Acid Manufacturing NESHAP Emission Regulations. The EPA promulgated 40 CFR part 63, subpart AA for the Phosphoric Acid Manufacturing source category on June 10, 1999 (64 FR 31358). The NESHAP established standards for major sources to control HAP emissions from phosphoric acid facilities. Total fluoride emission limits, as a surrogate for the HAP HF, were set for WPPA process lines and SPA process lines. The NESHAP established emission limits for particulate matter (PM) from phosphate rock dryers and phosphate rock calciners as a surrogate for metal HAP. Also, the NESHAP established an emission limit for methyl isobutyl ketone (MIBK) for PPA process lines and work practices for cooling towers. For more information on this NESHAP, see 79 FR 66512.

b. Phosphoric Acid Manufacturing NSPS Emission Regulations. The EPA promulgated 40 CFR part 60, subpart T for WPPA Plants on August 6, 1975 (40 FR 33154). The NSPS established standards to control total fluoride emissions from WPPA plants, including

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[1] The U.S. Court of Appeals has affirmed this approach of implementing CAA section 112(f)(2)(A): *NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

reactors, filters, evaporators, and hot wells.

The EPA promulgated 40 CFR part 60, subpart U for SPA Plants on August 6, 1975 (40 FR 33155). The NSPS established standards to control total fluoride emissions from SPA plants, including evaporators, hot wells, acid sumps, and cooling tanks.

For more information on these NSPS, see 79 FR 66512.

3. Description of Phosphate Fertilizer Production Source Category

There are 11 operating facilities that produce phosphate fertilizers, and most facilities have the ability to produce either monoammonium phosphates (MAP) or diammonium phosphates (DAP) in the same process train. However, approximately 80 percent of all ammonium phosphates are produced as MAP. MAP and DAP plants are generally collocated with WPPA plants since both are manufactured from phosphoric acid and ammonia. The MAP and DAP manufacturing process consists of three basic steps: Reaction, granulation, and finishing operations such as drying, cooling, and screening. Sources of fluoride emissions from MAP and DAP plants include the reactor, granulator, dryer, cooler, screens, and mills. Some of the fluoride is liberated as HF and silicon tetrafluoride (SiF_4), but the majority is emitted as HF.

Triple superphosphates (TSP) are made as run-of-pile TSP (ROP–TSP) and granular TSP (GTSP) by reacting WPPA with ground phosphate rock. The phosphoric acid used in the GTSP process is appreciably lower in concentration (40-percent phosphorus pentoxide (P_2O_5)) than that used to manufacture ROP–TSP product (50 to 55-percent P_2O_5). The GTSP process yields larger, more uniform particles with improved storage and handling properties than the ROP–TSP process. Currently, no facilities produce ROP–TSP or GTSP,[2] although one facility retains an operating permit to store GTSP.

4. Federal Air Emission Standards Applicable to the Phosphate Fertilizer Production Source Category

The following federal air emission standards are associated with the Phosphate Fertilizer Production source category and are subject of this final action:

- National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizers Production Plants (40 CFR part 63, subpart BB);
- Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants (40 CFR part 60, subpart V);
- Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants (40 CFR part 60, subpart W); and
- Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities (40 CFR part 60, subpart X).

a. Phosphate Fertilizer Production NESHAP Emission Regulations. The EPA promulgated 40 CFR part 63, subpart BB for the Phosphate Fertilizer Production source category on June 10, 1999 (64 FR 31358). The NESHAP established standards for major sources to control HAP emissions from phosphate fertilizer facilities. As a surrogate for HF, the NESHAP set total fluoride emission limits for DAP and/or MAP process lines and GTSP process lines and storage buildings. The NESHAP also established work practices for GTSP production. For more information on this NESHAP, see 79 FR 66512.

b. Phosphate Fertilizer Production NSPS Emission Regulations. The EPA promulgated 40 CFR part 60, subpart V for Diammonium Phosphate Plants on July 25, 1977 (42 FR 37938). The NSPS established standards to control total fluoride emissions from granular DAP plants, including reactors, granulators, dryers, coolers, screens, and mills.

The EPA promulgated 40 CFR part 60, subpart W for TSP plants on July 25, 1977 (42 FR 37938). The NSPS established standards to control total fluoride emissions from the production of ROP–TSP and GTSP, and the storage of ROP–TSP.

The EPA promulgated 40 CFR part 60, subpart X for GTSP storage facilities on July 25, 1977 (42 FR 37938). The NSPS established standards to control total fluoride emissions from the storage of GTSP, including storage or curing buildings (noted as ‘‘piles’’ in subpart X), conveyors, elevators, screens, and mills.

For more information on these NSPS, see 79 FR 66512.

C. What changes did we propose for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories in our November 7, 2014 proposal?

On November 7, 2014 (79 FR 66512), the EPA published a proposed rule in the **Federal Register** for both the Phosphoric Acid Manufacturing NESHAP, 40 CFR part 63, subpart AA, and Phosphate Fertilizer Production NESHAP, 40 CFR part 63, subpart BB that took into consideration the RTR analyses. We also proposed other revisions to these NESHAP. In the proposed rule, we proposed:

For Phosphoric Acid Manufacturers:

- Numeric emission limits for Hg and work practice standards for HF from calciners; and
- Work practice standards for HF emissions from gypsum dewatering stacks and cooling ponds.

For both Phosphoric Acid Manufacturers and Phosphate Fertilizer Producers:

- Emission limits regulating HF emissions as the target HAP (HF), instead of the long-standing surrogate for HF, total F;
- Clarifications to applicability and certain definitions;
- Revisions to requirements related to emissions during periods of SSM;
- Revisions to monitoring requirements for absorbers;
- Requirements for reporting of performance testing through the electronic reporting tool (ERT);
- Modification to the format to reference tables for emissions limits and monitoring requirements; and
- Several minor clarifications and corrections.

In addition, we proposed revisions to the NSPS subparts T, U, V, W, and X, including clarifications to applicability and certain definitions, and revisions to monitoring and recordkeeping requirements for absorbers.

III. What is included in this final rule for the Phosphoric Acid Manufacturing source category?

This action finalizes the EPA’s determinations pursuant to the RTR provisions of CAA section 112 and the 8-year review provisions of CAA section 111 for the Phosphoric Acid Manufacturing source category. Today’s action also finalizes several of the proposed changes to the NESHAP subpart AA and the NSPS subparts T and U that are described in section II.C. of this preamble. This action also finalizes other changes to the NESHAP subpart AA in consideration of comments on issues raised in the proposed rulemaking, as described in section V of this preamble.

A. What are the final rule amendments based on the NESHAP residual risk review for the Phosphoric Acid Manufacturing source category?

The residual risk review for the Phosphoric Acid Manufacturing source category did not change since proposal; we found that the current standards provide an ample margin of safety to protect public health (79 FR 66512) and prevent an adverse environmental effect. We are, therefore, not tightening the standards under section 112(f)(2)

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[2] According to 2014 production and trade statistics issued by International Fertilizer Industry Association (IFA).

(for NESHAP subpart AA) based on the residual risk review, and are thus readopting the existing standards under section 112(f)(2). See sections V.A.3 and V.A.4 of this preamble for discussion on key comments and responses regarding the residual risk review.

B. What are the final rule amendments based on the NESHAP technology review for the Phosphoric Acid Manufacturing source category?

The technology review for the Phosphoric Acid Manufacturing source category did not change since proposal (79 FR 66512). We determined that there are no cost-effective developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category (79 FR 66512). Therefore, we are not amending the MACT standards under CAA section 112(d)(6). See sections V.B.3 and V.B.4 of this preamble for discussion on key comments and responses regarding the technology review.

C. What are the final rule amendments pursuant to CAA sections 112(d)(2), 112(d)(3), and 112(h) for the Phosphoric Acid Manufacturing source category?

We are finalizing MACT standards for HF and Hg pursuant to CAA sections 112(d)(2) and 112(d)(3) for phosphate rock calciners, an emissions source that was initially regulated for HAP metals using PM as a surrogate. Specifically, we are finalizing, as proposed, the elimination of the use of PM as a surrogate for Hg; however, we are making changes to the proposed Hg emission limit for phosphate rock calciners in NESHAP subpart AA to reflect MACT floor level emission standards for existing sources. We are finalizing the proposed beyond-the-floor (BTF) emission standard for Hg emissions from new phosphate rock calciners. We discuss the changes to the Hg emission limit in section V.C.3.a.i of this preamble. In addition, we are finalizing, as proposed, to retain the PM standard as a surrogate for other HAP metal emissions from phosphate rock calciners. However, in consideration of comments received during the public comment period for the proposed rulemaking, we are not finalizing work practice standards for HF from phosphate rock calciners, as proposed. Instead, as discussed in section V.C.3.a.ii of this preamble, we are including a total fluoride emission limit for phosphate rock calciners in NESHAP subpart AA.

Also, in consideration of comments received (see section V.C.3.b.i of this preamble for details), we are not adopting the proposed work practice in NESHAP subpart AA that would limit the size of active gypsum dewatering stacks (which would have been applicable to facilities when new gypsum dewatering stacks are constructed). Lastly, we are finalizing work practice standards pursuant to CAA section 112(h) for gypsum dewatering stacks and cooling ponds—emissions sources that were not regulated under the initial MACT standard. Specifically, we are finalizing in NESHAP subpart AA, as proposed, the work practice standard that requires owners or operators to prepare and operate in accordance with a gypsum dewatering stack and cooling pond management plan. However, based on analysis of public comments, we are making several changes to the specific control techniques that we proposed as options in the plan for controlling fugitive HF emissions (see section V.C.3.b.ii of this preamble for details on these changes). In the final rule, the Agency is using the terminology ‘‘control measures’’ in lieu of the proposed terminology ‘‘control techniques’’ because we feel this more accurately describes the list of options in the rule and avoids confusion with other CAA programs.

D. What are the final rule amendments based on the NSPS review for the Phosphoric Acid Manufacturing source category?

We are finalizing our determination that revisions to NSPS subpart T and subpart U standards are not appropriate pursuant to CAA section 111(b)(1)(B). All Phosphoric Acid Manufacturing NSPS (under subpart T and subpart U) emission sources, and the control technologies that would be employed, are the same as those for the NESHAP regulating phosphoric acid plants, such that we reached the same determination that there are no identified cost-effective practices or technologies that would provide additional emission reductions. Additionally, there were no identified technologies that have been adequately demonstrated to achieve in practice emission controls that would result in more stringent total fluoride limits for these NSPS. See section V.D of this preamble for discussion on key comments and responses regarding the NSPS review.

E. What are the final rule amendments addressing emissions during periods of startup, shutdown, and malfunction for the Phosphoric Acid Manufacturing source category?

We are finalizing, as proposed, changes to the Phosphoric Acid Manufacturing NESHAP, subpart AA to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. Appendix A of subpart AA (the General Provisions Applicability Table) is being revised to change several references related to requirements that apply during periods of SSM. We also eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption. The EPA also made changes to the rule to remove or modify inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. For this source category, we determined that work practice standards for periods of startup and shutdown are appropriate in lieu of numeric emission limits due to the short duration of startup and shutdown, and control devices used on the various process lines in this source category are effective at achieving desired emission reductions immediately upon startup (79 FR 66541). Therefore, we are finalizing in NESHAP subpart AA the proposed work practice standards for periods of startup and shutdown. However, in consideration of comments received during the public comment period, we are making changes to the work practice standards in order to clarify that the standard applies in lieu of numeric emission limits and how compliance with the standard is demonstrated. In order to comply with the work practice standard, facilities must monitor the same control device operating parameters and comply with the same operating limits that are established to otherwise comply with the emission limits. Additionally, we added a definition of ‘‘startup’’ and ‘‘shutdown’’ in the definitions section of the final rule to specify when startup begins and ends, and when shutdown begins and ends. See section V.E.3 of this preamble for details on these changes.

F. What other changes are we making to the NESHAP and NSPS for the Phosphoric Acid Manufacturing source category?

Today’s rule also finalizes, as proposed, revisions to several other Phosphoric Acid Manufacturing NESHAP and NSPS requirements. We are finalizing, as proposed, several miscellaneous changes to clarify applicability and certain definitions, as follows:

- Adopting the proposed SPA process line definition in NESHAP subpart AA to include oxidation reactors;

- Adopting the proposed SPA plant definition in NSPS subpart U to include oxidation reactors;
- Finalizing the proposed revisions to rename ''gypsum stack'' to ''gypsum dewatering stack'' in NESHAP subpart AA; and
- Finalizing the proposed definitions for ''cooling pond'' and ''raffinate stream'' in NESHAP subpart AA.

We are finalizing, as proposed, several changes to testing, monitoring, recordkeeping and reporting requirements to provide consistency, clarification and flexibility, as follows:

- Finalizing the proposed revisions to NESHAP subpart AA that require a minimum pressure drop of 5 inches of water column for facilities that use pressure differential in parametric monitoring;
- Finalizing the proposal to remove the requirement in NESHAP subpart AA that facilities must request and obtain approval of the Administrator for changing operating limits;
- Adopting the proposed addition of a site-specific monitoring plan and calibration requirements for a continuous monitoring system (CMS) in NESHAP subpart AA;
- Adopting the proposed term ''absorber'' in lieu of ''scrubber'' in NESHAP subpart AA;
- Adopting the proposed format of NESHAP subpart AA to reference tables for emissions limits and monitoring requirements;
- Adopting the proposed provisions in NSPS subpart T and NSPS subpart U that require the owner or operator to establish an allowable range for the pressure drop through the process scrubbing system, keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations; and
- Adopting the proposed term ''absorber'' in lieu of ''process scrubbing system'' in NSPS subpart T and NSPS subpart U.

We are also finalizing changes to the NESHAP and NSPS for the Phosphoric Acid Manufacturing source category on issues raised in response to the proposed rulemaking, as follows (refer to section V.F.2 of this preamble for further details):

- Revising the definition of oxidation reactor in the final rule for NESHAP subpart AA and NSPS subpart U;
- Finalizing liquid-to-gas ratio monitoring in NESHAP subpart AA for low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) in lieu of monitoring influent liquid flow and pressure drop through the absorber;
- Clarifying in NESHAP subpart AA that during the most recent performance test, if owners or operators demonstrate compliance with the emission limit while operating their control device outside the previously established operating limit, owners or operators must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test; and
- Clarifying in NESHAP subpart AA that facilities not be required to obtain approval, and, instead, immediately comply with a new operating limit when it is developed and submitted to the Administrator.

G. What are the effective and compliance dates of the standards for the Phosphoric Acid Manufacturing source category?

The revisions to the NSPS and NESHAP standards we promulgate in this action for the Phosphoric Acid Manufacturing source category are effective on August 19, 2015.

The compliance date for the Hg limit in NESHAP subpart AA for existing phosphate rock calciners is August 19, 2015. Based on the data that the EPA has received, all existing phosphate rock calciners are meeting the Hg limit; therefore, no additional time would be required to achieve compliance with this standard.

The compliance date for the Hg limit in NESHAP subpart AA for new phosphate rock calciners is August 19, 2015, or upon startup, whichever is later. We are not aware of any new phosphate rock calciners operating today. New phosphate rock calciners that commence construction or reconstruction after the effective date of this rule would be required to comply with the Hg limits immediately upon startup.

The compliance date for the total fluoride limits in NESHAP subpart AA for all (existing and new) phosphate rock calciners is August 19, 2015, or upon startup, whichever is later. Based on the data that the EPA has received, all phosphate rock calciners are meeting the total fluoride limit; therefore, no additional time would be required to achieve compliance with this standard.

The compliance date in NESHAP subpart AA for preparing and operating in accordance with a gypsum dewatering stack and cooling pond management plan is August 19, 2016. A 1-year compliance lead-time will provide facilities adequate time to prepare and submit their plan for approval to the Administrator.

The compliance date for when facilities must include oxidation reactors in determining compliance with the total fluoride limit in NESHAP subpart AA for SPA process lines is August 19, 2016. We believe that 1 year is necessary because a facility may need to install additional control technology. A 1-year compliance period will provide the facility adequate time to design and install controls.

The compliance date in NESHAP subpart AA for when to install, calibrate, and maintain a bag leak detection system on a fabric filter is August 19, 2016. We believe that 1 year is necessary because some facilities that currently operate a fabric filter do not have a bag leak detection system and will need time to purchase and install this compliance monitoring equipment and implement quality assurance measures.

The compliance date in NESHAP subpart AA for the revised startup and shutdown requirements is August 19, 2015. We determined that the feasibility of operating the control devices used to control HAP emissions from phosphoric acid manufacturing is not limited by specific process operating conditions.

Finally, to ensure continuous compliance with the standard, the compliance date for the monitoring and recordkeeping requirements in NSPS subparts T and U for all new WPPA plants and SPA plants is August 19, 2015, or upon startup, whichever is later.

H. What are the requirements for submission of performance test data to the EPA for the Phosphoric Acid Manufacturing source category?

As stated in the preamble to the proposed rule, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is requiring owners and operators of phosphoric acid facilities to submit electronic copies of certain required performance test reports.

As mentioned in the preamble of the proposal, data will be collected by direct computer-to-computer electronic transfer using EPA-provided software. As discussed in the proposal, the EPA-provided software is an electronic performance test report tool called the ERT. The ERT will generate an electronic report package which will be submitted to the Compliance and Emissions Data Reporting Interface (CEDRI) and then archived to the EPA's Central Data Exchange (CDX). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html,* and CEDRI can be accessed through the CDX Web site at *www.epa.gov/cdx.*

The requirement to submit performance test data electronically to the EPA does not create any additional performance testing and will apply only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site. The EPA believes, through this approach, industry will save time in the performance test submittal process. Additionally, this rulemaking benefits industry by cutting back on recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be kept in hard copy.

As mentioned in the proposed preamble, state, local, and tribal agencies will benefit from more streamlined and accurate review of performance test data that will be available on the EPA WebFIRE database. The public will also benefit. Having these data publicly available enhances transparency and accountability. For a more thorough discussion of electronic reporting of performance tests using direct computer-to-computer electronic transfer and using EPA-provided software, see the discussion in the preamble of the proposal.

In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, state, local, and tribal agencies, and the EPA significant time, money, and effort, while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

IV. What is included in this final rule for the Phosphate Fertilizer Production source category?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 and the 8-year review provisions of CAA section 111 for the Phosphate Fertilizer Production source category. Today's action also finalizes several of the proposed changes to the NESHAP subpart BB and the NSPS subparts V, W, and X that are described in section II.C of this preamble. This action also finalizes other changes to the NESHAP subpart BB in consideration of comments on issues raised in the proposed rulemaking, as described in section VI of this preamble.

A. What are the final rule amendments based on the NESHAP risk review for the Phosphate Fertilizer Production source category?

The residual risk review for the Phosphate Fertilizer Production source category did not change since proposal; we found that the current standards provide an ample margin of safety to protect public health (79 FR 66512) and prevent an adverse environmental effect. We are, therefore, not tightening the standards under section 112(f)(2) (for NESHAP subpart BB) based on the residual risk review, and are thus readopting the existing standards under section 112(f)(2).

B. What are the final rule amendments based on the NESHAP technology review for the Phosphate Fertilizer Production source category?

The technology review for the Phosphate Fertilizer Production source category did not change since proposal (79 FR 66512). We determined that there are no cost-effective developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category (79 FR 66512). Therefore, we are not amending the MACT standards under CAA section 112(d)(6).

C. What are the final rule amendments based on the NSPS review for the Phosphate Fertilizer Production source category?

We are finalizing our determination that revisions to NSPS subpart V, subpart W, and subpart X standards are not appropriate pursuant to CAA section 111(b)(1)(B). All Phosphate Fertilizer Production NSPS (under subpart V, subpart W, and subpart X) emission sources, and the control technologies that would be employed, are the same as those for the NESHAP regulating phosphate fertilizer plants, such that we reached the same determination that there are no identified cost-effective practices or technologies that would provide additional emission reductions. Additionally, there were no identified technologies that have been adequately demonstrated to achieve in practice emission controls that would result in more stringent total fluoride limits for these NSPS.

D. What are the final rule amendments addressing emissions during periods of startup, shutdown, and malfunction for the Phosphate Fertilizer Production source category?

We are finalizing, as proposed, changes to the Phosphate Fertilizer Production NESHAP, subpart BB to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. Appendix A of subpart BB (the General Provisions Applicability Table) is being revised to change several references related to requirements that apply during periods of SSM. We also eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption. The EPA also made changes to the rule to remove or modify inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. For this source category, we determined that work practice standards for periods of startup and shutdown are appropriate in lieu of numeric emission limits due to the short duration of startup and shutdown, and control devices used on the various process lines in this source category are effective at achieving desired emission reductions immediately upon startup (79 FR 66551). Therefore, we are finalizing in NESHAP subpart BB the proposed work practice standards for periods of startup and shutdown. However, in consideration of comments received during the public comment period, we are making changes to the work practice standards in order to clarify that the standard applies in lieu of numeric emission limits and how compliance with the standard is demonstrated. In order to comply with the work practice standard, facilities must monitor the same control device operating parameters and comply with the same operating limits that are established to otherwise comply with the emission limits. Additionally, we added a definition of ''startup'' and ''shutdown'' in the definitions section of the final rule to specify when startup begins and ends, and when shutdown begins and ends. See section VI.D.3 of this preamble for details on these changes.

E. What other changes are we making to the NESHAP and NSPS for the Phosphate Fertilizer Production source category?

Today's rule also finalizes, as proposed, revisions to several other Phosphate Fertilizer Production NESHAP and NSPS requirements. We are finalizing, as proposed, changes to clarify applicability and certain definitions, as follows:

- Adopting the proposed conditions in NESHAP subpart BB that exclude the use of evaporative cooling towers for any liquid effluent from any wet scrubbing device installed to control HF emissions from process equipment; and
- Finalizing the proposed revisions changing the word ''cookers'' in NSPS subpart W to ''coolers.''

We are finalizing, as proposed, several changes to testing, monitoring, recordkeeping, and reporting to provide consistency, clarification, and flexibility, as follows:

- Finalizing the proposed revisions to NESHAP subpart BB that require a minimum pressure drop of 5 inches of water column for facilities that use pressure differential in parametric monitoring;

- Finalizing the proposal to remove the requirement in NESHAP subpart BB that facilities must request and obtain approval of the Administrator for changing operating limits;
- Adopting the proposed monitoring requirements for fabric filters in NESHAP subpart BB;
- Adopting the proposed addition of a site-specific monitoring plan and calibration requirements for CMS in NESHAP subpart BB;
- Adopting the proposed term ''absorber'' in lieu of ''scrubber'' in NESHAP subpart BB;
- Adopting the proposed format of NESHAP subpart BB to reference tables for emissions limits and monitoring requirements;
- Adopting the proposed provisions in NSPS subpart V, NSPS subpart W, and NSPS subpart X that require the owner or operator to establish an allowable range for the pressure drop through the process scrubbing system, keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations;
- Adopting the proposed term ''absorber'' in lieu of ''scrubbing system'' in NSPS subpart V; and
- Adopting the proposed term ''absorber'' in lieu of ''process scrubbing system'' in NSPS subpart W and NSPS subpart X.

We are also finalizing changes to the NESHAP and NSPS for the Phosphate Fertilizer Production source category on issues raised in response to the proposed rulemaking, as follows (refer to section VI.E.2 of this preamble for further details):

- Revising the definitions of ''phosphate fertilizer process line'' and ''phosphate fertilizer production plant'' in NESHAP subpart BB to reference granular phosphate fertilizer;
- Finalizing liquid-to-gas ratio monitoring in NESHAP subpart BB for low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) in lieu of monitoring influent liquid flow and pressure drop through the absorber;
- Clarifying in NESHAP subpart BB that during the most recent performance test, if owners or operators demonstrate compliance with the emission limit while operating their control device outside the previously established operating limit, owners or operators must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test; and
- Clarifying in NESHAP subpart BB that facilities not be required to obtain approval, and, instead, immediately comply with a new operating limit when it is developed and submitted to the Administrator.

F. What are the effective and compliance dates of the standards for the Phosphate Fertilizer Production source category?

The revisions to the NSPS and NESHAP standards being promulgated in this action for the Phosphate Fertilizer Production source category are effective on August 19, 2015.

The compliance date in NESHAP subpart BB for when to install, calibrate, and maintain a bag leak detection system on a fabric filter is August 19, 2016. We believe that 1 year is necessary because some facilities that currently operate a fabric filter do not have a bag leak detection system and will need time to purchase and install this compliance monitoring equipment and implement quality assurance measures.

The compliance date in NESHAP subpart BB for the revised startup and shutdown requirements is August 19, 2015. We determined that the feasibility of operating the control devices used to control HAP emissions from phosphate fertilizer production is not limited by specific process operating conditions.

Finally, to ensure continuous compliance with the standard, the compliance date for the monitoring and recordkeeping requirements in NSPS subparts V, W, and X for all new granular DAP plants, TSP plants, and GTSP storage facilities is August 19, 2015, or upon startup, whichever is later.

G. What are the requirements for submission of performance test data to the EPA for the Phosphate Fertilizer Production source category?

As stated in the preamble to the proposed rule, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is requiring owners and operators of phosphate fertilizer facilities to submit electronic copies of certain required performance test reports.

As mentioned in the preamble of the proposal, data will be collected by direct computer-to-computer electronic transfer using EPA-provided software. As discussed in the proposal, the EPA-provided software is an electronic performance test report tool called the Electronic Reporting Tool (ERT). The ERT will generate an electronic report package which will be submitted to the Compliance and Emissions Data Reporting Interface (CEDRI) and then archived to the EPA's Central Data Exchange (CDX). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html,* and CEDRI can be accessed through the CDX Web site at *www.epa.gov/cdx.*

The requirement to submit performance test data electronically to the EPA does not create any additional performance testing and will apply only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site. The EPA believes, through this approach, industry will save time in the performance test submittal process. Additionally, this rulemaking benefits industry by cutting back on recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be kept in hard copy.

As mentioned in the proposed preamble, state, local, and tribal agencies will benefit from more streamlined and accurate review of performance test data that will be available on the EPA WebFIRE database. The public will also benefit. Having these data publicly available enhances transparency and accountability. For a more thorough discussion of electronic reporting of performance tests using direct computer-to-computer electronic transfer and using EPA-provided software, see the discussion in the preamble of the proposal.

In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, state, local, and tribal agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

V. What is the rationale for our final decisions and amendments for the Phosphoric Acid Manufacturing source category?

For each issue related to the Phosphoric Acid Manufacturing source category, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the Comment Summary and Response document available in the docket.

A. Residual Risk Review for the Phosphoric Acid Manufacturing Source Category

1. What did we propose pursuant to CAA section 112(f) for the Phosphoric Acid Manufacturing source category?

Pursuant to CAA section 112(f), we conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the November 7, 2014, proposed rule for the Phosphoric Acid Manufacturing NESHAP (79 FR 66512). The results of the risk assessment are presented briefly below in Table 2 of this preamble, and in more detail in the residual risk document, ''Residual Risk Assessment for Phosphate Fertilizer Production and Phosphoric Acid Manufacturing Source Categories in support of the July 2015 Risk and Technology Review Final Rule,'' which is available in the docket for this rulemaking.

TABLE 2—HUMAN HEALTH RISK ASSESSMENT FOR PHOSPHORIC ACID MANUFACTURING

Category & number of facilities modeled	Cancer MIR (in 1 million)		Cancer incidence (cases per year)	Population with risks of 1-in-1 million or more	Population with risks of 10-in-1 million or more	Max chronic non-cancer HI		Worst-case max acute non-cancer HQ
	Based on actual emissions	Based on allowable emissions				Based on actual emissions	Based on allowable emissions	
Phosphoric Acid (12 facilities).	0.09	0.09	0.0002	0	0	0.2	0.3	HQ_{REL} = 2 (hydrofluoric acid) $HQ_{\mathrm{AEGL}} - 1 = 0.6$ (hydrofluoric acid).
Facility-wide (12 facilities).	0.5	....	0.001	0	0	0.2		

Based on actual emissions for the Phosphoric Acid Manufacturing source category, the maximum individual risk (MIR) was estimated to be less than 1-in-1 million, the maximum chronic non-cancer target organ-specific hazard index (TOSHI) value was estimated to be up to 0.2, and the maximum off-site acute hazard quotient (HQ) value was estimated to be up to 2. The total estimated national cancer incidence from this source category, based on actual emission levels, was 0.0002 excess cancer cases per year, or one case in every 5,000 years. Based on MACT-allowable emissions for the Phosphoric Acid Manufacturing source category, the MIR was estimated to be less than 1-in-1 million, and the maximum chronic non-cancer TOSHI value was estimated to be up to 0.3. We also found there were emissions of several persistent and bio-accumulative HAP (PB–HAP) with an available RTR multipathway screening value, and with the exception of Hg and cadmium compounds, the reported emissions of these HAP (*i.e.,* lead compounds, dioxin/furan compounds, and polycyclic organic matter (POM) compounds), were below the multipathway screening value for each compound. One facility emitted divalent Hg (Hg^{2+}) above the Tier I screening threshold level, exceeding the screening threshold by a factor of 7 and the cadmium emissions exceeded the cadmium screening threshold by a factor of 2. Consequently, we conducted a Tier II screening assessment, in which both pollutants of concern were below the Tier II screening threshold, indicating no potential for multipathway impacts of concern from this facility. The maximum facility-wide MIR was less than or equal to 1-in-1 million and the maximum facility-wide TOSHI was 0.2. We weighed all health risk factors in our risk acceptability determination, and we proposed that the residual risks from the Phosphoric Acid Manufacturing source category are acceptable.

We then considered whether the Phosphoric Acid Manufacturing NESHAP provides an ample margin of safety to protect public health and prevents, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. In considering whether the standards should be tightened to provide an ample margin of safety to protect public health, we considered the same risk factors that we considered for our acceptability determination and also considered the costs, technological feasibility, and other relevant factors related to emissions control options that might reduce risk associated with emissions from the source category. We proposed that the current standards provided an ample margin of safety to protect public health. With respect to adverse environmental effects, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the lowest-observed-adverse-effect level (LOAEL) or no-observed-adverse-effect level (NOAEL)). Based on the results of our screening analysis for risks to the environment, we also proposed that the current standards prevent an adverse environmental effect.

2. How did the risk review change for the Phosphoric Acid Manufacturing source category?

The residual risk review for the Phosphoric Acid Manufacturing source category did not change since proposal (79 FR 66512). Accordingly, we are not tightening the standards under section 112(f)(2) based on the residual risk review, and are thus readopting the existing standards under section 112(f)(2).

3. What key comments did we receive on the risk review, and what are our responses?

The comments received on the proposed residual risk review were generally supportive of our determination of risk acceptability and ample margin of safety analysis. However, we received several comments requesting we make changes to the residual risk review, including:

- Update the residual risk review with the recommendations and information from the National Academy of Sciences (NAS);
- Incorporate the best currently available information on children's exposure to lead, and go beyond using the 2008 Lead National Ambient Air Quality Standards (NAAQS);
- Reevaluate whether the residual risk review is consistent with the key recommendations made by the Science Advisory Board (SAB);
- Clarify in the rulemaking docket that data received by industry were commensurate with the relevant statutory obligations;
- Revise HF emission data because they are not representative of actual HF emissions, but rather overestimate emissions causing the residual risk review to have an overtly conservative bias;

- Reconsider the assumption used in the NESHAP residual risk assessment that all chromium is hexavalent chromium;
- Revise certain stack parameters used in the analysis;
- Clarify meteorological data used in the analysis;
- Adequately explain rationale for the maximum 1-hour emission rate used for determining potential acute exposures;
- Clarify the selection of ecological assessment endpoints; and
- Provide some quantitative or qualitative rationale for the characterization of the exposure modeling uncertainty.

We evaluated the comments and determined that no changes were needed. Since none of these comments had an effect on the final rule, their summaries and corresponding EPA responses are not included in this preamble. A summary of these comments and our responses can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

4. What is the rationale for our final approach and final decisions for the risk review?

For the reasons explained in the proposed rule, we determined that the risks from the Phosphoric Acid Manufacturing source category are acceptable, the current standards provide an ample margin of safety to protect public health, and prevent an adverse environmental effect. Since proposal, neither the risk assessment nor our determinations regarding risk acceptability, ample margin of safety or adverse environmental effects have changed. Therefore, pursuant to CAA section 112(f)(2), we are finalizing our residual risk review as proposed.

B. Technology Review for the Phosphoric Acid Manufacturing Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Phosphoric Acid Manufacturing source category?

Pursuant to CAA section 112(d)(6), we conducted a technology review, which focused on identifying and evaluating developments in practices, processes, and control technologies for the emission sources in the Phosphoric Acid Manufacturing source category. At proposal, we did not identify cost-effective developments in practices, processes, or control technologies that warrant revisions to the NESHAP for this source category. More information concerning our technology review can be found in the memorandum, ''CAA Section 111(b)(1)(B) and 112(d)(6) Reviews for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production Source Categories,'' which is available in the docket, and in the preamble to the proposed rule, 79 FR 66538–66539.

2. How did the technology review change for the Phosphoric Acid Manufacturing source category?

The technology review for the Phosphoric Acid Manufacturing source category did not change since proposal (79 FR 66512). Therefore, we are not revising NESHAP subpart AA based on the technology review.

3. What key comments did we receive on the technology review, and what are our responses?

Commenters agreed with our conclusion that there are no new cost-effective developments in practices, processes, or control technologies that can be applied to the Phosphoric Acid Manufacturing source category that would reduce HAP emissions below current levels.

4. What is the rationale for our final approach for the technology review?

For the reasons explained in the proposed rule, we concluded that additional standards are not necessary pursuant to CAA section 112(d)(6); therefore, we are not finalizing changes to NESHAP subpart AA as part of our technology review.

C. CAA Sections 112(d)(2), 112(d)(3), and 112(h) for the Phosphoric Acid Manufacturing Source Category

1. What did we propose pursuant to CAA sections 112(d)(2), 112(d)(3), and 112(h) for the Phosphoric Acid Manufacturing source category?

We proposed MACT standards for HF and Hg pursuant to CAA sections 112(d)(2) and 112(d)(3), and work practice standards pursuant to CAA section 112(h), for phosphate rock calciners, an emissions source that was initially regulated for HAP metals using PM as a surrogate. We proposed regulating two pollutants, Hg and HF, which were not directly regulated under the initial NESHAP subpart AA. We proposed eliminating the use of PM as a surrogate for Hg and proposed a Hg emission limit for phosphate rock calciners. Because control devices may be necessary to meet the proposed Hg limits for phosphate rock calciners, we proposed monitoring and testing requirements in NESHAP subpart AA for the two types of control systems evaluated as alternatives for control of Hg: Adsorbers (typically fixed bed carbon), and sorbent injection (*i.e.,* activated carbon injection (ACI)) followed by a wet electrostatic precipitator (WESP) or followed by fabric filtration. We also proposed the addition of methods to monitor emissions of Hg using continuous emissions monitoring systems (CEMS). We also proposed a maximum calcination temperature of less than 1,600 degrees Fahrenheit for phosphate rock calciners as a work practice standard to control HF emissions. In addition to proposing a maximum calcination temperature, we proposed to require that emissions from phosphate rock calciners be routed to an absorber to limit emissions of HF from phosphate rock calciners.

Also, we did not propose revised emissions limits for rock dryers because this process is no longer used in the NESHAP regulated source categories for phosphoric acid or phosphate fertilizer (*i.e.,* the rock dryers that were previously used in this industry are no longer in operation).

Finally, we proposed a work practice applicable to facilities when new gypsum dewatering stacks are constructed that would limit the size of active gypsum dewatering stacks and control fugitive HF emissions. When new gypsum dewatering stacks are constructed, we proposed that the ratio of total active gypsum dewatering stacks area (*i.e.,* sum of the footprint acreage of all existing and new active gypsum dewatering stacks combined) to annual phosphoric acid manufacturing capacity must not be greater than 80 acres per 100,000 tons of annual phosphoric acid manufacturing capacity (equivalent P_2O_5 feed). As we stated in the preamble to the proposed rule, limiting the size of gypsum dewatering stacks would minimize emissions by creating an upper bound on emissions. We also proposed work practice standards to control HF emissions from gypsum dewatering stacks and cooling ponds. We proposed a list of control techniques for facilities to use in development of a site-specific gypsum dewatering stack and cooling pond management plan to control fugitive HF emissions. Unless the active gypsum dewatering stack or cooling pond commenced construction or reconstruction after the date of publication of the final rule, we proposed that each facility use at least one of these control techniques. For each active gypsum dewatering stack or cooling pond that commenced construction or reconstruction after the date of publication of the final rule, we proposed that each facility use two of the listed control techniques.

2. How did our final rule change from what we proposed pursuant to CAA sections 112(d)(2), 112(d)(3), and 112(h) for the Phosphoric Acid Manufacturing source category?

In consideration of comments received during the public comment period for the proposed rulemaking, we are finalizing the proposed BTF Hg limit in NESHAP subpart AA for new phosphate rock calciners. We are not finalizing the proposed BTF Hg limit in NESHAP subpart AA for existing phosphate rock calciners. Instead, we are finalizing a MACT floor Hg limit for existing phosphate rock calciners based on the results of the MACT floor calculations for Hg that are discussed in the preamble of the proposed rule (79 FR 66533). We are also revising our estimated costs in the final rule as discussed in section V.C.3.a.i of this preamble. In addition, we are not finalizing work practice standards for HF from phosphate rock calciners, as proposed. Instead, as discussed in section V.C.3.a.ii of this preamble, we are including a total fluoride emission limit for phosphate rock calciners in NESHAP subpart AA.

Also, in consideration of comments received (see section V.C.3.b.i of this preamble for details), we are not adopting the proposed work practice in NESHAP subpart AA that limits the size of active gypsum dewatering stacks (which would have been applicable to facilities when new gypsum dewatering stacks are constructed). Lastly, we are finalizing in NESHAP subpart AA the work practice standard as proposed that requires owners or operators to prepare and operate in accordance with a gypsum dewatering stack and cooling pond management plan. However, based on analysis of public comments, we are making several changes to the specific control techniques that we proposed as options in the plan for controlling fugitive HF emissions (see section V.C.3.b.ii of this preamble for details on these changes).

3. What key comments did we receive on what we proposed pursuant to CAA sections 112(d)(2), 112(d)(3), and 112(h), and what are our responses?

We received several comments regarding the proposed addition of numeric emission limits for Hg and work practice standards for HF emissions from phosphate rock calciners, and the addition of gypsum dewatering stack and cooling pond work practices for the Phosphoric Acid Manufacturing source category. The following is a summary of the significant comments we received regarding these topics and our responses to them. Other comments received and our responses to those comments can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

a. MACT and Work Practice Standards for Phosphate Rock Calciners—i. Hg Emission Limits for Phosphate Rock Calciners—Comment. Some commenters did not support the EPA's decision to set a BTF limit for Hg from phosphate rock calciners because the emissions do not present unacceptable risks nor do the emission limits yield any benefits. The commenters stated that the EPA fails to show that the proposed BTF Hg limit would produce health or environmental benefits that justify the costs of achieving the standard as they assert is required by CAA section 112(d)(2). Commenters further claimed that the EPA's own risk assessment shows that the BTF limit is not necessary from a risk standpoint because the NESHAP regulation, prior to implementation of the proposed Hg BTF limits, provides an ample margin of safety to protect public health and prevents, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The commenters maintained that under CAA section 112(d)(2), the EPA may set an emission limit that is more stringent than the MACT floor only if the Agency determines that the BTF limit is ''achievable'' based on a consideration of the relative costs and benefits. One commenter cited regulations where the EPA did not set BTF limits for a particular pollutant because the benefits were minimal and the risk would not be appreciably reduced. Commenters supported setting the MACT floor as the Hg limit.

Commenters stated the Hg control devices that the EPA evaluated for the phosphate rock calciner BTF limit were not technically feasible, but did note two potential solutions. Specifically, the commenters stated that use of ACI just prior to the existing WESP or after the WESP with a fabric filter is not technically feasible. The commenters explained the exhaust gas downstream of the WESP is completely saturated and contains entrained water droplets; this would plug the fabric filter, result in performance degradation of the activated carbon, and could lead to plugging of the injection lances and formation of deposits on the ducts. The commenters further explained that it would not be feasible to install heating systems or design engineering control to avoid these problems, due to high costs and the technical complexity. The commenters noted that installing the ACI just prior to the WESP was also not feasible, again due to performance degradation of the activated carbon, but also due to the fact that the existing WESPs could not capture the additional particulate load. The commenters reported that installing the ACI upstream of the existing venturi scrubber is technically feasible, because the gas upstream of the scrubber is not completely saturated. However, the commenters noted several design and operational modifications that would be necessary; these modifications focused on reducing the temperature of the exhaust gas streams to less than 375 degrees Fahrenheit. When installing ACI upstream of the existing venturi scrubber, the ACI vendor used by the commenter recommended the use of treated (*e.g.,* halogenated) carbon at an injection rate of 30 lb/MMacf, in order to meet the BTF Hg limit. The commenter said that the carbon injection rate may need to be as much as 30 lb/MMacf based on site-specific conditions, such as temperature, Hg concentration, moisture, and sulfur content of the phosphate rock calciner exhaust stream. In support of a high injection rate, the commenter also cited a reference from 1994 that observed an increased injection rate was necessary due to temperature of the exhaust gas stream.

Regarding fixed-bed carbon adsorption, commenters stated a traditional fixed-bed carbon adsorption system would not be feasible due to the presence of entrained water droplets that would severely degrade sorbent performance and cause plugging within the bed. The commenters indicated that new Gore Mercury Control System (GMCS) technology might be technically feasible because it uses a fixed sorbent structure with a sorbent polymer composite material to adsorb Hg; the GMCS polymer composite material might protect the sorbent from entrained water droplets and other contaminants in the flue gas. The commenters stated that to use a GMCS fixed-bed carbon adsorption system, several adjustments to the calciners would be necessary, as well as a pilot study to confirm the feasibility. Another commenter also reported they were evaluating the use of the GMCS system, but were only in preliminary stages as their phosphate rock calciner is not yet operating. A commenter also explained that each phosphate rock calciner would need its own controls and a single control system for all phosphate rock calciners would not be feasible due to safety and operational concerns.

Several commenters argued that ACI and fixed-bed carbon adsorption were not cost effective for controlling Hg emissions from phosphate rock calciners. Two commenters reported a site-specific cost estimate for installing GMCS fixed-bed carbon adsorption downstream of the existing WESP, with capital costs of $32 million and annual costs of $5.8 million; the resulting cost-effectiveness was approximately $40,000 per pound of Hg. The commenters noted the GMCS cost-effectiveness ($40,000/lb Hg) was much higher than the cost-effectiveness the EPA presented in the proposed rule ($8,000/lb Hg) for a traditional fixed-bed carbon adsorption system. Commenters also reported a site-specific cost estimate for installing ACI upstream of the existing venturi scrubbers, with capital costs of $21.1 million and annual costs of $9.1 million; this resulted in a cost-effectiveness of approximately $63,000 per pound of Hg. The commenters noted this ACI cost-effectiveness ($63,000/lb Hg) was much higher than the cost-effectiveness the EPA presented in the proposed rule ($12,100/lb Hg) for ACI. The commenters stated that because their costs for ACI and GMCS fixed-bed carbon adsorption were site-specific, they are much more representative than the costs developed by the EPA for the proposed rule. Finally, one commenter stressed that the site-specific Hg control cost-effectiveness numbers were well above the cost-effectiveness for other rules where the EPA implemented BTF Hg controls. Another commenter noted that preliminary information for installing Hg controls resulted in estimates of $17.5 million in capital costs and $10 million for annual costs.

Response. Based on these comments, the Agency revised the BTF costs analysis and determined that setting a BTF Hg emission limit for existing phosphate rock calciners would impose a significant economic impact to PotashCorp (PCS) Aurora, the only facility that we are aware of with phosphate rock calciners; therefore, we are not finalizing the BTF Hg limit for existing phosphate rock calciners. The annualized control costs for this company would be approximately 0.9 percent to 5.3 percent of revenues (see ''PCS Phosphate Response to USEPA Request for Aurora Plant Financial Information, May 8, 2015,'' which is available in the docket for this rulemaking). While these costs are small for the industry, they may be significant for the company and particularly significant for the facility. For the company, there may be a negative impact on profitability. If the company is unable to pass on the increase in the cost of manufacturing the product by raising prices, the facility will either face a potentially significant reduction in profitability or have to close a process or facility. Therefore, the Agency is finalizing a MACT floor Hg limit of 0.14 milligrams (mg) Hg per dry standard cubic meter (dscm) at 3-percent O_2 for existing phosphate rock calciners and does not anticipate that any facilities will need to install a new control device to meet the existing phosphate rock calciner Hg limit. Also, we are finalizing the proposed BTF Hg limit (*i.e.,* 0.014 mg Hg/dscm at 3-percent O_2) for new phosphate rock calciners, as facilities should be better able to plan for the costs of controls for new sources. The following discussion provides the details of these decisions.

The results of the residual risk analyses are not part of the BTF MACT determination, and, accordingly, the commenters' concern about not considering risk results is not appropriate. See *Sierra Club* v. *EPA,* 353 F.3d 976, 981 (D.C. Cir. 2004). Analyzing the risk would not be a practical requirement, as, typically, MACT standards are set in advance of a residual risk or technology review of the standard. Additionally, the statutory language excerpt cited by the commenter does not accurately reflect the CAA language, which requires the Agency to consider costs associated with the emission reductions, but does not require a demonstration of benefits. The Agency appropriately met its requirements under CAA section 112(c) and (d) by first evaluating a MACT floor level of control for Hg emissions from phosphate rock calciner units and then evaluating cost-effective controls for further reducing emissions BTF level.

The Agency appreciates the commenters' site-specific review of Hg control device technologies and agrees with the commenters' revisions to certain aspects of the technical feasibility of ACI and fixed-bed carbon adsorption. At proposal, we noted that high moisture streams may result in plugging of the fabric filter, as it relates to ACI use. However, we did not consider that entrained water droplets in the high moisture streams would degrade carbon sorbent performance for both ACI and fixed-bed carbon adsorption, or lead to plugging within a fixed-bed. As a result of the additional information provided by the commenters, we agree that it is not technically feasible to use ACI just prior to the existing WESP or after the WESP with a fabric filter to control Hg emissions from phosphate rock calciners, based on current operations. Based on information available at this time, we also agree that a traditional fixed-bed carbon adsorption system is not technically feasible to control Hg emissions from phosphate rock calciners.

The commenters also stated, and the EPA agrees, that use of ACI (specifically halogenated carbon) is technically feasible to control Hg emissions from phosphate rock calciners if ACI is installed upstream of the existing venturi scrubber, where the moisture content is lower. However, we disagree with the commenters' assessment that a carbon injection rate of 30 lb/MMacf would be necessary to achieve a 90 percent reduction in Hg emissions from phosphate rock calciners. The commenters' carbon injection rate estimate is much higher than ACI installations at coal power plants and cement kilns, and while phosphate rock calciners may have unique exhaust gas properties, these properties do not warrant such an extreme carbon feed rate.

To provide additional context on carbon injection rates, we reviewed numerous ACI Hg reduction studies conducted through a National Energy Technology Laboratory (NETL) research program under the Department of Energy (DOE), as well as other studies, which are available in Docket ID No. EPA–HQ–OAR–2012–0522. In our review, we considered the impact on carbon injection rates due to temperature, moisture content, Hg concentration, sulfur content (*i.e.,* sulfur trioxide (SO_3) concentration), and carbon sorbent type. Considering the information in these studies, we found it common for carbon injection rates of 5 lb/MMacf or less to result in 90 percent Hg removal, although higher injection rates are warranted in some instances. We also found that at certain facilities, high injection rates do not result in 90 percent Hg removal; however, in several of these cases those data are for standard powdered activated carbon (PAC), *i.e.,* activated carbon that has not been treated with halogens, or exhaust gases containing high SO_3 concentrations. Specifically, we identified a 2008 document[3] that combines results from several studies demonstrating the relationship between PAC injection rate (lb/MMacf) and percent Hg removal. While Figure 2 in this 2008 document shows injection rates up to 20 lb/MMacf using standard

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[3] Refer to Figures 2 and 3 of ''DOE NETL Hg Field Testing Update_2008'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522.

PAC (*e.g.,* not halogenated carbon), data for halogenated PAC, in Figure 3 of the 2008 document, shows a maximum of approximately 9 lb/MMacf in order to achieve 90 percent Hg removal from the gas stream. It accords with our general knowledge that standard PAC can have a high control efficiency if halogens are present in the flue gas to oxidize elemental Hg so that it can be adsorbed on the particles injected and subsequently captured in the particle control device. Thus, if halogens are not present in sufficient quantities to oxidize the elemental Hg present, the unoxidized Hg present will continue to be emitted, since it would not be adsorbed on the particles and captured in the particle control device. This situation can be remedied through the use of halogenated PAC, which will oxidize the elemental Hg present so that it can be adsorbed on the particles and later captured. Thus, while we agree with the vendor's recommendation that halogenated PAC is most likely to result in better Hg removal efficiencies for the phosphate rock calciners, we disagree with the relevance of the commenter's cited 1994 document. The ACI vendor used by the commenter recommended treated (*e.g.,* halogenated) PAC as the most likely sorbent type for phosphate rock calciner Hg treatment and the cited 1994 document evaluated standard PAC. In addition, as noted above, there have been more recent studies and significant progress in PAC design since 1994, and as such we do not believe the PAC evaluated in the 1994 document would result in the Hg reductions that today's PAC can achieve. Therefore, we determined that PAC type is a critical factor for Hg removal efficiencies for this source category.

The commenter also noted that modifications focused on reducing the temperature of the exhaust gas streams would be necessary in order for ACI to be effective when installed prior to the existing venturi scrubber. This reduced operating temperature for the phosphate rock calciner exhaust would be in a similar range as coal utility boilers; it is common for coal utility boilers to have exhaust gases at temperatures exceeding 300 degrees Fahrenheit (see the documents ''Coal Plant Hg Controls Update_EPA_2005'' and ''DOE NETL Hg Field Testing Update_2008,'' which are available in Docket ID No. EPA–HQ–OAR–2012–0522). Therefore, the cited coal utility boiler studies are appropriate and show that ACI is effective in the new temperature range. This further refutes the commenter's citation of the 1994 document regarding temperature concerns and the necessity of an injection rate as high as 30 lb/MMacf.

Data are available demonstrating that increased SO_3 levels are detrimental to sorbent performance. We found that higher carbon injection rates are typical for plants with higher SO_3 concentration in the exhaust stream; for coal utility boilers, this can occur when the fuel is high-sulfur bituminous coal. The concentration of SO_3 in emissions from coal utility boilers is also increased by certain control devices (*e.g.,* selective catalytic reduction) that do not exist at the phosphate rock calciners. For information on SO_3 impacts, see the documents ''DOE NETL Hg Field Testing Update_2008'' and ''ADA ACI Overview_2010,'' which are available in Docket ID No. EPA–HQ–OAR–2012–0522. Of note, certain PAC sorbents are designed to work in high-sulfur environments (see the document ''Calgon Fluepac ST brochure,'' available in Docket ID No. EPA–HQ–OAR–2012–0522). Based on this available information, we do not believe SO_3 concentration in the phosphate rock calciner exhaust gas stream will severely impact ACI performance to a level requiring a carbon injection rate of 30 lb/MMacf.

Additionally, we identified a pilot study that was conducted in 2007 on a cement kiln at the Ash Grove Durkee facility that resulted in more than 90 percent Hg removal efficiencies using carbon injection rates of only 3 lb/MMacf. Of note, the Hg concentration in the cement kiln exhaust gas was more than 10 times higher than the Hg concentration in the phosphate rock calciner exhaust gas. This study is presented in the document ''Carbon Injection Pilot Test Durkee OR_2007,'' available in Docket ID No. EPA–HQ–OAR–2012–0522.

While we acknowledge that phosphate rock calciner exhaust streams may have certain unique characteristics, we do not agree with a PAC injection rate of 30 lb/MMacf based on the data available, as discussed above. We believe a halogenated PAC injection rate of 10 lb/MMacf or lower (for ACI installed upstream of the existing venturi scrubbers) is sufficient for meeting the BTF Hg limit for phosphate rock calciners.

Commenters also noted, and the EPA agrees, that GMCS technology would be technically feasible to control Hg emissions from phosphate rock calciners. We also agree that individual GMCS fixed-bed carbon adsorption systems would be necessary for each of the six phosphate rock calciners. The commenters noted that two full-scale operations are actively using GMCS fixed-bed carbon adsorption systems to control Hg. Furthermore, based on additional discussion with industry (see ''EPA Meeting Minutes for PCS Aurora Hg Discussion, March 12, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we now know that three full-scale operations use GMCS to control Hg, with two additional operations to come online soon. These full-scale operations are located at coal power plants, not phosphoric acid manufacturing processes. Based on the vendor-provided information and the fact that GMCS technology is currently used at coal power plants to comply with Hg emission limits, we believe GMCS technology is technically feasible. In regards to the need for a pilot study, facilities would have time to design, construct, and test the system.

Although we have determined that two control technologies are technically feasible to control Hg emissions from phosphate rock calciners, we evaluated costs for the BTF Hg limit based on the estimated lower cost technology, installation of halogenated ACI upstream of the existing venturi scrubber. We used the ACI cost data provided by the commenter to estimate the costs for complying with the BTF Hg limit. However, instead of basing the annual carbon cost on an injection rate of 30 lb/MMacf, we applied injection rates of 5 and 10 lb/MMacf of halogenated carbon for reasons stated above. As provided by the commenter, the capital cost for installing six ACI units on each existing phosphate rock calciner is approximately $21,150,000. The annual cost ranges from approximately $4,320,000 (when a carbon injection rate of 5 lb/MMacf is used) to approximately $5,280,000 (when a carbon injection rate of 10 lb/MMacf is used); this results in Hg reductions of 145 pounds of Hg per year. As previously stated, these annual costs imposed a significant economic burden and we are not finalizing the BTF Hg limit for existing phosphate rock calciners.

Existing phosphate rock calciners must comply with a Hg emission limit that equals the MACT floor at 0.14 mg Hg/dscm at 3-percent O_2. The MACT floor was calculated using the upper prediction limit (UPL) methodology, which was discussed in the preamble of the proposed rule (see 79 FR 66533) and is also discussed in the memorandums ''Maximum Achievable Control Technology (MACT) Floor Analysis for Phosphate Rock Calciners at Phosphoric Acid Manufacturing Plants—Final Rule'' and ''Use of the Upper Prediction Limit for Calculating MACT Floors,'' which are available in the docket for this action. Based on the available data, the existing phosphate rock calciners would be able to comply with this limit without installing additional Hg controls.

We evaluated application of the BTF Hg limit for new phosphate rock calciners. Facilities would have time to plan for and consider the costs when determining whether to construct a new phosphate rock calciner. Additionally, sources may choose to only add one new calciner unit at a time, which would have considerably less impact than the costs associated with retrofitting all units at an existing site. Therefore, we evaluated the cost-effectiveness for installing Hg controls on a new phosphate rock calciner. Using the same cost data provided by the commenter, installing a single ACI would have capital costs of approximately $3,500,000. The annual cost ranges from approximately $720,000 (when a carbon injection rate of 5 lb/MMacf is used) to approximately $880,000 (when a carbon injection rate of 10 lb/MMacf is used). This results in Hg reductions of 24 pounds of Hg per year for a single calciner unit, assuming the new phosphate rock calciner has similar emissions as the existing phosphate rock calciners at PCS Aurora. The resulting cost-effectiveness is estimated to be $29,800 to $36,400 per pound of Hg reduced, which we consider cost effective for new sources. This facility-level cost-effectiveness for Hg for new sources is comparable to values the EPA found to be cost effective for removal of Hg at the facility-level in other air toxics rules.[4] Consequently, new phosphate-rock calciners must comply with the BTF Hg emission limit of 0.014 mg Hg/dscm at 3-percent O_2.

ii. HF Work Practices for Phosphate Rock Calciners—Comment. We received comment regarding HF work practices for phosphate rock calciners. One commenter supported the HF work practices and stated they are consistent with their current phosphate rock calciner operations. Another commenter does not support the implementation of HF work practices for phosphate rock calciners. This commenter, which is considering installation of a calciner in the future, noted that preliminary results indicate a calcination temperature of at least 2,000 degrees Fahrenheit is necessary for their phosphate rock calciner. This commenter also explained they are evaluating a flash calciner, which operates with a much shorter retention time than the fluidized bed calciners currently in operation. The commenter argued that wet scrubbers should not be a requirement of the HF work practice because their phosphate rock calciner will be located in a remote area where treatment and disposal options for scrubber liquors may not be feasible. The commenter recommended the EPA allow for other control technologies with equivalent efficiencies.

Another commenter does not support the use of work practices for HF, and declared the EPA should set numeric emission limits for HF from phosphate rock calciners. The commenter maintained that the EPA failed to satisfy the CAA section 112(h) test it must meet to promulgate work practice standards ‘‘in lieu of’’ numerical emission standards. The commenter stated that not using the available emissions data to set a floor limit is unlawful and arbitrary, even if the data are below the detection limit.

Response. We are not adopting the proposed HF work practice standard for phosphate rock calciners in NESHAP subpart AA. Instead, we are adopting an emission limit for total fluoride from phosphate rock calciners. In proposing the HF work practices, we concluded that it was not feasible to prescribe or enforce an emission limit for HF due to limitations in the available EPA Method 320 HF test results (*i.e.,* most of the emissions data were below the method detection limit). We now have concluded, based on analysis of public comments, that it is not feasible to accurately measure HF emissions from phosphoric acid manufacturing processes using EPA Method 320 (see section V.F.3.c of this preamble for further details). However, data are available to establish an emission limit for total fluoride from phosphate rock calciners. In 2015 only one facility operates phosphate rock calciners, which are controlled by a venturi-type scrubber. In response to the April 2010 CAA section 114 request, the facility provided EPA Method 13B total fluoride emission testing results for one of their six identical phosphate rock calciners. We conclude that the total fluoride emission rate achieved by this phosphate rock calciner characterizes the emissions from all six calciners and thus this emission rate was used to determine the MACT floor for total F emissions. Therefore, for phosphate rock calciners, we are setting total F emission limits. We are also setting a work practice standard for periods of startup and shutdown in lieu of this numeric emission limit (see section V.E.3 of this preamble for further details). The use of total fluoride as a surrogate for the HAP HF is consistent with WPPA, SPA, and DAP/MAP process lines, which also have total fluoride emission limits in lieu of HF emission limits.

For the Phosphoric Acid Manufacturing source category, we have a limited dataset for the pollutant total fluoride from phosphate rock calciners. Therefore, we evaluated this specific dataset to determine whether it is appropriate to make any modifications to the UPL approach used to calculate the MACT floor. For the phosphate rock calciner dataset, we performed the following steps: We selected the data distribution that best represents the dataset; ensured that the correct equation for the distribution was then applied to the data; and compared individual components of the limited dataset to determine if the total fluoride standard based on the limited dataset reasonably represents the performance of the units included in the dataset. The results of this analysis are presented below.

The MACT floor dataset for total fluoride from new and existing phosphate rock calciners includes 3 test runs from 1 phosphate rock calciner. After determining that the dataset is best represented by a normal distribution and ensuring that we used the correct equation for the distribution, we considered the selection of a lower confidence level for determining the emission limit by evaluating whether the calculated limit reasonably represents the performance of the unit upon which it is based. In this case, the calculated emission limit is about twice the short-term average emissions from the best performing source, indicating that the emission limit is not unreasonable compared to the actual performance of the unit upon which the limit is based and is within the range that we see when we evaluate larger datasets using our MACT floor calculation procedures. Therefore, we determined that no changes to our standard UPL floor calculation procedure are warranted for this pollutant and subcategory. We are applying the same method of calculating a total fluoride limit as we did for the Hg MACT floor calculation, for which we gave notice in the preamble to the proposed rule. Additional details and background on the MACT floor calculation are provided in the memorandums, ‘‘Maximum Achievable

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[4] National Emission Standards for Hazardous Air Pollutants: Mercury Emissions from Mercury Cell Chlor-Alkali Plants (76 FR 13852); National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (76 FR 24976 and 77 FR 9304); and National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category (75 FR 22470).

Control Technology (MACT) Floor Analysis for Phosphate Rock Calciners at Phosphoric Acid Manufacturing Plants—Final Rule,'' ''Approach for Applying the Upper Prediction Limit to Limited Datasets,'' and ''Use of the Upper Prediction Limit for Calculating MACT Floors,'' which are available in the docket for this action. We also evaluated BTF options for total F, but were unable to identify any cost-effective BTF technologies. Table 3 of this preamble provides the results of the new and existing phosphate rock calciner MACT floor calculations (considering variability) for total F.

TABLE 3—RESULTS OF THE NEW AND EXISTING MACT FLOOR CALCULATIONS FOR TOTAL FLUORIDE FROM PHOSPHATE ROCK CALCINERS AT PHOSPHORIC ACID MANUFACTURING FACILITIES

Pollutant	Results	Units
Total fluoride (for new and existing sources)	9.0E–04	lb/ton of rock feed.

b. Gypsum Dewatering Stack and Cooling Pond Work Practices—i. Ratio of Gypsum Dewatering Stack Area to Phosphoric Acid Manufacturing Capacity—Comment. Several commenters requested that the EPA either reconsider, withdraw, or eliminate the proposed gypsum dewatering stack area limitation of 80 acres per 100,000 tpy capacity (in equivalent P_2O_5 feed). Commenters claimed the use of flawed data and assumptions in the EPA's analysis in the following areas: (1) Ambiguous definitions of a ''gypsum dewatering stack,'' and ''new'' and ''existing'' stacks; (2) inaccurate or outdated data on acreage of existing stacks and production capacity, stack closures, and plans for new stacks; (3) flawed or missing rationale and correlation between the gypsum dewatering stack area and phosphoric acid manufacturing capacity; (4) no technical or legal basis for the selection of the 80-acre cutoff; (5) no consideration given to site-specific variables that influence the acreage of gypsum dewatering stacks; and (6) failure to consider impacts from closing an existing stack prior to commissioning a new stack.

These commenters claimed the term ''gypsum dewatering stack'' is so broadly and ambiguously defined they are unable to determine the scope and impact of the proposed area limitation of 80 acres per 100,000 tpy capacity, or how the proposed limitation would be applied to facilities. They claimed the EPA's definition includes a wide array of features that have never before been considered part of the gypsum dewatering stack (*e.g.,* pumps, piping, all collection and conveyance systems associated with gypsum to the stack and process wastewater return to the plant). Commenters argued that the EPA underestimated stack acreage used in the analysis and that the estimates should be much larger when the ''total system'' acreage is used. These commenters stated that using the ''total system'' acreage in the analysis demonstrates that the EPA significantly underestimated the number of acres at each facility that would need to be closed. One of these commenters asked whether a vertical expansion of an existing stack would be considered a ''new'' facility, and how the proposed work practice might be evaluated for compliance when surfaces of a ''closed'' facility might be overlapped by an immediately-adjacent ''new'' facility.

Additionally, commenters argued that the EPA's technical rationale for limiting stack area was based on an arbitrary correlation with production capacity. One of these commenters said there is no relationship between gypsum dewatering stack area and phosphoric acid manufacturing capacity, and that outliers were removed from the analysis further confirming no quantitative relationship between stack area and facility capacity. This commenter also asserted that limiting the size of the gypsum dewatering stacks is not proven to limit HF emissions.

Furthermore, two commenters claimed the 80-acre limit does not consider an evaluation of water balance and process water cooling needs for individual facilities. These commenters pointed out that a flat area does not require as large of a footprint for its gypsum dewatering stacks as compared to an area with large topographic relief. One of these commenters provided examples of two gypsum dewatering stacks located in mountainous areas that require larger footprints to construct ponds due to longer runs of pipe, roads, and dike.

Finally, one commenter claimed that an updated acreage-based analysis would need to account for the transition period between a stack becoming ''inactive'' and the point in time of ''closure'' so as not to exceed the acreage limit while constructing a new stack. Another commenter stated that the startup of a gypsum dewatering stack is a lengthy process that may take more than a year, and that the ''ratio'' requirement inaccurately assumes simultaneous closure of an old stack with the opening (*i.e.,* new construction) of a new stack. Another commenter also contended that construction and closure take years to complete and occur simultaneously, and that closing a gypsum dewatering stack before beginning construction on a new stack would require an entire companion production facility to be idled for an extended period and impose ''enormous direct and lost opportunity costs . . . such costs and plant idling are not justified.''

Response. We agree with commenters that the proposed definition of ''gypsum dewatering stack'' is too broad. As we stated in the preamble to the proposed rule, we intended the proposed ratio limit to apply to only the ''footprint acreage'' of the gypsum dewatering stacks, which was deliberately meant to exclude the areas where many supplementary processes (such as pumps, piping, ditches, drainage conveyances, water control structures, collection pools, cooling ponds, surge ponds, auxiliary holding ponds, and any other collection or conveyance system) are located. Therefore, we did not underestimate stack acreage used in the gypsum dewatering stack area limitation analysis, nor did we underestimate the number of acres at each facility that would need to be closed. However, in an effort to clarify the specific emission source that we are regulating in the final rule (NESHAP subpart AA), we have included a new term, ''gypsum dewatering stack system,'' and revised the definition of ''gypsum dewatering stack'' in the final rule. We are finalizing ''gypsum dewatering stack system'' to mean ''the gypsum dewatering stack, together with all pumps, piping, ditches, drainage conveyances, water control structures, collection pools, cooling ponds, surge ponds, auxiliary holding ponds, regional holding ponds and any other collection or conveyance system associated with the transport of gypsum from the plant to the gypsum dewatering stack, its management at the gypsum dewatering stack, and the process wastewater return to the phosphoric acid production or other process.'' We are finalizing ''gypsum dewatering stack'' to mean ''any defined geographic area associated with a phosphoric acid manufacturing plant in which gypsum is disposed of or stored, other than within a fully enclosed building, container, or tank.'' This revised definition of ''gypsum dewatering stack'' is based on Florida Administrative Rule 62–273.200 which regulates phosphogypsum management, and clearly includes any gypsum disposal pile, as well as the associated gypsum pond (which is also known as a settling pond, used to deposit the gypsum slurry, and is often located in the middle of the gypsum disposal pile), but does not include separate cooling ponds (for which we have retained the proposed definition of ''cooling pond'' in the NESHAP subpart AA final rule).

Nevertheless, in light of other concerns raised by commenters, we are not adopting the proposed work practice that limits the size of active gypsum dewatering stacks, which would have been applicable to facilities when new gypsum dewatering stacks are constructed.

As we stated in the preamble to the proposed rule, we did not detect a correlation between gypsum stack dewatering area and phosphoric acid manufacturing capacity; however, we proposed the size limit because we believe that reducing the gypsum dewatering stack area is directly related to reducing HF emissions. We also believed that phosphoric acid manufacturing capacity was related to the size of gypsum dewatering stacks and that it was operationally appropriate to allow large facilities to build larger gypsum dewatering stacks, while limiting smaller facilities to building a proportionally smaller gypsum dewatering stack. However, we have now concluded, based on analysis of public comments and other supplemental information provided, that it is not feasible to require facilities to close gypsum dewatering stacks based on a ratio of total active gypsum dewatering stack area (*i.e.,* sum of the footprint acreage of all active gypsum dewatering stacks combined) to annual phosphoric acid manufacturing capacity. As commenters stated, the gypsum dewatering stack acreage does not relate to production capacity and, importantly, gypsum dewatering stack development must be considered in light of the operations of the entire facility. Factors that affect the size and development of gypsum dewatering stacks include: (1) The availability and topography of land near the facility; (2) facilities generate a substantial amount of gypsum waste in the phosphoric acid manufacturing process; (3) managing the gypsum waste that is generated is an important operating principle for all facilities (regardless of phosphoric acid production capacity); and (4) limiting the gypsum dewatering stack acreage or changing the way facilities build gypsum dewatering stacks could have a detrimental impact on a facility's operations. Additionally, we agree with commenters that closure of a gypsum dewatering stack does not happen immediately, but rather requires a transitional period that can take years to complete. During this transitional period, a new stack is begun, but it may be years before it is fully operational and can receive all gypsum and slurry from the facility. This transitional period would make it difficult, if not impossible, for a facility to comply with the proposed work practice that limits the size of active gypsum dewatering stacks because the proposed size limit assumed immediate closure. Since closure does not happen immediately, and there is no correlation between dewatering stack acreage and phosphoric acid production, we are not adopting the proposed work practice that limits the size of active gypsum dewatering stacks.

We are removing the definition of ''closed gypsum dewatering stack,'' and revising the definition of ''active gypsum dewatering stack,'' as well as the definitions for when a gypsum dewatering stack is considered ''new'' or ''existing'' (see sections V.C.3.b.ii and V.C.3.b.iii of this preamble for further details).

ii. Necessity or Justification of Work Practice Standards for Fugitive HF Emissions—Comment. Numerous commenters claimed that there is insufficient technical analysis as to the feasibility and effectiveness of the control techniques that were proposed as options (as part of a work practice standard in the form of a management plan) for controlling fugitive HF emissions from gypsum dewatering stacks and cooling ponds. One of these commenters supported the EPA's claim that emissions from gypsum dewatering stacks and cooling ponds would inherently constitute fugitive emissions, and that conceptually, a work practice standard is a reasonable approach to emissions control; however, they challenged the technical basis for the specific control techniques listed in the proposed management plan. Commenters contended that the proposed control techniques have not been demonstrated to have an effect on fugitive HF emissions, and stated the EPA did not quantify the expected reductions in HF emissions resulting from the proposed work practice standard for gypsum dewatering stacks and cooling ponds. A commenter noted that some of the control techniques were derived from their facility's title V permit and that the EPA needed to recognize that (a) it is not clear (with a couple of exceptions) that these control techniques provide any significant emission reductions; (b) recent information may not support these control techniques providing emission reductions; and (c) there is considerable uncertainty in the emissions associated with cooling ponds and gypsum dewatering stacks. Another commenter argued that the EPA must justify the control techniques and show that they are not only technically effective, but also cost-effective and achievable within the industry. Commenters asserted that only two sources of information were used by the EPA in its determination of the control techniques that were proposed as options for controlling fugitive HF emissions in the proposed gypsum dewatering stack and cooling pond management plan. Commenters also noted that there is a large amount of uncertainty related to which specific control techniques are feasible and effective in reducing fugitive HF emissions. The following paragraphs provide a summary of the comments that the Agency received on each specific control technique.

Three commenters opposed the use of submerged discharge pipes and siphon breaks below the surface of the cooling pond as a fugitive HF emissions control technique. They claimed that submerging cooling pond discharge lines for above-grade ponds would create a significant risk for a siphon effect to occur when a pumping system is shutdown, causing backpressure on the pump seals back down the line, and, thus, defeating the purpose of the siphon break. One of these commenters added that submerging siphon breaks will impede the ability of these devices to prevent backflow because submersion may interfere with the atmospheric connection needed to make siphon breaks operate properly.

One commenter stated that although they use a rim ditch (cell) building technique, it is not an appropriate work practice for reducing HF emissions, and mentioned that the EPA does not provide data or an explanation of the linkage between minimizing the gypsum dewatering stack surface area and reducing emissions. This commenter suggested that the EPA define the technique as ''a gypsum stack building technique where gypsum slurry is deposited along the stack perimeter with flow directed along a ditch before the liquid flow is conveyed to the settling compartments.'' Another commenter stated that minimizing the gypsum pond surface areas is not feasible in Florida, North Carolina, and Louisiana because gypsum pond surface areas are optimized to provide annual evaporative water losses necessary to maintain zero water discharge.

Several commenters also objected to the wetting of the active gypsum dewatering stack as a fugitive HF emissions control technique because the technique may be infeasible and counter-productive due to water balance issues at nearly every affected facility. One commenter argued that applying fresh water is not feasible (*i.e.,* water trucks are not feasible or safe; irrigation in the West is not feasible; pipes are at risk of freezing) and another commenter stated that using recycled water may actually increase fugitive emissions because HF resides primarily in residual and make-up waters used to transport the gypsum slurry to the gypsum dewatering stack. One commenter contended that determining hot or dry periods is too subjective; therefore, it would be difficult to know when the control technique would apply. Another commenter illustrated the uncertainty of wetting of the active gypsum dewatering stack as a fugitive HF emissions control technique by identifying two studies with contradicting conclusions (one concluded that most HF is emitted from aqueous surfaces and trends with solar radiation, and the other study concluded that drying gypsum is a major source of ambient fluoride emissions from gypsum storage areas).

One commenter challenged the EPA's lack of evidence on the effectiveness of applying slaked lime to gypsum dewatering stacks as a fugitive HF emissions control technique, and claimed that it would not be feasible, referring to rain as threat to eliminate the potential for effectiveness. On the contrary, another commenter described how they apply a lime solution on top of reachable drying gypsum stack areas, and that the reaction of fluoride with slaked lime does result in the ''tie-up'' of volatile F, although they are not aware of any studies that have measured or quantified reductions.

In addition, commenters also claimed that enormous costs would be associated with the fugitive HF emissions control technique requiring facilities to apply soil caps and vegetation to all side slopes of the active gypsum dewatering stack up to 50 feet below the stack top. Some of these commenters mentioned that there are state rules that require soil caps and side vegetation on side slopes for erosion/water impact control, but not for the purpose of fugitive HF emissions control.

Furthermore, commenters requested that the closure of a gypsum dewatering stack not be considered a fugitive HF emissions control technique. One commenter contended that the EPA should allow the final cover on a closed stack to consist of a synthetic liner, as this would achieve the same purpose as a vegetative liner and may be more appropriate in some instances. Another commenter explained that some states and the EPA have closure requirements under Resource Conservation and Recovery Act (RCRA), including, for example, requirements for long term care practices (beyond 20–50 years); shaping and configuration of gypsum dewatering stacks; site security. They suggested that due to these detailed requirements, it would be best to defer to stack closure requirements within other regulations and not have NESHAP requirements that involve or require stack closure.

Finally, commenters requested that if the EPA proceeds with a final rule that includes work practices for reducing fugitive HF emissions from gypsum dewatering stacks or cooling ponds, the work practices should include a flexibility mechanism for facilities to use additional practices not codified during this rulemaking. One commenter asserted that work practice standards that might commonly be practicable for other industries are not universally practicable (or legally permissible) throughout the phosphoric acid and phosphate fertilizer industries, and some practices might be appropriate for some facilities, but not others (depending on location, climate, etc.).

Response. We are adopting the proposed work practice standard that requires owners or operators to prepare, and operate in accordance with a gypsum dewatering stack and cooling pond management plan; however, based on analysis of public comments, we are making some changes to the specific control measures that we proposed as options in the plan for controlling fugitive HF emissions. In the final rule, the Agency is using the terminology ''control measures'' in lieu of the proposed terminology ''control techniques'' because it more accurately describes the list of options in the rule and avoids confusion with other CAA programs. We are finalizing standards that will reduce HAP emissions from gypsum dewatering stacks and cooling ponds because, as explained in the preamble to the proposed rule, the 1999 Phosphoric Acid Manufacturing NESHAP (*i.e.,* NESHAP subpart AA) did not regulate fugitive HF emissions from gypsum dewatering stacks or cooling ponds. As explained in the preamble to the proposed rule, we are adopting a work practice standard instead of numeric emission limits because it is ''not feasible to prescribe or enforce an emission standard'' for these emissions because they ''cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant'' (see CAA section 112(h)(2)(A)) as the several hundred acres average size of these emission sources makes conveyance impractical. The size of these emission sources also makes it difficult to quantify the emission reductions that any control measure employed will achieve. However, in the paragraphs below, we explain how each control measure is feasible and effective in reducing fugitive HF emissions. We also provide details on the changes we have made to the gypsum dewatering stack and cooling pond management plan since proposal. Even after these changes, the measures are consistent with CAA section 112(d) controls and reflect a level of performance analogous to a MACT floor.

We noted in the preamble to the proposed rule that we believe that it is most effective for sources to determine the best practices that are to be incorporated into their site-specific gypsum dewatering stack and cooling pond management plan. We also stated in the preamble to the proposed rule that sources would be required to incorporate control measures from the list of options being proposed, and we solicited comment on the proposed site-specific gypsum dewatering stack and cooling pond management plan. In addition, we made considerable effort[5] before and after proposal in identifying a list of control measure options that encompass enough variety that at least one control measure option is feasible for at least one of each facility's existing gypsum dewatering stacks and/or cooling ponds. In fact, we are not aware

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[5] See the following documents which are all available in Docket ID No. EPA–HQ–OAR–2012–0522): ''USEPA Meeting with The Fertilizer Institute, July 24, 2013''; ''TFI meeting with USEPA to discuss RTR for Phosphoric Acid and Phosphate Fertilizer NESHAPs, September 11, 2014''; ''EPA Meeting Minutes for TFI Discussion March 12, 2015''; ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015''; ''Notes from Meeting with Florida DEP Regarding Gypsum Dewatering Stack and Cooling Pond Management Plan, March 4, 2015''; and ''Site Visits to Mosaic Plant City and Mosaic New Wales, March 4, 2015.''

of any facility that does not use a rim ditch (cell) building technique. Therefore, we disagree with commenters that the options we have listed for the gypsum dewatering stack and cooling pond management plan are not technically feasible.

Additionally, personnel from the Florida Department of Environmental Protection (DEP) had concerns regarding how the plan would be implemented, as well as how a facility would show compliance with the control measure it chooses (see ''Notes from Meeting with Florida DEP Regarding Gypsum Dewatering Stack and Cooling Pond Management Plan, March 4, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522). Therefore, in an effort to improve compliance demonstration with a facility's site-specific gypsum dewatering stack and cooling pond management plan, we are including a condition in the final NESHAP subpart AA rule that requires facilities to submit their plan for approval to the Administrator. Facilities will be required to provide details on how they plan to implement and show compliance with the control measure(s) that they choose. The Administrator will approve or disapprove the facility's site-specific gypsum dewatering stack and cooling pond management plan within 90 days after it is received. There may be a benefit to facilities and permitting authorities for the gypsum dewatering stack and cooling pond management plan and the title V major modification application to be submitted and reviewed at the same time. To change any of the information submitted in the plan, the facility must submit a revised plan 60 days before the change is to be implemented in order to allow time for review and approval by the Administrator before the change is implemented.

We are not including an option in the NESHAP subpart AA final rule, as commenters requested, that would provide a flexibility mechanism for facilities to use additional practices not codified during this rulemaking. This type of flexibility does not provide regulatory certainty that is needed for both industry and the EPA.

Although some commenters opposed using a submerged discharge pipe (with necessary siphon breaks to a level below the surface of the pond) as a fugitive HF emissions control measure, we believe submerging a discharge pipe can be appropriate and effective for reducing emissions from process water discharges into a cooling pond, although some facilities may not choose this option. Moreover, we agree with commenters that submerging siphon breaks could impede the ability of these devices to prevent backflow; therefore, we are removing this requirement from the final rule. On a recent site visit (see ''Site Visits to Mosaic Plant City and Mosaic New Wales, March 4, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we noted strong vapor odors coming from splash operations occurring at a non-submerged pipe that was discharging process water into a cooling pond. According to AP–42, Chapter 5.2—Transportation and Marketing of Petroleum Liquids (01/95), significant turbulence and vapor/liquid contact that occur during splash discharge operations will result in higher levels of vapor generation and emissions loss compared to using a submerged discharge operation. Liquid turbulence is controlled significantly during submerged discharge operations, resulting in much lower vapor generation than encountered during splash discharge operations. We believe this demonstrates that submerging the pipe is an effective technique for mitigating HF emissions, and we are therefore retaining this option for cooling ponds.

However, we are removing the option of submerging a discharge pipe that is associated with the gypsum pond because it is not a feasible option due to high solids volume in the slurry. (A gypsum pond, also called a settling pond, often is located in the middle of a gypsum disposal pile and receives waste gypsum slurry.) Based on information received from industry after the public comment period ended for the proposal (see Docket ID No. EPA–HQ–OAR–2012–0522–0048), it is much more likely for this particular pipe to become clogged, creating backpressure on pump seals. Submerging the discharge pipe under water in the gypsum pond creates a potential restriction against the discharging slurry that could get worse as solids build up around and against the end of the pipe. The discharge pipe for the gypsum pond is also routinely moved, which complicates submersing it.

As we stated earlier in our response, we are not aware of any facility that uses a gypsum dewatering stack building technique that is different from rim ditch (cell) building. With regard to commenters' assertions that the EPA did not provide data or explain the link between minimizing the gypsum dewatering stack surface area and reducing fugitive HF emissions, we believe that using the rim ditch technique over the lifespan of a gypsum dewatering stack will reduce the surface area of the gypsum pond and thereby reduce fugitive HF emissions. Fugitive HF emissions are calculated using an emission factor that is directly related to the total acreage from the gypsum dewatering stack, which includes the pond surface area (tons HF per acre per year); therefore, minimizing the pond surface area would minimize HF emissions. The rim ditch (cell) building technique is mainly used for gypsum dewatering stack stability since inner and outer dikes are used to create a rim ditch that provides better protection against overflow of the gypsum pond. However, as rim ditches are filled with slurry, the gypsum pond area will gradually decrease within each cell, thereby shrinking the amount of surface area of the pond that is exposed to the atmosphere (reducing the amount of fugitive HF emissions). An alternative to the rim ditch technique is to simply discharge gypsum slurry into the gypsum pond. With this technique, there is no inner dike to control slurry flow and the pond surface area would not be reduced as quickly or consistently. This increased surface area would allow greater potential for fugitive HF emissions due to the larger amount of surface water exposed to the atmosphere. We are revising this control measure option in the NESHAP subpart AA final rule to clarify that owners or operators must minimize the surface area of the gypsum pond associated with the active gypsum dewatering stack (and not the surface area of the active gypsum dewatering stack as we had proposed) by using a rim ditch (cell) building technique or other building technique. This clarification also addresses industry's suggestion to reword the control measure in response to a meeting that occurred after the public comment period closed (see ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' and ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015,'' which are both available in Docket ID No. EPA–HQ–OAR–2012–0522). Moreover, in this same correspondence that occurred after the public comment period closed, industry provided a suggestion for the definition of ''rim ditch.'' We agree with industry's suggested definition; however, we believe the definition more appropriately covers the meaning of ''rim ditch (cell) building technique'' and not just ''rim ditch.'' We are including this definition in the final rule for ''rim ditch (cell) building technique'' in an effort to clarify what we mean by this control measure. The final rule defines ''rim ditch (cell) building technique'' as a gypsum dewatering stack construction technique that utilizes inner and outer dikes to direct gypsum slurry flow around the perimeter of the stack before directing the flow and allowing settling of finer materials into the settling compartment. For the purpose of this definition, the rim ditch (cell) building technique includes the compartment startup phase when gypsum is deposited directly into the settling compartment in preparation for ditch construction, as well as the step-in or terminal phases when most solids must be directed to the settling compartment prior to stack closure. Decant return ditches are not rim ditches.

Based on commenters' objection to wetting active gypsum dewatering stacks as a fugitive HF emissions control measure, and additional discussion with industry (see ''EPA Meeting Minutes for Simplot Discussion April 1, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we determined that the proposed rule was not clear on how this control measure would be used. This control measure is not applied to the side slopes of the gypsum dewatering stacks, and instead is used on certain gypsum areas within cells of a gypsum dewatering stack. According to one facility located in arid climate (see ''EPA Meeting Minutes for Simplot Discussion April 1, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), these areas may be more susceptible to drying out in warmer months due to higher surface temperatures of the gypsum dewatering stack; therefore, a system of weirs can be used to help direct gypsum pond water (not fresh water) to these areas to keep them wet. We agree with the commenter who pointed out that that applying water to a gypsum stack may actually increase fugitive emissions because HF resides primarily in the water used to transport the gypsum slurry to the gypsum dewatering stack. We realize that this option might increase the surface area of the gypsum pond water which conflicts with our understanding that minimizing surface area of the gypsum pond will minimize HF emissions. Therefore, we are not adopting this proposed control measure in the NESHAP subpart AA final rule.

In response to a commenter's assertion that there is lack of evidence of the effectiveness of applying slaked lime to gypsum dewatering stacks as a fugitive HF emissions control measure, we received information after the public comment period ended (see Docket ID No. EPA–HQ–OAR–2012–0522–0048) that at least one facility uses this technique to help meet its state ambient air standard for F. This commenter stated that, based on data from their site-specific ambient air monitoring, they apply a lime solution to their gypsum dewatering stack areas during periods where they are close to violating their 30-day state ambient air standard for F, measured as HF, in order to stay below the standard. Slaked lime can precipitate fluorides from gypsum dewatering stacks and cooling ponds, thus reducing the availability of fluorides in solution that could then be released into the air during evaporation. This is an example of the type of detail that the Administrator may require be included in the facility's site-specific plan (in addition to how compliance would be demonstrated) before it could be approved. We have clarified in the final rule that if this control measure is chosen, then the plan must include the method used to determine the specific locations slaked lime is applied. The plan must also include the methods used to determine the quantity of, and when to apply, slaked lime (*e.g.,* slaked lime may be applied to achieve a state ambient air standard for F, measured as HF).

With respect to the measure involving application of soil caps and vegetation to side slopes of a gypsum dewatering stack, on recent site, visits personnel from Mosaic and the Florida DEP had concerns that this control measure was too specific in that it could be difficult for facilities to demonstrate compliance with the ''50 feet below the stack top'' requirement as well as the requirement to apply soil caps and vegetation to all side slopes (see ''Site Visits to Mosaic Plant City and Mosaic New Wales, March 4, 2015,'' and ''Notes from Meeting with Florida DEP Regarding Gypsum Dewatering Stack and Cooling Pond Management Plan, March 4, 2015,'' which are available in Docket ID No. EPA–HQ–OAR–2012–0522). We recognize that applying soil caps and vegetation to side slopes of a gypsum dewatering stack is an ongoing process that continuously changes over time based on facility-specific operations. Therefore, we have revised this control measure option in the NESHAP subpart AA final rule to acknowledge that this technique will only be applied to portions of the side slopes that are no longer active on a gypsum dewatering stack instead of all side slopes up to 50 feet below the top of the gypsum dewatering stack. We also have revised this option to allow the use of a synthetic cover in lieu of soil caps and vegetation. Furthermore, we expect that if a facility chose to use this specific control measure in their plan, the Administrator may require details on schedule, and how the portion of side slopes that received soil caps and vegetation, or a synthetic cover, is determined (in addition to how compliance would be demonstrated), before the plan could be approved. Therefore, we have clarified in the final rule that the plan must include the method used to determine the specific locations of soil caps and vegetation, or synthetic cover, and specify the acreage and locations where soil caps and vegetation, or synthetic cover, is applied. The plan must also include a schedule describing when soil caps and vegetation, or synthetic cover, is to be applied.

Additionally, we believe that this control measure creates a barrier on the surface of the gypsum dewatering stack side slopes that reduces HF emissions; therefore, we disagree with commenters' assertion that applying soil caps and vegetation may not be an effective option for fugitive HF emissions control. The Florida DEP has used this control measure as part of its overall management of fluorides from gypsum dewatering stacks; and Wyoming has approved this control measure in a facility's title V permit as an optional method for reducing fugitive fluoride emissions. We also disagree with a request[6] to reword this control measure to require a gypsum dewatering stack construction and operation plan because the commenter did not provide any justification on how this activity reduces fugitive HF emissions from gypsum dewatering stacks.

We disagree with commenters' requests to exclude closure from the list of measures for controlling fugitive HF emissions from gypsum dewatering stacks. We believe that closing a gypsum dewatering stack is one of the best solutions for reducing fugitive HF emissions because it permanently reduces the emissions from the greatest contributing source. However, we are revising this control measure option in the NESHAP subpart AA final rule to allow a facility to design its own closure requirement plan, provided that the closure requirements, at a minimum, contain: (1) A specific trigger mechanism for when owners or operators must begin the closure process on the gypsum dewatering stack, and (2) a requirement to install a final cover. As with all gypsum dewatering stack and

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[6] See ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' and ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015,'' which are both available in Docket ID No. EPA–HQ–OAR–2012–0522.

cooling pond management plans, this closure requirement must be submitted to the Agency for approval. Although we are not identifying a specific trigger mechanism in the final rule, one example of a trigger mechanism is a facility-specified length of time where the gypsum dewatering stack is inactive and no longer receives gypsum (*i.e.,* once the gypsum dewatering stack stops receiving gypsum for a period of time, the facility must begin closing it). Also, we are clarifying that a final cover means the materials used to cover the top and sides of a gypsum dewatering stack upon closure. This addresses commenters request that the EPA should allow the final cover on a closed stack to consist of a synthetic liner. Finally, in light of our decision to revise the control measure option for closing a gypsum dewatering stack, we are also removing the definition of a ''closed gypsum dewatering stack'' from the NESHAP subpart AA final rule. Since the revised language relies on a specific trigger mechanism for when owners or operators must begin the closure process on the gypsum dewatering stack, the definition of a ''closed gypsum dewatering stack'' is no longer necessary in the final rule. Because we are removing the definition of a ''closed gypsum dewatering stack'' from the final rule, we are revising the definition of an ''active gypsum dewatering stack.'' In the NESHAP subpart AA final rule, an ''active gypsum dewatering stack'' means a gypsum dewatering stack that is currently receiving gypsum, received gypsum within the last year, or is part of the facility's water management system. A gypsum dewatering stack that is considered closed by a state authority is not considered an active gypsum dewatering stack.

As we have stated before, the final list of NESHAP subpart AA control measures is exhaustive enough that a facility has a number of options for selecting a control measure that would be feasible for their particular operations. We assume that facilities would choose the lowest cost option, and that all facilities are using at least one of the control measure options already (*e.g.,* we are not aware of any facilities that do not use a rim ditch (cell) building technique). Therefore, we disagree with the commenters' claim that enormous costs would be incurred if they were required to apply soil caps and vegetation to all side slopes of the active gypsum dewatering stack up to 50 feet below the stack top. We are not requiring that facilities implement this control measure since this specific control technique is not a requirement, but instead an option for how a facility may demonstrate compliance with the work practice standards for fugitive HF emissions from the gypsum management system.

iii. Requirement to Use At Least Two of the Fugitive HF Emissions Control Measures—Comment. One commenter requested that the EPA eliminate the ''dual practice'' approach for new sources. Two commenters declared that the requirement to implement ''at least two of the control techniques'' listed for ''each regulated gypsum dewatering stack and cooling pond'' is not possible without a broader list that includes at least two practices for cooling ponds. Additionally, with regard to closing an active gypsum dewatering stack as a control technique option, the commenter contended that giving an owner of a new gypsum dewatering stack the option of closing it in tandem with a mandatory second control technique is ''nonsensical'' because the ''new stack would immediately have to be closed to implement the practice.'' Another commenter wanted clarification as to whether the lateral expansion of an existing gypsum dewatering stack is considered a new stack, and thus would trigger the proposed work practice standards related to the size of active gypsum dewatering stacks and production ratio. The commenter also sought clarification as to whether at least two of the control techniques be used in the gypsum dewatering stack and cooling pond management plan for controlling fugitive HF emissions would be required.

Response. We agree with the commenter that the proposed requirement for new gypsum dewatering stacks and cooling ponds to implement ''at least two of the control techniques'' listed for ''each'' regulated ''gypsum dewatering stack and cooling pond,'' would make compliance for cooling ponds impossible for new sources without a broader list with at least two control measures for cooling ponds. In the final rule, the Agency is using the terminology ''control measures'' in lieu of the proposed terminology ''control techniques'' because it more accurately describes the list of options in the rule and avoids confusion with other CAA programs. As stated in a previous response, in an effort to clarify the specific emission source that we are regulating in the final rule (NESHAP subpart AA), we have included a new term, ''gypsum dewatering stack system,'' (see sections V.C.3.b.i of this preamble for further details) in the final rule. This revision also clarifies our original intent that the two control measure options that a facility selects can be for any combination of gypsum dewatering stacks and/or cooling ponds in the gypsum dewatering stack system. For example, if a facility operates a cooling pond considered a new source, the facility may choose to not implement the control measure option requiring a submerged discharge pipe for the new cooling pond, and instead implement two control measures at one or more gypsum dewatering stacks no matter whether they be considered a new or existing source. Furthermore, we have revised the control measure option for closing a gypsum dewatering stack (see section V.C.3.b.ii of this preamble for further details). Because of this change to the NESHAP subpart AA final rule, there is no longer a requirement to immediately close the active gypsum dewatering stack in tandem with a mandatory second control measure option.

Lastly, the Agency has revised the definitions in the NESHAP subpart AA final rule for when a gypsum dewatering stack is considered ''new'' or ''existing'' in order to address whether a lateral expansion of an existing gypsum dewatering stack is considered a new gypsum dewatering stack. The revised definitions in the final rule also deal with a concern one commenter raised during the comment period about triggering the proposed regulation for a ''new'' source each time they rotate the functionality of their three gypsum dewatering stack sites at their facility (this topic was also discussed after the comment period closed, see ''USEPA Meeting Minutes for PCS Aurora Discussion (2.2.2015),'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522). We are revising the NESHAP subpart AA final rule such that a gypsum dewatering stack or cooling pond is considered ''new'' if it meets two criteria: (1) It was constructed or reconstructed after August 19, 2015, and (2) it was required to obtain a permit by a state authority for the construction or reconstruction. Some lateral expansions may build beyond a facility's existing permitted capacity (and design dimensions of the gypsum dewatering stack); therefore, these lateral expansions would be considered ''new'' in the final rule because the facility would be required to obtain (or revise) their existing permitted capacity (and design dimensions). Because of this change in the NESHAP subpart AA final rule, we are also revising the criteria for when a gypsum dewatering stack or cooling pond is considered ''existing.'' Specifically, a gypsum dewatering stack or cooling pond is considered ''existing'' if it meets one of two criteria: (1) It was constructed or reconstructed on or before August 19, 2015, or (2) it was constructed or reconstructed after August 19, 2015 and it was not required to obtain a permit by a state authority for the construction or reconstruction.

iv. Fugitive HF Emissions Control Measure Considerations for Cooling Ponds—Comment. One commenter referenced a 1978 EPA document: ''Evaluation of Emissions and Control Techniques for Reducing Fluoride Emissions from Gypsum Ponds in the Phosphoric Acid Industry'' and questioned why the EPA proposed work practice standards focused solely on gypsum dewatering stacks, while the EPA has in the past studied and documented more work practices for controls of cooling pond emissions, which are not discussed as alternatives to the proposed rule. Another commenter requested that if EPA keeps cooling ponds as part of the gypsum dewatering stack and cooling pond management plan, then EPA should provide more than one work practice that could be implemented at a cooling pond. They suggested that EPA add a control measure option (for cooling ponds) that would require developing a plan to optimize the size of cooling ponds to address fugitive HF emissions (as appropriate based on the conditions at the facility).

In addition, another commenter suggested additional control measure options for reducing fugitive HF emissions from cooling ponds. This commenter suggested EPA include an option to develop and implement a plan for dredging cooling ponds which helps maintain cooling capacity, and, therefore, can reduce fugitive emissions by reducing the vapor pressure of fluoride in the pond water. This commenter also suggested EPA include an option to implement a system for the recovery of fluoride for water that is directed to cooling ponds. The commenter pointed out that one of its facilities has the capability to recover fluoride as hydrofluorosilicic acid during the phosphoric acid evaporation process. The commenter stated that this recovery process is operated as needed to meet the market demand for hydrofluorosilicic acid. Finally, the commenter suggested EPA include an option to implement a system for the removal of fluoride for water that is directed to cooling ponds (for example, by adding lime to increase the pH).

Response. We are aware of the 1978 EPA document, ''Evaluation of Emissions and Control Techniques for Reducing Fluoride Emissions from Gypsum Ponds in the Phosphoric Acid Industry,'' and the six potential control techniques it examines for reducing fluoride emissions from gypsum ponds. These six potential control techniques include: (1) Use of the ''Kidde'' process; (2) use of the ''Swift'' process; (3) use of lime to raise pH; (4) dry conveyance of gypsum, (5) pretreatment of ore by calcining; and (6) changing the entire phosphoric acid production process to a ''hemi/dehydrate'' process. The 1978 EPA document clarifies that the first four of these potential control techniques could also reduce fluoride emissions from cooling ponds. The ''Swift,'' ''Kidde,'' and ''hemi/dehydrate'' processes each use byproduct fluoride in the WPPA to produce hydrofluorosilicic acid (an acid generally used in fluoridation of drinking water, but also has other industry uses) or ammonium silicofluoride. We are aware of at least two facilities that are equipped and capable of making hydrofluorosilicic acid; however, it is not clear which process they use, nor is it clear if either facility is actively making hydrofluorosilicic acid. However, facilities have expressed that production of hydrofluorosilicic acid for the primary purpose of controlling HF emissions is not practical. Facilities that produce hydrofluorosilicic acid seek to sell the product for use in water fluoridation.[7] In fact, one commenter stated that their recovery process is operated as needed to meet the market demand for hydrofluorosilicic acid. Facilities would not produce this product in the absence of a market demand, as the hydrofluorosilicic acid would be another waste stream that would need to be disposed of. Therefore, we do not believe this to be a reasonable control technique option for fugitive HF emissions from these sources.

We have determined that using lime (or any other caustic substance) to raise the pH of liquid discharged into the cooling pond could be a feasible control measure option for reducing fluoride emissions from cooling ponds; therefore, we are including this option in the NESHAP subpart AA final rule. The control measure option simultaneously raises the pH of the cooling pond water and lowers the concentration of soluble F, and, thus reducing the concentration of fluoride (including HF) that could be potentially evaporated into the atmosphere. Based on information provided in the 1978 EPA document, a greater than 90 percent emission reduction in fluoride can be achieved by raising the pond water from pH 1.4 to pH 3.9. In the final rule, if this control measure is chosen, then the plan must include: the method used to raise the pH of the liquid discharged into the cooling pond, the target pH value (of the liquid discharged into the cooling pond) expected to be achieved by using the method, and the analyses used to determine and support the raise in pH. Moreover, this control measure is similar to an option that industry suggested in response to a meeting that occurred after the public comment period closed (see ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' and ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015,'' which are both available in Docket ID No. EPA–HQ–OAR–2012–0522). Industry suggested including an option that would require providing inputs to the gypsum dewatering stack system to react with and precipitate fluoride compounds to insoluble forms.

With regard to the remaining potential control techniques identified in the 1978 EPA document (*i.e.,* dry conveyance of gypsum and pretreatment of ore by calcining), we have determined that these control techniques are not likely to be used by industry because significant process changes would be required. Furthermore, with regard to pretreatment of ore by calcining, the 1978 EPA document states that off-gases from pretreating ore would still need to be scrubbed to remove F, and the scrubbing liquid from this process would likely be disposed of in a cooling pond (which would defeat the purpose of this technique). Therefore, we are not finalizing the NESHAP subpart AA final rule to include these two control measure options for controlling fugitive HF emissions from cooling ponds.

Lastly, we agree with a commenter's request to add a control measure option (for cooling ponds) that would require developing a plan to optimize the size of cooling ponds to address fugitive HF emissions (as appropriate based on the conditions at the facility); therefore, we are including this option in the NESHAP subpart AA final rule. However, in order for a facility to be able to use this control measure option, its cooling pond evaluation must result in a reduction in overall cooling pond surface area. Fugitive HF emissions are calculated using an emission factor that is directly related to gypsum dewatering stack and pond surface area (tons HF per acre per year); therefore, minimizing

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[7] *http://www.cdc.gov/fluoridation/factsheets/engineering/wfadditives.htm.*

the surface area of the cooling pond(s) would minimize HF emissions. On a recent site visit (see ''Site Visits to Mosaic Plant City and Mosaic New Wales, March 4, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we noticed that one company evaluated whether a reduction in the size of its cooling ponds could still support additional water due to rainfall and plant process water needs. However, the result of these evaluations did not lead to a change in size of its cooling ponds, and thus did not lead to a reduction in fugitive HF emissions from the cooling ponds. In the final rule, if this control measure is chosen, then the facility-specific evaluation plan must be certified by an independent licensed professional engineer or similarly qualified individual, and include the method used to reduce the total cooling pond footprint, the analyses used to determine and support the reduction in the total cooling pond surface area, and the amount of total cooling pond surface area that was reduced due to the facility-specific evaluation plan. Furthermore, we agree with the commenter who stated dredging cooling ponds is a good practice for maintaining cooling capacity. With regard to the commenter's request to include this activity (*i.e.,* dredging cooling ponds) as a specific control measure option,[8] we determined that this activity could be considered in the cooling pond evaluation; however, the evaluation would still need to lead to a change in size of the surface area of the cooling pond for it to qualify as a control measure in the final rule.

We also evaluated an additional control measure option suggested by industry in response to a meeting that occurred after the public comment period closed (see ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' and ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015,'' which are both available in Docket ID No. EPA–HQ–OAR–2012–0522). Industry suggested including the option to ''operate the cooling pond systems to adjust the active cooling surface area to address weather conditions, seasonal cooling needs and associated production changes. Cooling circuit adjustments may be accomplished through utilization of either fixed or floating flow diversion devices or by changing flows such that some of the heated water is diverted away from portions of the ponded area.'' However, we are not including this option in the final rule because it is not clear how the option reduces fugitive HF emissions from cooling ponds.

v. Excluding Cooling Ponds from Management Plan—Comment. One commenter requests that the EPA revise the regulatory language in proposed 40 CFR 63.602 (d) through (f) that refers to each ''gypsum dewatering stack and cooling pond'' to instead refer only to each ''gypsum dewatering stack.'' The commenter stated that the regulatory direction seems to encompass ponds that are not part of a ''gypsum dewatering stack.'' Another commenter claimed the rule implies that control measure options apply to cooling ponds distinctly from gypsum dewatering stacks. An additional commenter alleged that work practice standards should not apply to cooling ponds that are physically separate from gypsum stacks. This commenter pointed out that only one practice (submerging the discharge pipe) relates to cooling ponds, and because of the requirement to implement at least one practice for each ''gypsum dewatering stack and cooling pond,'' then cooling ponds that fall within the proposed definition of a gypsum dewatering stack seemingly could choose to submerge the discharge pipe at the pond, or they could implement other techniques from the list.

Response. The NESHAP subpart AA final rule clarifies that the gypsum dewatering stack and cooling pond management plan is intended to cover both gypsum dewatering stacks and cooling ponds. In response to a previous comment, we have included a new term ''gypsum dewatering stack system,'' revised the definition of ''gypsum dewatering stack'' to exclude cooling ponds, and have retained the proposed definition of ''cooling pond'' in the final rule (see section V.C.3.b.i of this preamble for further details).

4. What is the rationale for our final approach pursuant to CAA sections 112(d)(2), 112(d)(3), and 112(h)?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing our proposal to eliminate the use of PM as a surrogate for Hg and are adding Hg and total fluoride emission limits for phosphate rock calciners to the NESHAP subpart AA final rule.

For the reasons provided above, we are making the revisions, clarifications, and corrections noted in section V.C.2 in the NESHAP subpart AA final rule.

D. NSPS Review for the Phosphoric Acid Manufacturing Source Category

The NSPS review focused on the emission limitations that have been adequately demonstrated to be achieved in practice, taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements. Determining the BSER that has been adequately demonstrated and the emission limitations achieved in practice necessarily involves consideration of emission reduction methods in use at existing phosphoric acid manufacturing plants. To determine the BSER, the EPA performed an extensive review of several recent sources of information, including a thorough search of the RACT/BACT/LAER Clearinghouse (RBLC), section 114 data received from industry, and other relevant sources.

Our review considered the emission limitations that are currently achieved in practice, and found that more stringent standards are not achievable for this source category. When evaluating the emissions from various process lines, we observed differences in emissions levels, but did not identify any patterns in emission reductions based on control technology configuration. More information concerning our NSPS review can be found in the memorandum, ''CAA Section 111(b)(1)(B) and 112(d)(6) Reviews for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production Source Categories.'' Though some of the sources are emitting at levels well below the current NSPS, other sources are not. We evaluated emissions based on control technologies and practices used by facilities, and found that the same technologies and practices yielded different results for different facilities. Therefore, we determined that we cannot conclude that new and modified sources would be able to achieve a more stringent NSPS. As explained in the proposed rule, all Phosphoric Acid Manufacturing NSPS (under subpart T and subpart U) emission sources, and the control technologies that would be employed, are the same as those for the NESHAP regulating phosphoric acid plants, such that we reached the same conclusion that there are no identified developments in technology or practices that results in cost-effective emission

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[8] Industry also suggested this control measure as an option to reducing fugitive HF emissions from cooling ponds in response to a meeting that occurred after the public comment period closed (see ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' and ''Summary of Potential Costs for Implementing Phosphate NESHAPs/Recommendations for Phosphogypsum Stack Work Practices, May 5, 2015,'' which are both available in Docket ID No. EPA–HQ–OAR–2012–0522).

reductions strategies. Therefore, we are finalizing our determination that revisions to NSPS subpart T and subpart U standards are not appropriate pursuant to CAA section 111(b)(1)(B).

E. Startup, Shutdown, and Malfunction Provisions for the Phosphoric Acid Manufacturing Source Category

1. What SSM provisions did we propose for the Phosphoric Acid Manufacturing source category?

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the U.S. Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously.

We proposed to eliminate the SSM exemption in NESHAP subpart AA. Consistent with *Sierra Club* v. *EPA,* the EPA proposed standards in this rule that apply at all times. We also proposed to revise appendix A of subpart AA (the General Provisions Applicability Table) in several respects as is explained in more detail below. For example, we proposed to eliminate the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also proposed to eliminate and revise certain recordkeeping and reporting related to the SSM exemption as described in detail in the proposed rule and summarized again here.

In proposing the standards in this rule, the EPA took into account startup and shutdown periods and, for the reasons explained below, proposed work practice standards for periods of startup and shutdown in lieu of numeric emission limits. CAA section 112(h)(1) states that the Administrator may promulgate a design, equipment or operational work practice standard in those cases where, in the judgment of the Administrator, it is not feasible to prescribe or enforce an emission standard. CAA section 112(h)(2)(B) further defines the term ''not feasible'' in this context to apply when ''the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations.''

Startup and shutdown periods at phosphoric acid manufacturing facilities generally only last between 30 minutes and 6 hours. Because of the variability and the relatively short duration, compared to the time needed to conduct a performance test, which typically requires a full working day, the EPA has determined that it is not feasible to prescribe a numeric emission standard for these periods. Furthermore, according to information provided by industry, it is possible that the feed rate (*i.e.,* equivalent P_2O_5 feed, or rock feed) can be zero during startup and shutdown periods. During these periods, it is not feasible to consistently enforce the emission standards that are expressed in terms of lb of pollutant/ton of feed.

Although we requested information on emissions and the operation of control devices during startup and shutdown periods in the CAA section 114 survey issued to the Phosphoric Acid Manufacturing source category, we did not receive any emissions data collected during a startup and shutdown period (nor did we receive data during public comment of the proposed rule), and we do not expect that these data exist. However, based on the information for control device operation received in the survey, we concluded that the control devices could be operated normally during periods of startup or shutdown. Also, we believe that the emissions generated during startup and shutdown periods are lower than during steady-state conditions because the amount of feed materials introduced to the process during those periods is lower compared to normal operations. Therefore, if the emission control devices are operated during startup and shutdown, then HAP emissions will be the same or lower than during steady-state operating conditions.

Consequently, we proposed a work practice standard rather than an emissions limit for periods of startup or shutdown. We proposed that control devices used on the various process lines in this source category are effective at achieving desired emission reductions immediately upon startup; therefore, during startup and shutdown periods, we proposed that sources begin operation of any control device(s) in the production unit prior to introducing any feed into the production unit. We also proposed that sources must continue operation of the control device(s) through the shutdown period until all feed material has been processed through the production unit.

Periods of startup, normal operations and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent and not reasonably preventable failures of emissions control, process or monitoring equipment (40 CFR 63.2) (definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. Under CAA section 112, emission standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the EPA to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the U.S. Court of Appeals for the District of Columbia Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emission standards, nothing in CAA section 112 requires the Agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels EPA to consider such events in setting CAA section 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. See, *e.g., Sierra Club* v. *EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.' ''). See also *Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an air pollution control device with 99 percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady-state type unit that would take days to shutdown, the source would go from 99 percent control to zero control until the control device was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations, and the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, sudden, infrequent, not reasonably preventable and was not instead caused in part by poor maintenance or careless operation 40 CFR 63.2 (definition of malfunction).

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action, and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, CAA section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

To address the U.S. Court of Appeals for the District of Columbia Circuit vacatur of portions of the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM, *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), we proposed to revise and add certain provisions to the Phosphoric Acid Manufacturing rule. As described in detail below, we proposed to revise the General Provisions table (appendix A) to change several references related to requirements that apply during periods of SSM. We also proposed to add other provisions to the Phosphoric Acid Manufacturing rule as described below.

a. 40 CFR 63.608(b) General Duty. We proposed to revise the entry for 40 CFR 63.6(e)(1)(i) and (e)(1)(ii) in the General Provisions table (appendix A) by changing the ''yes'' in column three to ''no.'' Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We proposed instead to add general duty regulatory text at 40 CFR 63.608(b) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations, startup and shutdown and malfunction events in describing the general duty. Therefore, the language the EPA proposed does not include that language from 40 CFR 63.6(e)(1). We also proposed to revise the entry for 40 CFR 63.6(e)(1)(ii) in the General Provisions table (appendix A) by changing the ''yes'' in column three to ''no.'' Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant of the general duty requirement being added at 40 CFR 63.608(b).

b. SSM Plan. We proposed to revise the entry for 40 CFR 63.6(e)(3) in the General Provisions table (appendix A) by changing the ''yes'' in column three to ''no.'' Generally, these paragraphs require development of an SSM plan and specify SSM recordkeeping and reporting requirements related to the SSM plan. As noted, the EPA proposed to remove the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance and thus the SSM plan requirements are no longer necessary.

c. Compliance with Standards. We proposed to revise the entry for 40 CFR 63.6(f) in the General Provisions table (appendix A) by changing the ''yes'' in column three to ''no.'' The current language of 40 CFR 63.6(f)(1) exempts sources from non-opacity standards during periods of SSM. As discussed above, the Court in Sierra Club v. EPA vacated the exemptions contained in this provision and held that the CAA requires that some CAA section 112 standard apply continuously. Consistent with Sierra Club v. EPA, the EPA proposed to revise standards in this rule to apply at all times.

d. 40 CFR 63.606 Performance Testing. We proposed to revise the entry for 40 CFR 63.7(e)(1) in the General Provisions table (appendix A) by changing the ''yes'' in column three to ''no.'' Section 63.7(e)(1) describes performance testing requirements. The EPA instead proposed to add a performance testing requirement at 40 CFR 63.606(d). The performance testing requirements that were proposed differ from the General Provisions performance testing provisions in several respects. The proposed regulatory text does not allow testing during startup, shutdown, or malfunction. The proposed regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption and language that precluded startup and shutdown periods from being considered ''representative'' for purposes of performance testing. Furthermore, as in 40 CFR 63.7(e)(1), performance tests conducted under this subpart should not be conducted during malfunctions because conditions during malfunctions are often not representative of operating conditions.

e. Monitoring. We proposed to revise the entry for 40 CFR 63.8(c)(1)(i) and (iii) in the General Provisions table by changing the ''yes'' in column three to "no." The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

We proposed to revise the entry for 40 CFR 63.8(d)(3) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." The final sentence in 40 CFR 63.8(d)(3) refers to the General Provisions' SSM plan requirement, which is no longer applicable. The EPA proposed to add to the rule at 40 CFR 63.608(c)(3) text that is identical to 40 CFR 63.8(d)(3), except that the final sentence is replaced with the following sentence: "You must include the program of corrective action required under § 63.8(d)(2) in the plan."

f. 40 CFR 63.607 Recordkeeping. We proposed to revise the entry for 40 CFR 63.10(b)(2)(i) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA proposed that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional recordkeeping for startup and shutdown periods.

We proposed to revise the entry for 40 CFR 63.10(b)(2)(ii) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA proposed to add such requirements to 40 CFR 63.607(b). The regulatory text we proposed to add differs from the General Provisions it is replacing in that the General Provisions requires the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control and monitoring equipment. The EPA proposed that this requirement apply to any failure to meet an applicable standard and that the source record the date, time and duration of the failure rather than the "occurrence." The EPA also proposed to add to 40 CFR 63.607(b) a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the volume of each regulated pollutant emitted over the applicable standard and a description of the method used to estimate the emissions. Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available or engineering judgment based on known process parameters. The EPA proposed requiring that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard, and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard.

We proposed to revise the entry for 40 CFR 63.10(b)(2)(iv) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." When applicable, the provision requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.607.

We proposed to revise the entry for 40 CFR 63.10(b)(2)(v) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." When applicable, the provision requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

We proposed to revise the entry for 40 CFR 63.10(c)(15) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." The EPA proposed that 40 CFR 63.10(c)(15) no longer apply. When applicable, the provision allows an owner or operator to use the affected source's SSM plan or records kept to satisfy the recordkeeping requirements of the SSM plan, specified in 40 CFR 63.6(e), to also satisfy the requirements of 40 CFR 63.10(c)(10) through (12). The EPA proposed to eliminate this requirement because SSM plans would no longer be required, and, therefore, 40 CFR 63.10(c)(15) no longer serves any useful purpose for affected units.

g. 40 CFR 63.607 Reporting. We proposed to revise the entry for 40 CFR 63.10(d)(5) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." Section 63.10(d)(5) describes the reporting requirements for startups, shutdowns and malfunctions. To replace the General Provisions reporting requirement, the EPA proposed to add reporting requirements to 40 CFR 63.607. The replacement language differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We proposed language that requires sources that fail to meet an applicable standard at any time to report the information concerning such events in the excess emission report already required under this rule. We proposed that the report must contain the number, date, time, duration and the cause of such events (including unknown cause, if applicable), a list of the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions (*e.g.,* product-loss calculations, mass balance calculations, direct measurements or engineering judgment based on known process parameters). The EPA proposed this requirement to ensure that adequate information is available to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

The proposed rule eliminates the cross reference to 40 CFR 63.10(d)(5)(i) that contains the description of the previously-required SSM report format and submittal schedule from this section. We proposed that these specifications would no longer be necessary because the events will be reported in otherwise required reports with similar format and submittal requirements. We proposed that owners or operators no longer be required to determine whether actions taken to correct a malfunction are consistent with an SSM plan because the plans would no longer be required.

We proposed to revise the entry for 40 CFR 63.10(d)(5)(ii) in the General Provisions table (appendix A) by changing the "yes" in column three to "no." Section 63.10(d)(5)(ii) describes an immediate report for SSM when a source failed to meet an applicable standard but did not follow the SSM plan. We proposed that we would no longer require owners and operators to report when actions taken during a startup, shutdown, or malfunction were not consistent with an SSM plan because the plans would no longer be required.

2. How did the SSM provisions change for the Phosphoric Acid Manufacturing source category?

We are finalizing the proposed work practice standards for periods of startup and shutdown; however, in consideration of comments received during the public comment period for the proposed rulemaking (as discussed in sections V.E.3.a and V.E.3.b of this preamble), we are making changes to this work practice in order to clarify the standard applies in lieu of numeric emission limits and to clarify how compliance with the standard is demonstrated. Additionally, as discussed in section V.E.3.c of this preamble, we added a definition of ''startup'' and ''shutdown'' in the final rule to specify when startup begins and ends, and when shutdown begins and ends.

3. What key comments did we receive on the SSM provisions, and what are our responses?

We received comments regarding the proposed revisions to remove the SSM exemptions for the Phosphoric Acid Manufacturing source category, and the proposed work practice standards for periods of startup and shutdown. The following is a summary of some of the comments specific to the proposed work practice standards and our response to those comments. Other comments and our specific responses to those comments can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

a. Work Practice Standard In Place Of Emission Limits—Comment. One commenter argued that the EPA should specify that the proposed work practices for plant startup and shutdown periods apply ''in lieu of'' any other emission standards, and that such periods should not be counted for testing, monitoring, or operating parameter requirements. The commenter noted that the proposed rule at 40 CFR 63.602(h) requires the use of work practices ''to demonstrate compliance with any emission limits'' during periods of startup and shutdown. The commenter agrees with the EPA's conclusion that it is not feasible to apply numeric limits to startup and shutdown because certain variables required to calculate emissions would be zero during such periods. The commenter also agreed with the EPA that existing emission control devices would still be effective during periods of startup or shutdown, if activated. However, the commenter recommended that the rule should clarify that startup and shutdown events should not be required to comply with the monitoring and operating parameter requirements because startup and shutdown events generally are not representative of operating conditions for other compliance purposes, such as emissions testing. Instead, the commenter, as well as a second commenter, recommended that, because the startup and shutdown periods are not representative, the rule should only require that (1) all emission control devices be kept active, and (2) owners and operators follow the general duty to control emissions, and owners and operators should not be required to monitor operating parameters during startup and shutdown periods.

The commenter argued that the approach in the proposed rule at 40 CFR 63.602(h) to require the use of work practices ''to demonstrate compliance with any emission limits'' during periods of startup and shutdown is ''directly inconsistent'' with the approach that the EPA has applied to other source categories, where such practices clearly were prescribed ''in lieu of'' numeric emission limits that would otherwise apply. (The commenter cites, for example, 78 FR 10015, February 12, 2013.) According to the commenter, the EPA made it clear in other industries' rules that such work practice standards apply ''in place of'' or ''in lieu of'' numeric standards, including with respect to monitoring and recordkeeping requirements. (See id. at 10013 and 10015.) The commenter argues that according to the preamble language cited for those other industries, ''there will no longer be a numeric emission standard applicable during startup and shutdown,'' and the EPA recognizes that ''the recordkeeping requirement must change to reflect the content of the work practice standard''(Id. at 10014).

Therefore, the commenter recommended that the EPA should clearly explain that work practices are not applied to ''demonstrate compliance'' with numeric limits under subpart AA, which the EPA acknowledges are ''not feasible'' for startup and shutdown periods, and, instead, the work practices should be written to apply ''in lieu of'' the numeric limits during those periods. The commenter argues that without this clarification, it will appear that both the numeric standards and the work practice standards would apply during startup and shutdown. The commenter suggests that this can be corrected in the rule by using the ''in lieu of'' language used for other industries.

Response. The commenter is correct that our intention at proposal was that the numeric emission limits would not apply during periods of startup and shutdown, but that facilities would comply with the work practice instead. We did not intend for the work practice to be a method to demonstrate compliance with the emission limit. We are replacing the phrasing ''to demonstrate compliance'' with ''in lieu of'' as this language is more consistent with our original intent. Accordingly, in the final rule, 40 CFR 63.602(f) specifies that the emission limits of 40 CFR 63.602(a) do not apply during periods of startup and shutdown. Instead, owners and operators must follow the work practice specified in 40 CFR 63.602(f). See section V.E.3.b of this preamble for our response to commenters' argument that owners and operators should not be required to monitor operating parameters during startup and shutdown periods.

b. Applicability Of Operating Limits—Comment. Two commenters recommended that the EPA amend the rule to make clear that the work practice standards for startup and shutdown also apply in lieu of the parametric monitoring requirements set forth in subpart AA and make explicit that parametric operating requirements do not apply during times of startup and shutdown.

One commenter argued that when the EPA established the flow rate and pressure drop parametric monitoring requirements in its 1999 final rule, the EPA concluded that requiring continuous monitoring of these parameters ''help[ed] assure continuous compliance with the emission limit'' (64 FR 31365, June 10, 1999). The commenter also asserted that the rules specify that ''[t]he emission limitations and operating parameter requirements of this subpart do not apply during periods of startup, shutdown, or malfunction . . .'' (40 CFR 63.600(e)). The commenter argued that this was a reasonable action because the operating parameter ranges are established during annual performance tests, and these tests cannot be performed during startup and shutdown conditions.

The commenter suggested that in the proposed rule, the EPA exempted compliance with the emission limits during startup and shutdown periods, imposed work practice standards in lieu thereof, and retained the prohibition on conducting a performance test during periods of startup or shutdown (79 FR 66570 (proposed 40 CFR 63.606(d)). The commenter suggested that the proposed rule is silent on the applicability of the parametric monitoring requirements during startup and shutdown. The commenter asserted that because the parametric monitoring provisions provide an inference of compliance with the emission limits (64 FR 31365, June 10, 1999), and these emission limits do not apply during startup and shutdown, the commenter concluded that the parametric monitoring provisions similarly should not apply during startups and shutdowns.

The commenters pointed to two recent EPA NESHAP rulemakings to support their conclusion. First, the commenters argued that in its industrial, commercial and institutional boilers and process heaters NESHAP reconsideration proposal (hereinafter, the ''Boiler NESHAP''), the EPA, responding to a comment soliciting clarification ''that the operating limits and opacity limits do not apply during periods of startup and shutdown,'' stated that with the finalization of work practice standards, ''EPA agrees that the requested clarification is what was intended in the final rule'' (76 FR 80598 and 80615, December 23, 2011). The commenters asserted that to this end, in its response to the reconsideration, the EPA made clear that affected sources must comply with ''all applicable emissions and operating limits at all times the unit is operating except for periods that meet the definitions of startup and shutdown in this subpart, during which times you must comply with these work practices'' (78 FR 7138 and 7142, January 31, 2013). The commenters noted that in the Boiler NESHAP regulations, the EPA required the implementation of work practice standards in lieu of compliance with the operating parameter requirements during startup and shutdown by (1) Excluding periods of startup and shutdown from the averaging period (Id. at 7187, 40 CFR 63.7575, the definition of a 30-day rolling average'' excludes ''hours during startup and shutdown''), and (2) expressly stating that the ''standards'' (the emission limits and operating requirements) do not apply during periods of startup or shutdown. (Id. at 7163, 40 CFR 63.7500(f), titled ''What emission limitations, work practice standards, and operating limits must I meet?'' applies ''at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 of this subpart.'')

Second, the commenters argued that in its Portland Cement NESHAP, the EPA specified an operating limit for kilns, identified as a temperature limit established during a performance test, and that the temperature limit applied at all times the raw mill is operating, ''except during periods of startup and shutdown'' (78 FR 10039, February 12, 2013, 40 CFR 63.1346(a)(1)). Further, for the continuous monitoring requirements, including operating limits, the Portland Cement NESHAP required operating of the monitoring system at all times the affected source is operating, ''[e]xcept for periods of startup and shutdown'' (Id. at 10041, 40 CFR 63.1348(b)(1)(ii)).

The commenters argued that given the EPA's conclusion in the proposed rule that the emission limits should not apply during startup and shutdown, and because the parametric monitoring requirements are established during a performance test (which cannot be performed during a startup or a shutdown) and used to infer compliance with the emission limits, the EPA should make clear in the final rule that the operating parameters requirements do not apply during startup or shutdown. The commenter recommended that the EPA should make this explicit: (1) In the operating and monitoring requirement section of subpart AA (proposed 40 CFR 63.605), and (2) by defining the averaging period (currently daily) as excluding periods of startup and shutdown (proposed 40 CFR part 63, subpart AA, Table 4.) As an alternative, the commenters recommended that if the EPA continues to require compliance with the parametric monitoring requirements during startup and shutdown periods, then the EPA should adopt a longer averaging period, from daily to 30 days, to allow for the effects of startups and shutdowns to be reduced by a longer period of steady-state operations. The commenter noted that the Boiler NESHAP has a 30-day averaging period for pressure drop and liquid flow rate, and excludes periods of startup and shutdown from the averaging period (40 CFR 63.7575, definition of ''30-day rolling average'' and 40 CFR part 63, subpart DDDDD, Table 4.) The commenter stated that a 30-day averaging period would be substantially more stringent than the Boiler NESHAP approach since it would include periods of startup and shutdown, while at the same time avoid misleading ''exceedances'' caused by the inclusion of periods of startup and shutdown compared to daily average parametric limits.

Response. We disagree with the commenters about the applicability of the operating limits. Based on these comments, we have clarified in the final rule at 40 CFR 63.602(f) that to comply with the work practice during periods of startup and shutdown, facilities must monitor the operating parameters specified in Table 3 to subpart AA and comply with the operating limits specified in Table 4 of subpart AA. The purpose of the work practice is to ensure that the air pollution control equipment that is used to comply with the emission limit during normal operations is operated during periods of startup and shutdown. Monitoring of control device operating parameters is necessary to demonstrate compliance with the work practice. We have concluded that it is reasonable for the control device at phosphoric acid processes to meet the same operating limits during startup and shutdown that apply during normal operation, and that it is not necessary to specify different averaging times for periods of startup and shutdown. Meeting the operating limits of Table 4 of subpart AA will ensure that owners and operators meet the General Duty requirement to operate and maintain the affected source and associated air pollution control equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions.

The analogies that the commenters made to the Industrial Boiler NESHAP and the Portland Cement NESHAP are not relevant to this rulemaking. In each rulemaking, we consider the feasibility of applying standards during startup and shutdown based on relevant process considerations for each source category, the pollutants regulated, and control devices on which the rule is based. In developing this rule, we obtained information on the operation of control devices during startup and shutdown periods in the CAA section 114 survey issued to the phosphoric acid manufacturing industry. Based on survey results, we concluded that for this source category, control devices (*i.e.,* absorbers and WESP) could be operated during periods of startup and shutdown. We found no indication that process operations during startup and shutdown would interfere with the ability to operate the relevant control devices according to good engineering practice. Moreover, the commenters provided no technical justification as to why a different operating limit is needed during startup and shutdown.

Regarding the comparison to the Industrial Boiler NESHAP, the operation of boilers and their associated control devices are different than phosphoric acid plants. While boiler control devices do not have to comply with specific operating limits during startup or shutdown, they must meet a work practice that includes firing clean fuels, operating relevant control devices (*e.g.,* absorbers) as expeditiously as possible, and monitoring the applicable operating parameters (*e.g.,* flow rate) to demonstrate that the control devices are being operated properly. The EPA currently is reconsidering the control requirements for industrial boilers during startup and shutdown (80 FR 3090, January 21, 2015). In the proposed action on reconsideration, we pointed out that some of the control devices used for boilers cannot be operated during the full duration of startup and shutdown because of safety concerns and the possibility of control equipment degradation due to fouling and corrosion. The control devices used for phosphoric acid production do not pose these same risks. Likewise, the fact the Portland Cement NESHAP does not require monitoring of kiln temperature during startup and shutdown is not relevant. The Portland Cement NESHAP requires maintaining a kiln temperature as part of the MACT operating limit. The operating limit for the Portland Cement NESHAP does not apply during startup and shutdown because it is not physically possible to maintain a constant temperature during startup and shutdown of a kiln. In contrast, the feasibility of operating the control devices used to control HAP emissions from phosphoric acid manufacturing is not limited by specific process operating conditions. Therefore, it is feasible to operate the devices during startup and shutdown, and we have determined that it is reasonable to do so considering cost, nonair health and environmental impacts, and energy requirements.

c. Definition Of Startup And Shutdown—Comment. Several commenters argued that the EPA's proposed work practice standard for periods of startup and shutdown failed to account for how equipment in the phosphoric acid industry works. In order to comply with the proposed startup and shutdown requirements, the operator must begin operation of any control device(s) being used at the affected source prior to introducing any feed into the affected source and continue operation of the control device(s) through the shutdown period until all feed material has been processed through the affected source. The commenters noted that it is not feasible to process all feed material from a process prior to shutting down most equipment at a facility. For example, the phosphoric acid reactors and beds in the calciners may not be able to process all the feed material in them prior to shutdown and there would always still be feed material left in the equipment even after it is shutdown. The same would be true for nearly all process units in the industry. The commenters requested that the EPA revise 40 CFR 63.602(h) to require compliance with the work practice standard only up to the point in time when no more feed or in-process materials are being introduced into the production unit.

Two commenters agreed with other commenters that it is not feasible to base the conclusion of a ''shutdown'' on the point at which all feed has ''been processed.'' Instead, they suggested that the EPA should clarify the work practice standard of keeping all emission control equipment active during shutdowns. The commenters reported that facilities in the industry consider the commencement of ''shutdown'' as the moment at which the plant ceases adding feed to the affected process, rather than basing shutdown on when all feed materials have been processed through the process. The commenters recommended that the EPA should define ''shutdown'' to begin when the facility ceases adding feed to an affected process line, and to conclude when the affected process line equipment is deactivated, even though some feed or residues may still be present within particular parts of the process.

One of the commenters also noted that it is common practice to have short-term shutdown of process inputs for temporary maintenance work (including work on emission control equipment) where the entire system is not emptied. In these cases, feed of phosphoric acid and ammonia to the process is suspended as is flow from the reactor to the granulator. The commenter argued that because the source of fluoride to the system has ceased and dust generating material flows are suspended, there should be no significant source of emissions to control, and it is not necessary to require the use of control devices until all feed material has been processed. Instead, the commenter recommended that an affected entity should be allowed to turn off control devices when reactor and granulator feeds have been stopped, unless the system is being emptied, in which case control devices should be required as long as the material handling system is in operation.

Response. We agree with the commenters that the rule needs to have a more precise definition of startup and shutdown that more clearly and reasonably establishes the times when the work practice applies and when the emission limits apply. Accordingly, we added a definition of ''startup'' and ''shutdown'' in the definitions section of the final rule to specify when startup begins and ends, and when shutdown begins and ends.

Based on additional information provided by industry (see ''Email Correspondence Received After Comment Period re Startup Shutdown (May 5, 2015),'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we are including a definition of startup in the final rule. The final rule defines startup as commencing when any feed material is first introduced into an affected source and ends when feed material is fully loaded into the affected source. Regarding shutdown, we agree with the commenters that it is not feasible to process all feed material from a process prior to shutting down most equipment at a facility. Such requirement would imply that the control device must be operated after the shutdown ends. The final rule defines shutdown as commencing when the facility ceases adding feed to an affected source and ends when the affected source is deactivated, regardless of whether feed material is present in the affected source. This definition will address concerns about temporary shutdowns as well as shutdowns of longer duration.

In addition, the final rule at 40 CFR 63.602(f) specifies that any control device used at the affected source must be operated during the entire period of startup and shutdown, and must meet the operating limits in Table 4 of the final rule.

4. What is the rationale for our final decisions for the SSM provisions?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing the proposed revisions to the General Provisions table (appendix A of NESHAP subpart AA) to change several references related to requirements that apply during periods of SSM. For these same reasons, we are also finalizing the addition of the following proposed provisions to NESHAP subpart AA: (1) Work practice standards for periods of startup and shutdown in lieu of numeric emission limits; (2) the general duty to minimize emissions at all times; (3) performance testing conditions requirements; (4) site-specific monitoring plan requirements; and (5) malfunction recordkeeping and reporting requirements.

F. Other Changes Made to the Phosphoric Acid Manufacturing NESHAP and NSPS

1. What other changes did we propose for the Phosphoric Acid Manufacturing NESHAP and NSPS?

a. Clarifications to Applicability and Certain Definitions—i. NESHAP Subpart AA. As stated in the preamble to the proposed rule, to ensure the emission standards reflect inclusion of HAP emissions from all sources in the source category, we proposed to amend the definitions of WPPA process line, SPA process line, and PPA process line to include relevant emission points, including clarifiers and defluorination systems at WPPA process lines, and oxidation reactors at SPA production lines. We also proposed removing text from the applicability section that is duplicative of the revised definitions.

We also proposed revising the term ''gypsum stack'' to ''gypsum dewatering stack'' in order to help clarify the meaning of this fugitive emission source, and to alleviate any potential misconception that the ''stack'' is a point source. Other changes we proposed included the addition of definitions for ''cooling pond,'' ''phosphoric acid defluorination process,'' ''process line,'' and ''raffinate stream.''

ii. NSPS Subpart T. As stated in the preamble to the proposed rule, to ensure the emission standards we proposed reflected inclusion of total fluoride emissions from all sources in the defined source category, we proposed to amend the definition of WPPA plant to include relevant emission points, including clarifiers and defluorination systems. We also proposed to remove text from the applicability section that is duplicative of the revised definitions.

iii. NSPS Subpart U. To ensure the emission standards we proposed reflected inclusion of total fluoride emissions from all sources in the defined source category, we proposed to amend the definition of SPA plant to include relevant emission points, including oxidation reactors. We also proposed to remove text from the applicability section that is duplicative of the revised definitions.

b. Testing, Monitoring, Recordkeeping and Reporting —i. NESHAP Subpart AA. As stated in the preamble to the proposed rule, to provide flexibility, we proposed several monitoring options, including pressure and temperature measurements, as alternatives to monitoring of absorber differential pressure. We also proposed monitoring the absorber inlet gas flow rate along with the influent absorber liquid flow rate (and determining liquid-to-gas ratio) in lieu of monitoring only the absorber inlet liquid flow rate.

In addition, we proposed removing the requirement that facilities may not implement new operating parameter ranges until the Administrator has approved them, or 30 days have passed since submission of the performance test results. We proposed that facilities must immediately comply with new operating ranges when they are developed and submitted; and new operating ranges must be established using the most recent performance test conducted by a facility, which allows for changes in control device operation to be appropriately reflected.

As stated in the preamble to the proposed rule, we modified the language for the conditions under which testing must be conducted to require that testing be conducted at ''maximum representative operating conditions'' for the process.[9]

In keeping with the general provisions for CMS (including CEMS and continuous parameter monitoring system (CPMS)), we proposed the addition of a site-specific monitoring plan and calibration requirements for CMS. Provisions were also proposed that included electronic reporting of stack test data. We also proposed modifying the format of NESHAP subpart AA to reference tables for emissions limits and monitoring requirements.

Finally, we proposed HF standards in NESHAP subpart AA by translating the current total fluoride limits (lb total F/ton P_2O_5 feed) into HF limits (lb HF/ton P_2O_5 feed). To comply with HF standards, we proposed that facilities use EPA Method 320.

ii. NSPS Subpart T. We proposed new monitoring and recordkeeping requirements for any WPPA plant that commences construction, modification, or reconstruction after November 7, 2014 to ensure continuous compliance with the standard. As stated in the preamble to the proposed rule, to ensure that the process scrubbing system is properly maintained over time; ensure continuous compliance with standards; and improve data accessibility, we proposed the owner or operator establish an allowable range for the pressure drop through the process scrubbing system. We also proposed that the owner or operator keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations.

For consistency with terminology used in the associated NESHAP subpart AA, we proposed changing the term ''process scrubbing system'' to ''absorber'' in NSPS subpart T.

iii. NSPS Subpart U. We proposed new monitoring and recordkeeping requirements for any SPA plant that commences construction, modification or reconstruction after November 7, 2014 to ensure continuous compliance with the standard. As stated in the preamble to the proposed rule, to ensure that the process scrubbing system is properly maintained over time; ensure continuous compliance with standards; and improve data accessibility, we proposed the owner or operator establish an allowable range for the pressure drop through the process scrubbing system. We also proposed that the owner or operator keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations.

For consistency with terminology used in the associated NESHAP subpart AA, we proposed changing the term ''process scrubbing system'' to ''absorber'' in NSPS subpart U.

2. How did the provisions regarding these other proposed changes to the Phosphoric Acid Manufacturing NESHAP and NSPS change since proposal?

a. Clarifications to Applicability and Certain Definitions—i. NESHAP Subpart AA. In consideration of comments received during the public comment period for the proposed rulemaking, we are adopting the proposed clarifications for oxidation reactors as discussed in section V.F.3.a.i of this preamble; however, we are also revising the definition of oxidation reactor in the final rule to clarify that oxidizing agents may include: Nitric acid, ammonium nitrate, or potassium permanganate. Also, in consideration of comments received (see section V.F.3.a.ii of this preamble for details), we are not adopting the proposed clarifications for defluorination systems and clarifiers.

We have not made any change to the proposed revision to rename ''gypsum stack'' to ''gypsum dewatering stack.'' We have also not made any changes to the proposed definitions for ''cooling pond'' and ''raffinate stream''; however, we are removing the proposed definitions for ''phosphoric acid defluorination process'' and ''process line'' for reasons discussed in sections V.F.3.a.ii and V.F.3.a.iii of this preamble, respectively.

Finally, we are removing the proposed language ''includes, but is not limited to'' in the definitions of WPPA, SPA, and PPA process lines for reasons discussed in section V.F.3.a.iv of this preamble.

ii. NSPS Subpart T. In consideration of comments received (see section V.F.3.a.ii of this preamble for details), we are not adopting the proposed clarifications for defluorination systems and clarifiers. We are also removing the proposed language ''includes, but is not limited to'' in the definitions of WPPA plant for reasons discussed in section V.F.3.a.iv of this preamble.

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[9] Based on the EPA memorandum, ''Issuance of the Clean Air Act National Stack Testing Guidance,'' dated April 27, 2009.

iii. NSPS Subpart U. In consideration of comments received during the public comment period for the proposed rulemaking, we are adopting the proposed clarifications for oxidation reactors as discussed in section V.F.3.a.i of this preamble; however, we are also revising the proposed definition of oxidation reactor in the final rule to clarify that oxidizing agents may include: Nitric acid, ammonium nitrate, or potassium permanganate. We are also removing the proposed language ''includes, but is not limited to'' in the definitions of SPA plant for reasons discussed in section V.F.3.a.iv of this preamble.

b. Testing, Monitoring, Recordkeeping and Reporting—i. NESHAP Subpart AA. We have not made any changes in our proposed determination that pressure drop is not an appropriate monitoring parameter for absorbers that are designed to operate with pressure drops of 5 inches of water column or less. However, in consideration of comments received during the public comment period for the proposed rulemaking, we are not adopting the proposed options to monitor: (1) The temperature at the wet scrubber gas stream outlet and pressure at the liquid inlet of the absorber, or (2) the temperature at the scrubber gas stream outlet and scrubber gas stream inlet. Instead, we have revised Table 3 of NESHAP subpart AA to require liquid-to-gas ratio monitoring for low-energy absorbers, and influent liquid flow and pressure drop monitoring for high-energy absorbers; and we are keeping liquid-to-gas ratio monitoring as an option for high-energy absorbers in the final rule. (See section V.F.3.b.i and V.F.3.b.ii of this preamble for details.)

In addition to these revisions, we are making corrections at 40 CFR 63.607(a) to clarify the procedures for establishing a new operating limit based on the most recent performance test. We are also revising the requirements at 40 CFR 63.605(d)(1)(ii)(B) of the final rule to remove the requirement that facilities must request and obtain approval of the Administrator for changing operating limits. (See section V.F.3.b.iii and V.F.3.b.iv of this preamble for details.)

Also, for reasons discussed in the in the Comment Summary and Response document available in the docket, we are revising the annual testing schedule in the final rule at 40 CFR 63.606(b), and the terminology for ''maximum representative operating conditions'' in the final rule at 40 CFR 63.606(d).

We are not making any changes to the proposed addition of a site-specific monitoring plan and calibration requirements for CMS. We are also keeping the proposed term ''absorber'' in lieu of ''scrubber,'' as well as the proposed format of NESHAP subpart AA to reference tables for emissions limits and monitoring requirements.

Lastly, we are retaining the current total fluoride limits and not adopting the proposed HF standards and associated EPA Method 320 testing in NESHAP subpart AA (see section V.F.3.c of this preamble for details).

ii. NSPS Subpart T. We are not making changes to the proposed monitoring and recordkeeping requirements for any WPPA plant that commences construction, modification or reconstruction after August 19, 2015 to ensure continuous compliance with the standard. We are also keeping the proposed term ''absorber'' in lieu of ''process scrubbing system.''

iii. NSPS Subpart U. We are not making changes to the proposed monitoring and recordkeeping requirements for any SPA plant that commences construction, modification, or reconstruction after August 19, 2015 to ensure continuous compliance with the standard. We are also keeping the proposed term ''absorber'' in lieu of ''process scrubbing system.''

3. What key comments did we receive on the other changes to the Phosphoric Acid Manufacturing NESHAP and NSPS, and what are our responses?

Several comments were received regarding the proposed clarifications to applicability and certain definitions, revisions to testing, monitoring, recordkeeping and reporting, translation of total fluoride to HF emission limits, and revisions to other provisions for the Phosphoric Acid Manufacturing source category. The following is a summary of significant comments and our response to those comments. Other comments received and our responses to those comments can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

a. Applicability Clarifications and Certain Definitions—i. Oxidation Reactors—Comment. Several commenters remarked that the proposed definition of SPA process line to include oxidation reactors is problematic and goes beyond clarification. These commenters requested that the EPA develop more specific language or provide a clear technical basis under the CAA because any equipment that was not expressly included in EPA's MACT floor calculations should not be included in the affected source definition.

Commenters mentioned that the EPA's memorandum ''Applicability Clarifications to the Phosphoric Acid Manufacturing Source Category,'' which is available in the docket for this action, captured four facilities, but it was not clear whether the PCS Aurora facility was included in the count. These commenters stated that the oxidation step at this facility is carried out in agitated tanks that do not have any emissions control, and the emissions from the oxidation step are not included in their annual performance testing (when demonstrating compliance with the current total fluoride limits). The commenters said that it was not clear whether this oxidation step involves an ''oxidation reactor'' as proposed; and, if it does, the commenters argued that the EPA has not considered additional costs imposed by including ''any equipment that uses an oxidizing agent to treat phosphoric acid'' within the scope of the NESHAP at 40 CFR part 63, subpart AA.

Response. We are adopting the proposed SPA process line definition in NESHAP subpart AA, and the proposed SPA plant definition in NSPS subpart U, to include oxidation reactors. Based on information in process flow diagrams provided by facilities, we initially believed that oxidation reactors were part of the SPA process lines that would have been considered in the original MACT analysis, and, thus subject to the existing limits. In response to comments that stated the opposite was true, we searched historical data, specifically the 1996 memorandum ''National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing and Phosphate Fertilizers Production; Proposed Rules—Draft Technical Support Document and Additional Technical Information'' (1996 TSD). The 1996 TSD lists, in Attachment 2, the test data for SPA process lines that were assembled for the MACT floor analysis (the 1996 TSD is item II–B–20 in Docket A–94–02). Based on this review as well as a facility construction air permit, we determined that oxidation reactor emissions from at least one facility, PCS White Springs (see the emission point ''Occidental, Suwanee Rv., FL–G'' in the 1996 TSD), were included with this assembled SPA test dataset. It is possible that three other facilities (see the emission points ''J.R. Simplot, Pocatello, ID'' for the Simplot Don-Pocatello facility, ''Nu-West, Soda Springs, ID'' for the Agrium Nu-West facility, and ''Texasgulf, Aurora, NC'' for the PCS Aurora facility in the 1996 TSD) with oxidation reactors were also included in this original dataset since we know today that these facilities have oxidation reactors; however, it is unclear whether the oxidation reactors at these facilities were operating when the dataset was assembled. Nevertheless, based on the emission point ''Occidental, Suwanee Rv., FL–G,'' SPA process lines that incorporate an oxidation reactor were included as part of the SPA emissions dataset that was evaluated in order to conduct the MACT floor analysis.

In addition, the EPA's technology review revealed that SPA process lines at four different facilities include an oxidation reactor to remove organic impurities from the acid. We determined that one of these facilities (Simplot Don-Pocatello) already ducts their oxidation reactor emissions through their SPA process line wet scrubber, and is achieving compliance with the SPA total fluoride emission limit. For two of these facilities (PCS White Springs and Agrium Nu-West), we determined that when their oxidation reactor emissions are combined with the rest of their SPA process line emissions, the facilities are in compliance with the total fluoride emission limit. Therefore, for these three facilities it would not be necessary to upgrade existing control systems, or to install a control system, in order to comply with the rule.

With regard to the oxidation reactor at the fourth facility (PCS Aurora), the Agency has determined that this process (*i.e.,* an oxidation step carried out in agitated tanks) does qualify as an oxidation reactor. Based on information that we received from industry after the public comment period ended for the proposal (see docket item EPA–HQ–OAR–2012–0522–0051), potassium permanganate is used in the PCS Aurora oxidation step. This oxidizing agent was one of three specifically cited in our memorandum ''Applicability Clarifications to the Phosphoric Acid Manufacturing Source Category,'' which is available in the docket for this action, so based on the data available, this oxidation step should be included as part of the SPA process line emissions when determining compliance with the SPA total fluoride emission limit. Furthermore, based on this same information that we received from industry after the public comment period ended for the proposal, PCS Aurora may need to install a new absorber in order to control its oxidation process emissions due to logistical complications and concerns about inadequate capacity of other existing absorbers at their SPA units. PCS Aurora estimated the absorber (venturi scrubber) would incur capital costs of approximately $270,500, based on prior absorber purchases for its facility. We estimated annual costs of approximately $95,000. The costs associated with this change are discussed further in the memorandum ''Control Costs and Emissions Reductions for Phosphoric Acid and Phosphate Fertilizer Production Source Categories—Final Rule,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522.

The definition of oxidation reactor in the final rule for NESHAP subpart AA has been revised to clarify that oxidizing agents may include: Nitric acid, ammonium nitrate, or potassium permanganate. The words ''or step'' has also been added to the definition of oxidation reactor, for instances when a facility may not typically identify their oxidation process as occurring in a reactor. The definition now states that ''oxidation reactor means any equipment or step that uses an oxidizing agent (*e.g.,* nitric acid, ammonium nitrate, or potassium permanganate) to treat SPA.'' Similarly, the definition of ''SPA plant'' in the final rule for NSPS subpart U has also been revised to reflect these changes.

ii. Defluorination and Clarifiers—Comment. Many commenters opposed the proposed expanded definition of ''wet-process phosphoric acid line'' to include ''clarifiers'' and ''defluorination processes.'' These commenters stated that the proposed revisions have the potential to pull in several ''defluorination processes'' and ''clarifiers'' that are not subject to the current rule (*e.g.,* animal feed phosphate production operations that have traditionally been outside the scope of this subpart). These commenters argued that any unit operation that conducts evaporation or concentrates phosphoric acid will have the effect of defluorinating to some extent. One of these commenters stated that they have a desulfation process at one of their facilities that reduces F; the commenter also said that this facility's WPPA process line has several filter product tanks, evaporator feed tanks, and evaporator product tanks that could potentially be deemed clarifiers, and thus be pulled into the proposed rule. Another of these commenters argued that it is not logical to include clarifier and defluorination systems in the definition because they operate independently of process lines, and are often operated when feed is not put into process lines (and so are not a process line manufacturing phosphoric acid by reacting phosphate rock and acid). This commenter added that clarifiers often operate more like tanks than process equipment and are not routinely emptied; and emissions from clarifiers are not a function of phosphate feed material to the reactor. The commenter stated that the addition of clarifiers will require significant facility modifications to accommodate emissions testing because although some clarifiers are evacuated to WPPA scrubbers, others are not; and even though some clarifiers have independent evacuation and scrubbing systems, other clarifiers have no evacuation and scrubbing systems. Another commenter also stated that one of their facilities contains clarifiers that are not source tested or vented to a wet scrubber. This commenter stated that it was not possible for one of their facilities to determine whether they meet the proposed standard for a WPPA process line that includes defluorination processes because their defluorination units are not only integrated with their WPPA process, but also with processes that do not meet the definition of WPPA lines. A commenter added that defluorination processes and clarifiers are often subject to separate emissions control requirements in their title V permits.

Two commenters stated that since the original rule was adopted, the definition of ''wet-process phosphoric line'' has not been interpreted to extend or apply to clarifiers or defluorination processes. One of these commenters claimed that the only rationale the EPA provides is that the rules were ''initially intended'' to cover these sources, but argued that neither the original proposal, nor the original final rule mentioned the term ''clarifier'' or ''defluorination process.'' The commenters requested that the EPA conduct CAA section 112(d)(2) or 112(d)(3) analyses for these new affected units. If the EPA conducts these analyses, and decides to expand the definition of ''wet-process phosphoric acid line'' to include ''clarifiers'' and ''defluorination processes,'' a commenter suggested that the definition exclude units that partially clarify or defluorinate an in-process stream incidentally.

Response. Based on information in process flow diagrams provided by facilities, we initially believed that clarifiers and defluorination systems were part of the WPPA process lines that would have been considered in the original MACT analysis, and, thus, subject to the existing limits. However, the EPA agrees that clarifiers and defluorination systems should not be included in the WPPA process line definition of NESHAP subpart AA, based on the new information available. We also agree that clarifiers and defluorination systems should not be included in the WPPA plant definition of NSPS subpart T.

In the proposed rules, the EPA was specifically referring to defluorination processes that use diatomaceous earth and are included as part of the WPPA process line; however, commenters explained that this type of process is used solely in animal feed production. Because defluorination processes that use diatomaceous earth are not related to phosphoric acid manufacturing, as we first surmised, it is not appropriate to include defluorination processes in the WPPA process line definition.

In response to comments regarding the inclusion of clarifiers in the WPPA process line definition, we searched historical data. Specifically, we reviewed the 1996 memorandum ''National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing and Phosphate Fertilizers Production; Proposed Rules—Draft Technical Support Document and Additional Technical Information'' (1996 TSD) to determine if clarifier emissions were included in the MACT floor evaluation for WPPA process lines (the 1996 TSD is item II–B–20 in Docket A–94–02). The 1996 TSD lists, in Attachment 2, the WPPA test data that were assembled for the MACT floor analysis. Based on this review, we were not able to confirm that clarifiers were included as part of the WPPA emissions dataset that was evaluated in order to conduct the MACT floor analysis; therefore, we are not including clarifiers in the WPPA process line definition. Similarly, we are not including clarifiers in the WPPA plant definition of NSPS subpart T.

iii. Generic Process Line Definition— Comment. One commenter stated that the EPA has introduced ambiguity and vagueness with its definition of a generic ''process line'' that includes ''all equipment associated with the production of any grade or purity of a phosphoric acid product including emission control equipment.'' The commenter asserted that under this expansive definition, every hypothetical fugitive emission source would have to be accounted for in determining compliance. The commenter explained that the EPA has not collected emission data from ''all equipment'' nor provided guidance on estimating emissions for such sources in order to allow entities with process lines to demonstrate compliance. The commenter stressed the ''process line'' definition, as it currently stands, could include a wash plant that prepares phosphate ore or product storage tanks due to these sources being considered ''associated'' with production and thus subject to the proposed NESHAP.

Response. The Agency agrees with the commenter that it is not necessary to include the generic ''process line'' definition, and has removed it from the NESHAP subpart AA final rule. This definition did not provide additional clarity to facilities, and it was not our intent to include emissions from ''all equipment'' that is ''associated'' with phosphoric acid production for compliance determinations. Specific definitions are provided for WPPA process line, SPA process line, and PPA process line and, therefore, enough specificity is already provided in the rule.

iv. ''Includes, but is Not Limited to''— Comment. A commenter remarked that incorporating the language ''includes, but is not limited to'' in the definitions of WPPA, SPA, and PPA process lines is overly broad and creates ambiguity. They stated that industry should have certainty as to the applicability and scope of the rule, but the language ''includes, but is not limited to'' creates uncertainty as to where the affected equipment begins and ends for purposes of demonstrating compliance.

Response. We agree that this language creates overly broad process line definitions and can lead to regulatory uncertainty for affected sources. Therefore, we are not finalizing the language ''includes, but is not limited to'' in the definitions of WPPA, SPA, and PPA process lines of NESHAP subpart AA. Similarly, we are not finalizing the language ''includes, but is not limited to'' in the definitions of WPPA plant and SPA plant of NSPS subpart T and NSPS subpart U, respectively.

b. Testing, Monitoring, Recordkeeping and Reporting—i. Pressure Drop Across Absorber—Comment. Several commenters requested the EPA delete the requirement that pressure drop across an absorber must be greater than 5 inches of water in order to use the option of measuring pressure drop as an operating parameter. These commenters contended that the EPA has not articulated any basis for the requirement. These commenters provided data demonstrating that units operate in compliance with the emission standards when the pressure drop across an absorber is less than 5 inches of water. One of these commenters expressed safety concerns associated with operating scrubbers at higher range pressure drop settings, citing one of its facilities that experienced the entrainment of moisture within the absorbing tower when operating at pressure drops in excess of 8 inches of water, and another that experienced the buildup of excessive fumes on the digester floor when operating the digester scrubber as high as 6 inches of water.

Response. The Agency maintains its determination that pressure drop is not an appropriate monitoring parameter for absorbers that do not use the energy from the inlet gas to increase contact between the gas and liquid in the absorber (see ''Use of Pressure Drop as an Operating Parameter,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522). Therefore, we are not revising this proposed amendment.

High-energy (*i.e.,* high pressure drop) absorbers, such as venturi scrubbers, are designed to use the energy in the inlet gas to atomize the liquid stream entering the absorber which increases the contact between the liquid droplets and gas. For these types of absorbers, pressure drop is an appropriate monitoring parameter because changes in pressure drop values indicate that either liquid droplets are not being formed effectively inside the absorber (falling pressure drop), or that the absorber is fouled (increasing pressured drop). Pressure drop is not an appropriate monitoring parameter for low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) because pressure drop is not integral to the mechanism used in the absorber to mix the scrubbing liquid and inlet gas. Furthermore, in a meeting that occurred after the public comment period closed (see ''EPA Meeting Minutes for TFI Discussion March 12, 2015,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), industry stated that there is no correlation between pressure drop and absorber performance.

With regard to the safety concerns raised by one commenter when operating low-energy absorbers at high pressure drop settings, the proposed rule (NESHAP subpart AA) did not require low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) to operate at pressure drops greater than 5 inches of water column. Instead, the proposed rule required a different parameter to be monitored for these types of absorbers. Nevertheless, based on other comments received, we are not adopting the proposed monitoring for low-energy absorbers, and have revised the final rule (NESHAP subpart AA) to require liquid-to-gas ratio monitoring for low-energy absorbers in lieu of monitoring influent liquid flow and pressure drop through the absorber (see section V.F.3.b.ii of this preamble for further details).

ii. Absorber Monitoring Options— Comment. Several commenters called attention to the options of either measuring: (1) The temperature at the wet scrubber gas stream outlet and pressure at the liquid inlet of the absorber, or (2) the temperature at the scrubber gas stream outlet and scrubber gas stream inlet. One of these commenters said that they do not believe monitoring gas temperature in locations of large ambient temperature ranges would provide accurate monitoring of the absorbers performance. The commenter argued that temperature and pressure probes would be very susceptible to scaling issues. In addition, this commenter contended that liquid inlet pressure does not provide any additional monitoring of the absorber performance, since the inlet liquid flow rate is already measured and monitored. Another commenter contended that the EPA has not provided any data or analysis to show that there is a correlation between temperature and emissions; the commenter stated that they were not aware of any data suggesting a relationship between exit temperature and emissions, or that monitoring temperature difference across an absorber would be effective. One of these commenters argued that they were not in a position to evaluate the difficulties associated with performing the associated monitoring and establishing the requisite operating ranges.

Response. Absorber outlet gas temperature is often used to indicate a change in operation for absorbers that are used to control thermal processes. Because this source category uses the wet process in lieu of a thermal process to produce phosphoric acid, the Agency agrees with the commenters that temperature is not an appropriate monitoring parameter for absorbers used in this source category, and has removed these monitoring options from Table 3 of the final rule (NESHAP subpart AA). However, in light of this comment, the Agency has revised Table 3 of NESHAP subpart AA to require liquid-to-gas ratio monitoring for low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) in lieu of monitoring influent liquid flow and pressure drop through the absorber. (See section V.F.3.b.i of this preamble for further details of why we are not allowing pressure drop monitoring for low-energy absorbers.) Although liquid flow to the absorber is the most critical parameter for monitoring absorption systems, monitoring the inlet gas flow rate along with the influent liquid flow rate (and determining liquid-to-gas ratio) provides better indication of whether enough water is present to provide adequate scrubbing for the amount of gas flowing through the system. Furthermore, the Agency has revised Table 3 of NESHAP subpart AA to require influent liquid flow and pressure drop monitoring for high-energy (*i.e.,* high pressure drop) absorbers, such as venturi scrubbers; and we are keeping liquid-to-gas ratio monitoring as an option for high-energy absorbers in the final rule. Rather than calculating one minimum flow rate at maximum operating conditions that must be continuously adhered to, this alternative provision (*i.e.,* liquid-to-gas ratio monitoring for high-energy absorbers) allows a facility to optimize the liquid flow for varying gas flow rates. By using a liquid-to-gas ratio, sources may save resources by reducing the liquid rate with reductions in gas flow due to periods of lower production rates.

The Agency believes the cost to implement these finalized monitoring requirements is minimal for facilities. For low-energy absorbers, we are allowing the gas stream to be measured by either measuring the gas stream flow at the absorber inlet or using the design blower capacity, with appropriate adjustments for pressure drop. Therefore, facilities would not need to purchase new equipment to measure gas flow at the inlet of the absorber since they may choose to use design blower capacity. Furthermore, we are not requiring any new monitoring for high-energy absorbers; therefore, these facilities are already equipped to monitor as required in the final rule.

iii. Operating Range Established From a Previous Test—Comment. One commenter stated that 40 CFR 63.607(a) is somewhat ambiguous, tending to suggest that affected facilities would be immediately required to implement new equipment operating ranges following a source test, even if operating conditions from previous source tests demonstrated compliance with fluoride emission standards. The commenter argued that there is no reason that a new performance test at a new operating range should invalidate a previous performance test at a different operating range.

Response. The Agency has clarified in the final rule at 40 CFR 63.607(a) that during the most recent performance test, if owners or operators demonstrate compliance with the emission limit while operating their control device outside the previously established operating limit, then limits must be established. Owners or operators must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test. Public comments on the 1999 rule stated that the equipment and control devices in these source categories are subject to harsh conditions that cause corrosion and scaling of the process components. Accordingly, the performance of the emissions controls will vary over time, and so might emissions. Thus, the Agency disagrees with the commenter's argument. We have determined that a new performance test conducted under a particular operating range should invalidate a previous operating range that was established under different operating conditions. An operating limit (*e.g.,* an operating range, a minimum operating level, or maximum operating level) is established using the most recent performance test, or in certain instances, a series of tests (potentially including historical tests). However, in all cases, if owners or operators demonstrate compliance with an emission limit during the most recent performance test, and during this performance test an owner's or operator's control device was operating outside the previously established operating limit, the owner or operator must establish a new operating limit that incorporates that most recent performance test.

iv. Approving Operating Ranges—Comment. Several commenters support the EPA's proposal to eliminate the requirement that facilities may not implement new operating parameter ranges until the Administrator has approved them, or 30 days have passed since submission of the performance test results. A commenter pointed out that 40 CFR 63.605(d)(1)(iii)(B), as proposed, does not provide the 30-day default period for the effectiveness of the new ranges if the EPA Administrator does not act; therefore, as currently set forth in the proposed rule, sources will be left in limbo waiting for the EPA Administrator to respond before they can implement new ranges. A commenter suggested that the EPA revise the proposed regulatory language to require submission of the new ranges to EPA, but delete the requirement to request and obtain EPA's approval of the new ranges. Similarly, another commenter requested the EPA clarify the process for establishing new equipment operating ranges following source performance testing. This commenter contended that facilities should have the ability to update operating parameters if they desire based on source testing, and the facility should be required to submit the new ranges, but not be required to obtain EPA's approval of the new ranges.

In addition, a commenter requested that the EPA clarify how revising the proposed regulatory language to require submission of the new ranges to the EPA, but deleting the requirement to request and obtain EPA's approval of the new ranges, will affect possible obligations to undertake permit modifications of title V permits under 40 CFR part 70. This commenter stated that such administrative processes are not fully anticipated in the proposed rule.

Response. In the proposed NESHAP subpart AA, the Agency intended that facilities not be required to obtain approval, and, instead, immediately comply with a new operating limit when it is developed and submitted to the Administrator. Therefore, the requirements at proposed 40 CFR 63.605(d)(1)(iii)(B) have been revised in the final rule at 40 CFR 63.605(d)(1)(ii)(B), as the commenter requests, to remove the requirement that facilities must request and obtain approval of the Administrator for changing operating limits. Furthermore, the Agency suggests that the title V permit be modified as soon as the Administrator is notified of a change in an operating limit. The Agency acknowledges that corrections and modifications to permit applications could become a problem for a facility, particularly if the Administrator determines the operating limit is not appropriate after a facility has already applied for the change to be made in its air permit; however, we expect this scenario to be rare.

c. Translation of Total Fluoride to HF Emission Limits—Comment. With regard to the proposed NESHAP subpart AA, several commenters opposed the use of EPA Method 320 to test for HF, and supported the retention of a total fluoride compliance standard and associated testing using EPA Method 13A or 13B. These commenters argued that EPA Method 320 leads to unreliable and unrepresentative results because some reactive fluoride compounds in the exhaust may form HF in the sampling equipment. The commenters explained that complex reactions leading to fluoride emissions occur not only in the processing units located at the Phosphoric Acid Manufacturing source category, but also in the scrubber systems designed to remove fluoride from the stack gases. Commenters stated that these reactions result in a mix of gaseous, aerosol, and particle bound fluoride (all three phases) in the stack gas, in the form of compounds like silica tetrafluoride, various fluorosilicate aerosols and/or droplets, ammonium fluoride, ammonium bifluoride, and/or ammonium fluorosilicate; and argued that these compounds have the potential to be captured in a Method 320 sampling equipment, biasing or interfering with the results of the sampling. Commenters specified that the EPA Method 320 sampling conducted in response to the EPA's information requests demonstrated that SiF_4 readily reacts with water vapor in the stack gas producing HF and silicon hydroxide; and one of the commenters provided information showing that this reaction is dependent on temperature, moisture, and residence time in the sampling system. Additionally, some of the commenters listed technical issues that they encountered during the EPA Method 320 sampling that they conducted in response to EPA's information requests. These commenters recommended certain procedures be followed when conducting EPA Method 320 at the Phosphoric Acid Manufacturing source category; however, they also cautioned that their recommendations would not resolve all of the inherent problems with the sampling and analysis process. The commenters also expressed concern over the increase in testing costs from using EPA Method 320 instead of EPA Method 13A or 13B, citing an increase of at least 3 to 4 times when using EPA Method 320 instead of EPA Method 13B.

We also received comments regarding the option to use Fourier transform infrared spectroscopy (FTIR) HF CEMS as a continuous monitoring compliance approach for HF at NESHAP subpart BB affected sources. One commenter contended that the EPA must consider requiring continuous HF emission monitoring before finalizing the proposal, and pointed out that there is a HF sensor (suitable for 0–10 part per million (ppm) monitoring range and a 0.1 ppm resolution) available for the Ultima X Series Gas Monitors. Several commenters opposed this option and cited EPA's technical memorandum ''Approach for Hydrogen Fluoride Continuous Emission Monitoring and Compliance Determination with EPA Method 320.'' They argued that the option to use FTIR HF CEMS exceeds the capabilities of existing technology, and that there are no details on the required methods to implement such a system or known field demonstrations of this type of system, and that the option has not been proven.

Finally, one commenter requested the EPA explain its technical basis for abandoning the longstanding total fluoride surrogate for HF. The commenter argued that the EPA has established similar surrogacy relationships to measure HAP in other regulated source categories in the past.

Response. In response to the January 2014 CAA section 114 request, processes at the Phosphoric Acid Manufacturing source category were tested for HF using EPA Method 320. Based on those results, the Agency concluded that moving to a form of the standard that requires HF (the target HAP) to be measured (but retaining the same numeric values as the current total fluoride standards) would be achievable by all facilities. However, in light of information provided by commenters, the Agency has re-evaluated the proposed revision to the standard and determined that EPA Method 320 is not an appropriate test method for accurately measuring HF emissions from process lines in this specific source category due to the complex and often incomplete chemical reactions with silicon compounds in these sources. Accordingly, the Agency is not adopting the proposed HF standards in NESHAP subpart AA. The Agency has determined that SiF_4 and water are naturally present in the exhaust gases of the processes located at the Phosphoric Acid Manufacturing source category; and these chemical compounds will react to form HF and silicon dioxide in the near field from the emission point on release into the atmosphere. The Agency has reviewed a study[10] stating that the equilibrium of this chemical reaction is highly dependent on temperature such that as temperature increases, the conversion of SiF_4 to HF increases. At high sampling temperatures (*i.e.,* sampling temperatures ranged from about 150 to 300 degrees Fahrenheit during the EPA Method 320 testing conducted pursuant to the January 2014 CAA section 114 requests), there is nearly a complete conversion of SiF_4 to HF. Therefore, as SiF_4 is captured in the EPA Method 320 sampling system, it may react with moisture (water) to form HF, resulting in HF measurements from this source category that are biased. That is, due to the chemical interactions and reactions with moisture at different temperatures, some of the HF emissions detected by EPA Method 320 may not represent HF that exists in the exhaust stack or HF released from phosphoric acid production.

As a result of our determination to not adopt the proposed HF standards, the

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[10] Koogler & Associates, Inc. ''Technical Evaluation of the Measurement Limitations Associated with Source HF Emissions by EPA Method 320.'' January 21, 2015.

Agency has retained the current total fluoride limits (lb total F/ton P_2O_5 feed) measured using EPA Method 13A or 13B in NESHAP subpart AA as a surrogate for the HAP HF, rather than HF emission limits using EPA Method 320. Furthermore, in light of this conclusion, the Agency is not finalizing an option to use FTIR HF CEMS. In the final rule promulgated on June 10, 1999 (64 FR 31358), the EPA explained that total fluoride was used as a surrogate for HF to establish MACT for emissions from process sources because no direct measurements of HF were available and because the NSPS are based on total F. On November 7, 2014, we proposed HF emission limits in an attempt to base the standard on the specific HAP (HF) that is emitted by this source category because we concluded that new technology (EPA Method 320) allows for direct measurement of HF, and because it is preferred to measure the listed HAP directly when possible. However, in light of the chemical interactions that may occur at this source category during sample collection using EPA Method 320 (skewing HF testing results), we are retaining the long-standing surrogate of total fluoride for HF and the annual testing with EPA Method 13A or 13B. Results from EPA Method 13A or 13B testing include all fluoride compounds, including HF. Furthermore, since the control of total fluoride and HF from process sources at this source category is accomplished with the same control technology (scrubbers), the total fluoride emission limits will result in installation of the MACT for HF and the same level of HF control will be achieved regardless of how the emission limits are expressed. The use of total fluoride as a surrogate for HF simply changes the metric for compliance demonstration, not the actual level of emission control achieved. As such, we are retaining the existing total fluoride limits for all emission sources in NESHAP subpart AA. Although, at present time, the Agency is not finalizing HF standards in NESHAP subpart AA, it may be possible to do so in a future rulemaking with additional data and specificity on monitoring requirements.

4. What is the rationale for our final decisions regarding these other changes to the Phosphoric Acid Manufacturing NESHAP and NSPS?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing: The proposed requirement in NESHAP subpart AA that pressure drop across an absorber must be greater than 5 inches of water in order to use the option of measuring pressure drop as an operating parameter; the proposed definitions for ‘‘superphosphoric acid process line’’ (in NESHAP subpart AA) and ‘‘superphosphoric acid plant’’ (in NSPS subpart U) to include oxidation reactors; and other proposed clarifications and corrections.

Additionally, for the reasons provided above, we are making the revisions, clarifications and corrections noted in section V.F.2 in the final rules for NESHAP subpart AA, NSPS subpart T, and NSPS subpart U.

VI. What is the rationale for our final decisions and amendments for the Phosphate Fertilizer Production source category?

For each issue related to the Phosphate Fertilizer Production source category, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA’s rationale for the final decisions, and amendments and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA’s responses can be found in the Comment Summary and Response document available in the docket.

A. Residual Risk Review for the Phosphate Fertilizer Production Source Category

1. What did we propose pursuant to CAA section 112(f) for the Phosphate Fertilizer Production source category?

Pursuant to CAA section 112(f), we conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the November 7, 2014, proposed rule for the Phosphate Fertilizer Production NESHAP (79 FR 66512). The results of the risk assessment are presented briefly below in Table 4 of this preamble, and in more detail in the residual risk document, ‘‘Residual Risk Assessment for Phosphate Fertilizer Production and Phosphate Fertilizer Production Source Categories in support of the July 2015 Risk and Technology Review Final Rule,’’ which is available in the docket for this rulemaking.

TABLE 4—HUMAN HEALTH RISK ASSESSMENT FOR PHOSPHATE FERTILIZER PRODUCTION

Category & number of facilities modeled	Cancer MIR (in 1 million)		Cancer incidence (cases per year)	Population with risks of 1-in-1 million or more	Population with risks of 10-in-1 million or more	Max chronic non-cancer HI		Worst-case max acute non-cancer HQ
	Based on actual emissions	Based on allowable emissions				Based on actual emissions	Based on allowable emissions	
Phosphate Fertilizer ..... (11 facilities)	0.5	0.5	0.001	0	0	0.003	0.003	HQ_{REL} = 0.4 (elemental Hg) HQ_{AEGL-1} = 0.09 (hydrofluoric acid).
Facility-wide (11 facilities).	0.5	....	0.001	0	0	0.2		

Based on actual emissions for the Phosphate Fertilizer Production source category, the MIR was estimated to be less than 1-in-1 million, the maximum chronic non-cancer TOSHI value was estimated to be up to 0.003, and the maximum off-site acute HQ value was estimated to be up to 0.4. The total estimated national cancer incidence from this source category, based on actual emission levels, was 0.001 excess cancer cases per year, or one case in every 1,000 years. Based on MACT-allowable emissions for the Phosphate Fertilizer Production source category, the MIR was estimated to be less than 1-in-1 million, and the maximum chronic non-cancer TOSHI value was estimated to be up to 0.003. We also found there were emissions of several PB–HAP with an available RTR multipathway screening value, and, with the exception of Hg compounds, the reported emissions of these HAP (*i.e.,* lead compounds, and cadmium compounds) were below the multipathway screening value for each compound. One facility emitted divalent Hg (Hg^{2+}) above the Tier I screening threshold level, exceeding the screening threshold by a factor of 20. Consequently, we conducted a Tier II screening assessment for Hg^{2+}. This assessment uses the assumption that the biological productivity limitation of each lake is 1 gram of fish per acre of water, meaning that in order to fulfill the adult ingestion rate, a fisher would need to fish from 373 total acres of lakes. The result of this analysis was the development of a site-specific emission screening threshold for Hg^{2+}. We compared this Tier II screening threshold for Hg^{2+} to the facility's Hg^{2+} emissions. The facility's emissions exceeded the Tier II screening threshold by a factor of 3.

Additionally, to refine our Hg Tier II Screen for this facility, we first examined the set of lakes from which the angler ingested fish. Any lakes that appeared to not be fishable or publicly accessible were removed from the assessment, and the screening assessment was repeated. After we made the determination the three critical lakes were fishable, we analyzed the hourly meteorology data from which the Tier II meteorology statistics were derived. Using buoyancy and momentum equations from literature, and assumptions about facility fenceline boundaries, we estimated by hour the height achieved by the emission plume before it moved laterally beyond the assumed fenceline. If the plume height was above the mixing height, we assumed there was no chemical exposure for that hour. The cumulative loss of chemical being released above the mixing height reduces the exposure and decreases the Tier II screening quotient. Although the refined Tier II analysis for Hg emissions indicated a 23-percent loss of emissions above the mixing layer due to plume rise, this reduction still resulted in an angler screening non-cancer value equal to 2.

For this facility, after we performed the lake and plume rise analyses, we reran the relevant Tier II screening scenarios for the travelling subsistence angler in TRIM.FaTE with the same hourly meteorology data and hourly plume-rise adjustments from which the Tier II meteorology statistics were derived. The use of the time-series meteorology reduced the screening value further to a value of 0.6. For this source category our analysis indicated no potential for multipathway impacts of concern from this facility. The maximum facility-wide MIR was less than or equal to 1-in-1 million and the maximum facility-wide TOSHI was 0.2. We weighed all health risk factors in our risk acceptability determination, and we proposed that the residual risks from the Phosphate Fertilizer Production source category are acceptable.

We then considered whether the Phosphate Fertilizer Production NESHAP provides an ample margin of safety to protect public health and prevents, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. In considering whether the standards should be tightened to provide an ample margin of safety to protect public health, we considered the same risk factors that we considered for our acceptability determination and also considered the costs, technological feasibility and other relevant factors related to emissions control options that might reduce risk associated with emissions from the source category. We proposed that the current standards provided an ample margin of safety to protect public health. With respect to adverse environmental effects, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the LOAEL or NOAEL). Based on the results of our screening analysis for risks to the environment, we also proposed that the current standards prevent an adverse environmental effect.

2. How did the risk review change for the Phosphate Fertilizer Production source category?

The residual risk review for the Phosphate Fertilizer Production source category did not change since proposal (79 FR 66512). Accordingly, we are not tightening the standards under section 112(f)(2) based on the residual risk review, and are thus readopting the existing standards under section 112(f)(2).

3. What key comments did we receive on the risk review, and what are our responses?

The comments received on the proposed residual risk review were generally supportive of our determination of risk acceptability and ample margin of safety analysis. However, we received several comments requesting we make changes to the residual risk review, including:

- Update the residual risk review with the recommendations and information from the NAS;
- Incorporate the best currently available information on children's exposure to lead, and go beyond using the 2008 Lead NAAQS;
- Reevaluate whether the residual risk review is consistent with the key recommendations made by the SAB;
- Clarify in the rulemaking docket that data received by industry were commensurate with the relevant statutory obligations;
- Revise HF emission data because they are not representative of actual HF emissions, but rather overestimate emissions causing the residual risk review to have an overly conservative bias;
- Reconsider the assumption used in the NESHAP residual risk assessment that all chromium is hexavalent chromium;
- Revise certain stack parameters used in the analysis;
- Clarify meteorological data used in the analysis;
- Adequately explain rationale for the maximum 1-hour emission rate used for determining potential acute exposures;
- Clarify the selection of ecological assessment endpoints; and
- Provide some quantitative or qualitative rationale for the characterization of the exposure modeling uncertainty.

We evaluated the comments and determined that no changes were needed. Since none of these comments had an effect on the final rule, their summaries and corresponding EPA responses are not included in this preamble. A summary of these comments and our responses can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

4. What is the rationale for our final approach and final decisions for the risk review?

For the reasons explained in the proposed rule, we determined that the risks from the Phosphate Fertilizer Production source category are acceptable, the current emissions standards provide an ample margin of safety to protect public health, and prevent an adverse environmental effect. Since proposal, neither the risk assessment nor our determinations regarding risk acceptability, ample margin of safety or adverse environmental effects have changed. Therefore, pursuant to CAA section 112(f)(2), we are finalizing our residual risk review as proposed.

B. Technology Review for the Phosphate Fertilizer Production Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Phosphate Fertilizer Production source category?

Pursuant to CAA section 112(d)(6), we conducted a technology review, which focused on identifying and evaluating developments in practices, processes, and control technologies for the emission sources in the Phosphate

Fertilizer Production source category. At proposal, we did not identify cost-effective developments in practices, processes, or control technologies that warrant revisions to the NESHAP for this source category. More information concerning our technology review can be found in the memorandum, ''CAA Section 111(b)(1)(B) and 112(d)(6) Reviews for the Phosphate Fertilizer Production and Phosphate Fertilizer Production Source Categories,'' which is available in the docket, and in the preamble to the proposed rule, 79 FR 66538–66539.

2. How did the technology review change for the Phosphate Fertilizer Production source category?

The technology review for the Phosphate Fertilizer Production source category did not change since proposal (79 FR 66512). Therefore, we are not revising NESHAP subpart BB based on the technology review.

3. What key comments did we receive on the technology review, and what are our responses?

Commenters agreed with our conclusion that there are no new cost-effective developments in practices, processes, or control technologies that can be applied to the Phosphate Fertilizer Production source category that would reduce HAP emissions below current levels.

4. What is the rationale for our final approach for the technology review?

For the reasons explained in the proposed rule, we concluded that additional standards are not necessary pursuant to CAA section 112(d)(6); therefore, we are not finalizing changes to NESHAP subpart BB as part of our technology review.

C. NSPS Review for the Phosphate Fertilizer Production Source Category

The NSPS review focused on the emission limitations that have been adequately demonstrated to be achieved in practice, taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements. Determining the BSER that has been adequately demonstrated and the emission limitations achieved in practice necessarily involves consideration of emission reduction methods in use at existing phosphate fertilizer production plants. To determine the BSER, the EPA performed an extensive review of several recent sources of information including a thorough search of the RBLC, section 114 data received from industry and other relevant sources.

Our review considered the emission limitations that are currently achieved in practice, and found that more stringent standards are not achievable for this source category. When evaluating the emissions from various process lines, we observed differences in emissions levels, but did not identify any patterns in emission reductions based on control technology configuration. More information concerning our NSPS review can be found in the memorandum, ''CAA Section 111(b)(1)(B) and 112(d)(6) Reviews for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production Source Categories.'' Though some of the sources are emitting at levels well below the current NSPS, other sources are not. We evaluated emissions based on control technologies and practices used by facilities, and found that the same technologies and practices yielded different results for different facilities. Therefore, we determined that we cannot conclude that new and modified sources would be able to achieve a more stringent NSPS. As explained in the proposed rule, all Phosphate Fertilizer Production NSPS (under subpart V, subpart W, and subpart X) emission sources, and the control technologies that would be employed, are the same as those for the NESHAP regulating phosphate fertilizer plants, such that we reached the same conclusion that there are no identified developments in technology or practices that results in cost-effective emission reductions strategies. Therefore, we are finalizing our determination that revisions to NSPS subpart V, subpart W, and subpart X standards are not appropriate pursuant to CAA section 111(b)(1)(B).

D. Startup, Shutdown, and Malfunction Provisions for the Phosphate Fertilizer Production Source Category

1. What SSM provisions did we propose for the Phosphate Fertilizer Production source category?

To address the U.S. Court of Appeals for the District of Columbia Circuit vacatur of portions of the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM, *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), we proposed to revise and add certain provisions to the NESHAP subpart BB. We proposed to revise the General Provisions table (appendix A of NESHAP subpart BB) to change several references related to requirements that apply during periods of SSM. We also proposed to add the following provisions to the rule: (1) Work practice standards for periods of startup and shutdown in lieu of numeric emission limits; (2) the general duty to minimize emissions at all times; (3) performance testing conditions requirements; (4) site-specific monitoring plan requirements; and (5) malfunction recordkeeping and reporting requirements. These proposed changes are discussed in more detail in section V.E of this preamble where we describe these same proposed changes for NESHAP subpart AA.

2. How did the SSM provisions change for the Phosphate Fertilizer Production source category?

We are finalizing the proposed work practice standards for periods of startup and shutdown; however, in consideration of comments received during the public comment period for the proposed rulemaking (as discussed in sections VI.D.3.a and VI.D.3.b of this preamble), we are making changes to this work practice in order to clarify the standard applies in lieu of numeric emission limits and how compliance with the standard is demonstrated. Additionally, as discussed in section VI.D.3.c of this preamble, we added definitions of ''startup'' and ''shutdown'' to provide additional clarity regarding when startup begins and ends, and when shutdown begins and ends.

3. What key comments did we receive on the SSM provisions, and what are our responses?

Comments were received regarding the proposed revisions to remove the SSM exemptions for the Phosphate Fertilizer Production source category, and the proposed work practice standards for periods of startup and shutdown. The following is a summary of some of the comments specific to the proposed work practice standards and our response to those comments. Other comments and our specific responses to those comments can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

a. Work Practice Standard In Place Of Emission Limits—Comment. One commenter argued that the EPA should specify that the proposed work practices for plant startup and shutdown periods apply ''in lieu of'' any other emission standards, and that such periods should not be counted for testing, monitoring, or operating parameter requirements. The commenter noted that the proposed rule at 40 CFR 63.622(d) requires the use of work practices ''to demonstrate compliance with any emission limits'' during periods of startup and shutdown. The commenter agrees with the EPA's conclusion that it is not feasible to apply numeric limits to startup and shutdown because certain variables required to calculate emissions would be zero during such periods. The commenter also agreed with the EPA that existing emission control devices would still be effective during periods of startup or shutdown, if activated. However, the commenter recommended that the rule should clarify that startup and shutdown events should not be required to comply with the monitoring and operating parameter requirements because startup and shutdown events generally are not representative operating conditions for other compliance purposes, such as emissions testing. Instead, the commenter, as well as a second commenter, recommended that because the startup and shutdown periods are not representative, the rule should only require that (1) All emission control devices be kept active, and (2) owners and operators follow the general duty to control emissions, and owners and operators should not be required to monitor operating parameters during startup and shutdown periods.

The commenter argued that the approach in the proposed rule at 40 CFR 63.622(d) to require the use of work practices ''to demonstrate compliance with any emission limits'' during periods of startup and shutdown is ''directly inconsistent'' with the approach that the EPA has applied to other source categories, where such practices clearly were prescribed ''in lieu of'' numeric emission limits that would otherwise apply. (The commenter cites, for example, 78 FR 10015, February 12, 2013.) According to the commenter, the EPA made it clear in other industries' rules that such work practice standards apply ''in place of'' or ''in lieu of'' numeric standards, including with respect to monitoring and recordkeeping requirements. (See id. at 10013 and 10015.) The commenter argues that according to the preamble language cited for those other industries, ''there will no longer be a numeric emission standard applicable during startup and shutdown,'' and the EPA recognizes that ''the recordkeeping requirement must change to reflect the content of the work practice standard'' (Id. at 10014).

Therefore, the commenter recommended that the EPA should clearly explain that work practices are not applied to ''demonstrate compliance'' with numeric limits under subpart BB, which the EPA acknowledges are ''not feasible'' for startup and shutdown periods, and, instead, the work practices should be written to apply ''in lieu of'' the numeric limits during those periods. The commenter argues that without this clarification, it will appear that both the numeric standards and the work practice standards would apply during startup and shutdown. The commenter suggests that this can be corrected in the rule by using the ''in lieu of'' language used for other industries.

Response. The commenter is correct that our intention at proposal was that the numeric emission limits would not apply during periods of startup and shutdown, but that facilities would comply with the work practice instead. We did not intend for the work practice to be a method to demonstrate compliance with the emission limit. We are replacing the phrasing ''to demonstrate compliance'' with ''in lieu of'' as this language is more consistent with our original intent. Accordingly, in the final rule, 40 CFR 63.622(d) specifies that the emission limits of 40 CFR 63.622(a) do not apply during periods of startup and shutdown. Instead, owners and operators must follow the work practice specified in 40 CFR 63.622(d). See section VI.D.3.b of this preamble for our response to commenters argument that owners and operators should not be required to monitor operating parameters during startup and shutdown periods.

b. Applicability of Operating Limits—Comment. Two commenters recommended that the EPA amend the rule to make clear that the work practice standards for startup and shutdown also apply in lieu of the parametric monitoring requirements set forth in NESHAP subpart BB and make explicit that parametric operating requirements do not apply during times of startup and shutdown.

One commenter argued that when the EPA established the flow rate and pressure drop parametric monitoring requirements in its 1999 final rule, the EPA concluded that requiring continuous monitoring of these parameters ''help[ed] assure continuous compliance with the emission limit'' (64 FR 31365, June 10, 1999). The commenter also asserted that the rule specifies that ''[t]he emission limitations and operating parameter requirements of this subpart do not apply during periods of startup, shutdown, or malfunction . . . '' (40 CFR 63.620(e)). The commenter argued that this was a reasonable action because the operating parameter ranges are established during annual performance tests, and these tests cannot be performed during startup and shutdown conditions.

The commenter suggested that in the proposed rule, the EPA exempted compliance with the emission limits during startup and shutdown periods, imposed work practice standards in lieu thereof, and retained the prohibition on conducting a performance test during periods of startup or shutdown (79 FR 66582 (proposed 40 CFR 63.626(d)). The commenter suggested that the proposed rule is silent on the applicability of the parametric monitoring requirements during startup and shutdown. The commenter asserted that because the parametric monitoring provisions provide an inference of compliance with the emission limits (64 FR 31365, June 10, 1999), and these emission limits do not apply during startup and shutdown, the commenter concluded that the parametric monitoring provisions similarly should not apply during startups and shutdowns.

The commenters pointed to two recent EPA NESHAP rulemakings to support their conclusion. First, the commenters argued that in its industrial, commercial and institutional boilers and process heaters NESHAP reconsideration proposal (hereinafter, the ''Boiler NESHAP''), the EPA, responding to a comment soliciting clarification ''that the operating limits and opacity limits do not apply during periods of startup and shutdown,'' stated that with the finalization of work practice standards, ''EPA agrees that the requested clarification is what was intended in the final rule'' (76 FR 80598 and 80615, December 23, 2011.) The commenters asserted that to this end, in its response to the reconsideration, the EPA made clear that affected sources must comply with ''all applicable emissions and operating limits at all times the unit is operating except for periods that meet the definitions of startup and shutdown in this subpart, during which times you must comply with these work practices'' (78 FR 7138 and 7142, January 31, 2013.) The commenters noted that in the Boiler NESHAP, the EPA required the implementation of work practice standards in lieu of compliance with the operating parameter requirements during startup and shutdown by (1) Excluding periods of startup and shutdown from the averaging period (Id. at 7187, 40 CFR 63.7575, the definition of a 30-day rolling average'' excludes ''hours during startup and shutdown''), and (2) expressly stating that the ''standards'' (the emission limits and operating requirements) do not apply during periods of startup or shutdown. (Id. at 7163, 40 CFR 63.7500(f), titled ''What emission limitations, work practice standards, and operating limits must I meet?'' applies ''at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 of this subpart'').

Second, the commenters argued that in its Portland Cement NESHAP, the EPA specified an operating limit for kilns, identified as a temperature limit established during a performance test, and that the temperature limit applied at all times the raw mill is operating, ''except during periods of startup and shutdown'' (78 FR 10039, February 12, 2013, 40 CFR 63.1346(a)(1).) Further, for the continuous monitoring requirements, including operating limits, the Portland Cement NESHAP required operating of the monitoring system at all times the affected source is operating, ''[e]xcept for periods of startup and shutdown'' (Id. at 10041, 40 CFR 63.1348(b)(1)(ii).)

The commenters argued that given the EPA's conclusion in the Proposed Rule that the emission limits should not apply during startup and shutdown, and because the parametric monitoring requirements are established during a performance test (which cannot be performed during a startup or a shutdown) and used to infer compliance with the emission limits, the EPA should make clear in the final rule that the operating parameters requirements do not apply during a startup or a shutdown. The commenter recommended that the EPA should make this explicit: (1) In the operating and monitoring requirement section of subpart BB (proposed 40 CFR 63.625), and (2) by defining the averaging period (currently daily) as excluding periods of startup and shutdown (Proposed 40 CFR part 63, subpart BB, Table 4). As an alternative, the commenters recommended that if the EPA continues to require compliance with the parametric monitoring requirements during startup and shutdown periods, then the EPA should adopt a longer averaging period, from daily to 30 days, to allow for the effects of startups and shutdowns to be reduced by a longer period of steady-state operations. The commenter noted that the Boiler NESHAP has a 30-day averaging period for pressure drop and liquid flow rate, and excludes periods of startup and shutdown from the averaging period (40 CFR 63.7575, definition of ''30-day rolling average'' and 40 CFR part 63, subpart DDDDD, Table 4). The commenter stated that a 30-day averaging period would be substantially more stringent than the Boiler NESHAP approach since it would include periods of startup and shutdown, while at the same time avoid misleading ''exceedances'' caused by the inclusion of periods of startup and shutdown compared to daily average parametric limits.

Response. We disagree with the commenters about the applicability of the operating limits. Based on these comments, we have clarified in the final rule at 40 CFR 63.622(d) that to comply with the work practice during periods of startup and shutdown, facilities must monitor the operating parameters specified in Table 3 to subpart BB and comply with the operating limits specified in Table 4 of subpart BB. The purpose of the work practice is to ensure that the air pollution control equipment that is used to comply with the emission limit during normal operations is operated during periods of startup and shutdown. Monitoring of control device operating parameters is necessary to demonstrate compliance with the work practice. We have concluded that it is reasonable for the control device at phosphate fertilizer production processes to meet the same operating limits during startup and shutdown that apply during normal operation, and that it is not necessary to specify different averaging times for periods of startup and shutdown. Meeting the operating limits of Table 4 of subpart BB will ensure that owners and operators meet the General Duty requirement to operate and maintain the affected source and associated air pollution control equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions.

The analogies that the commenters made to the Boiler NESHAP and the Portland Cement NESHAP are not relevant to this rulemaking. In each rulemaking, we consider the feasibility of applying standards during startup and shutdown based on relevant process considerations for each source category, the pollutants regulated, and control devices on which the rule is based. In developing this rule, we obtained information on the operation of control devices during startup and shutdown periods in the CAA section 114 survey issued to the phosphate fertilizer production industry. Based on survey results, we concluded that for this source category, control devices (*i.e.,* absorbers) could be operated during periods of startup and shutdown. We found no indication that process operations during startup and shutdown would interfere with the ability to operate the relevant control devices according to good engineering practice. Moreover, the commenters provided no technical justification as to why a different operating limit is needed during startup and shutdown.

Regarding the comparison to the industrial boiler NESHAP, the operation of boilers and their associated control devices are different than phosphate fertilizer production plants. While boiler control devices do not have to comply with specific operating limits during startup or shutdown, they must meet a work practice that includes firing clean fuels, operating relevant control devices (*e.g.,* absorbers) as expeditiously as possible, and monitoring the applicable operating parameters (*e.g.,* flow rate) to demonstrate that the control devices are being operated properly. The EPA currently is reconsidering the control requirements for industrial boilers during startup and shutdown (80 FR 3090, January 21, 2015). In the proposed action on reconsideration, we pointed out that some of the control devices used for boilers cannot be operated during the full duration of startup and shutdown because of safety concerns and the possibility of control equipment degradation due to fouling and corrosion. The control devices used for phosphate fertilizer production do not pose these same risks. Likewise, the fact that the Portland Cement NESHAP does not require monitoring of kiln temperature during startup and shutdown is not relevant. The Portland Cement NESHAP requires maintaining a kiln temperature as part of the MACT operating limit. The operating limit for Portland Cement does not apply during startup and shutdown because it is not physically possible to maintain a constant temperature during startup and shutdown of a kiln. In contrast, the feasibility of operating the control devices used to control HAP emissions from phosphate fertilizer production is not limited by specific process operating conditions. Therefore, it is feasible to operate the devices during startup and shutdown, and we have determined that it is reasonable to do so considering cost, nonair health and environmental impacts, and energy requirements.

c. Definition of Startup and Shutdown—Comment. Several commenters stated that it is not feasible to base the conclusion of a ''shutdown'' on the point at which all feed has ''been processed.'' Instead, they suggested that the EPA should clarify the work practice standard of keeping all emission control equipment active during shutdowns. The commenters reported that facilities in the industry consider the commencement of ''shutdown'' as the moment at which the plant ceases adding feed to the affected process, rather than basing shutdown on when all feed materials have been processed through the process. The commenters recommended that the EPA should define ''shutdown'' to begin when the facility ceases adding feed to an affected process line, and to conclude when the affected process line equipment is deactivated, even though some feed or residues may still be present within particular parts of the process.

One of the commenters also noted that it is common practice to have short-term shutdown of process inputs for temporary maintenance work (including work on emission control equipment) where the entire system is not emptied. In these cases, feed of phosphoric acid and ammonia to the process is suspended as is flow from the reactor to the granulator. The commenter argued that because the source of fluoride to the system has ceased and dust generating material flows are suspended, there should be no significant source of emissions to control, and it is not necessary to require the utilization of control devices until all feed material has been processed. Instead, the commenter recommended that an affected entity should be allowed to turn off control devices when reactor and granulator feeds have been stopped, unless the system is being emptied, in which case control devices should be required as long as the material handling system is in operation.

Response. We agree with the commenters that the rule needs to have a more precise definition of startup and shutdown that more clearly and reasonably establishes the times when the work practice applies and when the emission limits apply. Accordingly, we added a definition of ''startup'' and ''shutdown'' in the Definitions section of the final rule to specify when startup begins and ends, and when shutdown begins and ends.

Based on additional information provided by industry (see ''Email Correspondence Received After Comment Period re Startup Shutdown (May 5, 2015),'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522), we are including a definition of startup in the final rule. The final rule defines startup as commencing when any feed material is first introduced into an affected source and ends when feed material is fully loaded into the affected source. Regarding shutdown, we agree with the commenters that it is not feasible to process all feed material from a process prior to shutting down most equipment at a facility. Such requirement would imply that the control device must be operated after the shutdown ends. The final rule defines shutdown as commencing when the facility ceases adding feed to an affected source and ends when the affected source is deactivated, regardless of whether feed material is present in the affected source. This definition will address concerns about temporary shutdowns as well as shutdowns of longer duration.

In addition, the final rule at 40 CFR 63.622(d) specifies that any control device used at the affected source must be operated during the entire period of startup and shutdown, and must meet the operating limits in Table 4 of the rule.

4. What is the rationale for our final decisions for the SSM provisions?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing the proposed revisions to the General Provisions table (appendix A of NESHAP subpart BB) to change several references related to requirements that apply during periods of SSM. For these same reasons, we are also finalizing the addition of the following proposed provisions to NESHAP subpart BB: (1) Work practice standards for periods of startup and shutdown in lieu of numeric emission limits; (2) the general duty to minimize emissions at all times; (3) performance testing conditions requirements; (4) site-specific monitoring plan requirements; and (5) malfunction recordkeeping and reporting requirements.

E. Other Changes Made to the Phosphate Fertilizer Production NESHAP and NSPS

1. What other changes did we propose for the Phosphate Fertilizer Production NESHAP and NSPS?

a. Clarifications to Applicability and Certain Definitions —i. NESHAP Subpart BB. As stated in the preamble to the proposed rule, to ensure the emission standards reflect inclusion of HAP emissions from all sources in the source category, we proposed to clarify the applicability of the NESHAP to include reaction products of ammonia and phosphoric acid, and not just diammonium and monoammonium phosphate.

For consistency between NESHAP subpart AA and NESHAP subpart BB, we also proposed conditions in NESHAP subpart BB that exclude (like NESHAP subpart AA does) the use of evaporative cooling towers for any liquid effluent from any wet scrubbing device installed to control HF emissions from process equipment. Lastly, we proposed to amend the definitions of ''diammonium and/or monoammonium phosphate process line,'' ''granular triple superphosphate process line,'' and ''granular triple superphosphate storage building'' to include relevant emission points, and to remove text from the applicability section that is duplicative of the revised definitions.

ii. NSPS Subpart V. We did not propose changes to applicability or definitions in NSPS subpart V.

iii. NSPS Subpart W. We proposed changing the word ''cookers'' as listed in 40 CFR 60.230(a) to ''coolers'' in order to correct the typographical error.

iv. NSPS Subpart X. We did not propose changes to applicability or definitions in NSPS subpart X.

b. Testing, Monitoring, Recordkeeping and Reporting—i. NESHAP Subpart BB. As stated in the preamble to the proposed rule, to provide flexibility, we proposed several monitoring options, including pressure and temperature measurements, as alternatives to monitoring of absorber differential pressure. We also proposed monitoring the absorber inlet gas flow rate along with the influent absorber liquid flow rate (and determining liquid-to-gas ratio) in lieu of monitoring only the absorber inlet liquid flow rate.

In addition, we proposed removing the requirement that facilities may not implement new operating parameter ranges until the Administrator has approved them, or 30 days have passed since submission of the performance test results. We proposed that facilities must immediately comply with new operating ranges when they are developed and submitted; and new operating ranges must be established using the most recent performance test conducted by a facility, which allows for changes in control device operation to be appropriately reflected.

We also proposed monitoring requirements for fabric filters in NESHAP subpart BB because we identified two processes that used fabric filters rather than wet scrubbing as control technology.

As stated in the preamble to the proposed rule, we modified the language for the conditions under which testing must be conducted to require that testing be conducted at ''maximum representative operating conditions'' for the process.[11]

In keeping with the general provisions for CMS (including CEMS and CPMS), we proposed the addition of a site-specific monitoring plan and calibration requirements for CMS. Provisions were also proposed that included electronic reporting of stack test data. We also

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[11] Based on the EPA memorandum, ''Issuance of the Clean Air Act National Stack Testing Guidance,'' dated April 27, 2009.

proposed modifying the format of NESHAP subpart BB to reference tables for emissions limits and monitoring requirements.

Finally, we proposed HF standards in NESHAP subpart BB by translating the current total fluoride limits (lb total F/ton P_2O_5 feed) into HF limits (lb HF/ton P_2O_5 feed). To comply with HF standards, we proposed that facilities use EPA Method 320.

ii. NSPS Subpart V. We proposed new monitoring and recordkeeping requirements for any granular diammonium phosphate plant that commences construction, modification or reconstruction after November 7, 2014 to ensure continuous compliance with the standard. As stated in the preamble to the proposed rule, to ensure that the process scrubbing system is properly maintained over time; ensure continuous compliance with standards; and improve data accessibility, we proposed the owner or operator establish an allowable range for the pressure drop through the process scrubbing system. We also proposed that the owner or operator keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations.

For consistency with terminology used in the associated NESHAP subpart BB, we proposed changing the term ''scrubbing system'' to ''absorber'' in NSPS subpart V.

iii. NSPS Subpart W. We proposed new monitoring and recordkeeping requirements for any TSP plant that commences construction, modification or reconstruction after November 7, 2014 to ensure continuous compliance with the standard. As stated in the preamble to the proposed rule, to ensure that the process scrubbing system is properly maintained over time; ensure continuous compliance with standards; and improve data accessibility, we proposed the owner or operator establish an allowable range for the pressure drop through the process scrubbing system. We also proposed that the owner or operator keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations.

For consistency with terminology used in the associated NESHAP subpart BB, we proposed changing the term ''process scrubbing system'' to ''absorber'' in NSPS subpart W.

iv. NSPS Subpart X. We proposed new monitoring and recordkeeping requirements for any GTSP storage facility that commences construction, modification or reconstruction after November 7, 2014 to ensure continuous compliance with the standard. As stated in the preamble to the proposed rule, to ensure that the process scrubbing system is properly maintained over time; ensure continuous compliance with standards; and improve data accessibility, we proposed the owner or operator establish an allowable range for the pressure drop through the process scrubbing system. We also proposed that the owner or operator keep records of the daily average pressure drop through the process scrubbing system, and keep records of deviations.

For consistency with terminology used in the associated NESHAP subpart BB, we proposed changing the term ''process scrubbing system'' to ''absorber'' in NSPS subpart X.

2. How did the provisions regarding these other proposed changes to the Phosphate Fertilizer Production NESHAP and NSPS change since proposal?

a. Clarifications to Applicability and Certain Definitions—i. NESHAP Subpart BB. In consideration of comments received during the public comment period for the proposed rulemaking, we are defining ''phosphate fertilizer process line'' and ''phosphate fertilizer production plant'' separately as discussed in section VI.E.3.a.i of this preamble. We are also revising rule language at 40 CFR 63.620(b)(1), 63.622(a), 63.622(a)(1), 63.622(a)(2), 63.625(a), 63.626(f), in Table 1, and in Table 2 to accommodate this change. We are also removing the proposed language ''includes, but is not limited to'' in the definition of DAP and/or MAP process line for reasons discussed in section VI.E.3.a.ii of this preamble.

ii. NSPS Subpart V. We are not making changes to applicability or definitions in NSPS subpart V.

iii. NSPS Subpart W. We are not making changes to applicability or definitions in NSPS subpart W.

iv. NSPS Subpart X. We are not making changes to applicability or definitions in NSPS subpart X.

b. Testing, Monitoring, Recordkeeping and Reporting.—i. NESHAP Subpart BB. We have not made any changes to our proposed determination that pressure drop is not an appropriate monitoring parameter for absorbers that are designed to operate with pressure drops of 5 inches of water column or less. However, in consideration of comments received during the public comment period for the proposed rulemaking, we are not adopting the proposed options to monitor: (1) The temperature at the wet scrubber gas stream outlet and pressure at the liquid inlet of the absorber, or (2) the temperature at the scrubber gas stream outlet and scrubber gas stream inlet. Instead, we have revised Table 3 of NESHAP subpart BB to require liquid-to-gas ratio monitoring for low-energy absorbers, and influent liquid flow and pressure drop monitoring for high-energy absorbers; and we are keeping liquid-to-gas ratio monitoring as an option for high-energy absorbers in the final rule. (See sections VI.E.3.b.i and VI.E.3.b.ii of this preamble for details.)

In addition to these revisions, we are making corrections at 40 CFR 63.627(a) to clarify the procedures for establishing a new operating limit based on the most recent performance test. We are also revising the requirements at 40 CFR 63.625(d)(1)(ii)(B) to remove the requirement that facilities must request and obtain approval of the Administrator for changing operating limits. (See section VI.E.3.b.iv and VI.E.3.b.v of this preamble for details.)

Also, for reasons discussed in the Comment Summary and Response document available in the docket, we are revising the annual testing schedule in the final rule at 40 CFR 63.626(b), and the terminology for ''maximum representative operating conditions'' in the final rule at 40 CFR 63.626(d).

We are not making any changes to the proposed addition of a site-specific monitoring plan and calibration requirements for CMS. We are also keeping the proposed term ''absorber'' in lieu of ''scrubber,'' as well as the proposed format of NESHAP subpart BB to reference tables for emissions limits and monitoring requirements.

Lastly, we are retaining the current total fluoride limits and not adopting the proposed HF standards and associated EPA Method 320 testing in NESHAP subpart BB (see section VI.E.3.c of this preamble for details).

ii. NSPS Subpart V. We are not making changes to the proposed monitoring and recordkeeping requirements for any granular diammonium phosphate plant that commences construction, modification or reconstruction after August 19, 2015 to ensure continuous compliance with the standard. We are also keeping the proposed term ''absorber'' in lieu of ''scrubbing system.''

iii. NSPS Subpart W. We are not making changes to the proposed monitoring and recordkeeping requirements for any TSP plant that commences construction, modification or reconstruction after August 19, 2015 to ensure continuous compliance with the standard. We are also keeping the proposed term ''absorber'' in lieu of ''process scrubbing system.''

iv. NSPS Subpart X. We are not making changes to the proposed monitoring and recordkeeping requirements for any GTSP storage facility that commences construction, modification or reconstruction after August 19, 2015 to ensure continuous compliance with the standard. We are also keeping the proposed term ''absorber'' in lieu of ''process scrubbing system.''

3. What key comments did we receive on the other changes to the Phosphate Fertilizer Production NESHAP and NSPS, and what are our responses?

Several comments were received regarding the proposed clarifications to applicability and certain definitions, revisions to testing, monitoring, recordkeeping and reporting, translation of total fluoride to HF emission limits, and revisions to other provisions for the Phosphate Fertilizer Production source category. The following is a summary of several of these comments and our response to those comments. Other comments received and our responses to those comments can be found in the Comment Summary and Response document available in the docket for this action (EPA–HQ–OAR–2012–0522).

a. Applicability Clarifications and Certain Definitions—i. Phosphate Fertilizer Process Line—Comment. Several commenters disapproved of the proposed expansion of the applicability provision for DAP and MAP process lines in 40 CFR 63.620(b)(1) to include ''any process line that produces a reaction product of ammonia and phosphoric acid.'' One commenter asserted that the expanded language could include production of non-granular products that were in existence since the original NESHAP but not regulated by it, and EPA provided no basis for expansion of applicability to bring in these processes now. Other commenters also reiterated that the proposed applicability provision for DAP and MAP process lines was vague and overbroad and would inadvertently regulate any process that combines ammonia and phosphoric acid regardless of the end-product or purpose of facility. One commenter recommended a change in the definition to clarify that subpart BB applies specifically to solid, granulated phosphate products to avoid inclusion of liquid fertilizer products in the proposed rule.

Response. The Agency agrees with the commenter that the proposed language could be interpreted to include production of non-granular products at a phosphate fertilizer production plant. It was not our intent to expand the applicability of 40 CFR subpart BB to include the production of non-granular products at a phosphate fertilizer production plant; therefore, we are revising the definitions of ''phosphate fertilizer process line'' and ''phosphate fertilizer production plant'' in the final rule at 40 CFR 63.621 to reference granular phosphate fertilizer. Also, the definitions of phosphate fertilizer process line and phosphate fertilizer production plant were defined together at proposal (phosphate fertilizer process line or production plant), but are defined separately in the final rule for clarity. The definition of phosphate fertilizer process line means ''any process line that manufactures a granular phosphate fertilizer by reacting phosphoric acid with ammonia. A phosphate fertilizer process line includes: Reactors, granulators, dryers, coolers, screens, and mills.'' The definition of phosphate fertilizer production plant means ''any production plant that manufactures a granular phosphate fertilizer by reacting phosphoric acid with ammonia.''

As an outgrowth of this comment, the Agency revised rule language surrounding the use of ''phosphate fertilizer process line,'' to create clarity and consistency in rule language. Specifically, where the phrase ''diammonium and/or monoammonium phosphate process line and any process line that produces a reaction product of ammonia and phosphoric acid'' was used at proposal, this phrase now reads ''phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line)'' in the finalized rule. This phrasing was incorporated into final rule language at 40 CFR 63.620(b)(1), 63.622(a), 63.622(a)(1), 63.622(a)(2), 63.625(a), 63.626(f), in Table 1, and in Table 2.

ii. ''Includes, but is Not Limited to''—Comment. A commenter remarked that incorporating the language ''includes, but is not limited to'' in the definition of DAP and/or MAP process line is overly broad and creates ambiguity. They stated that industry should have certainty as to the applicability and scope of the rule, but the language ''includes, but is not limited to'' creates uncertainty as to where the affected equipment begins and ends for purposes of demonstrating compliance.

Response. We agree that this language creates overly broad process line definitions and can lead to regulatory uncertainty for affected sources. Therefore, we are not finalizing the language ''includes, but is not limited to'' in the definition of DAP and/or MAP process line.

b. Testing, Monitoring, Recordkeeping and Reporting—i. Pressure Drop Across Absorber—Comment. Several commenters requested the EPA delete the requirement that pressure drop across an absorber must be greater than 5 inches of water in order to use the option of measuring pressure drop as an operating parameter. These commenters contended that the EPA has not articulated any basis for the requirement. These commenters provided data demonstrating that units operate in compliance with the emission standards when the pressure drop across an absorber is less than 5 inches of water. One of these commenters expressed safety concerns associated with operating scrubbers at higher range pressure drop settings, citing that one of its facilities has experienced the entrainment of moisture within the absorbing tower when operating at pressure drops in excess of 8 inches of water, and another has experienced the buildup of excessive fumes on the digester floor when operating the digester scrubber as high as 6 inches of water.

Response. The Agency maintains its determination that pressure drop is not an appropriate monitoring parameter for absorbers that do not use the energy from the inlet gas to increase contact between the gas and liquid in the absorber (see ''Use of Pressure Drop as an Operating Parameter,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522). Therefore, we are not revising this proposed amendment. For further explanation please see our response to the identical comment that was made for NESHAP subpart AA in section V.F.3.b.i of this preamble.

ii. Absorber Monitoring Options—Comment. Several commenters called attention to the options of either measuring: (1) The temperature at the wet scrubber gas stream outlet and pressure at the liquid inlet of the absorber, or (2) the temperature at the scrubber gas stream outlet and scrubber gas stream inlet. One of these commenters said that they do not believe monitoring gas temperature in locations of large ambient temperature ranges would provide accurate monitoring of the absorbers performance. The commenter argued that temperature and pressure probes would be very susceptible to scaling issues. In addition, this commenter contended that liquid inlet pressure does not provide any additional monitoring of the absorber performance, since the inlet liquid flow rate is already measured and monitored. Another commenter contended that the EPA has not provided any data or analysis to show that there is a correlation between temperature and emissions; the commenter stated that they were not aware of any data suggesting a relationship between exit temperature and emissions, or that monitoring temperature difference across an absorber would be effective. One of these commenters argued that they were not in a position to evaluate the difficulties associated with performing the associated monitoring and establishing the requisite operating ranges.

Response. Absorber outlet gas temperature is often used to indicate a change in operation for absorbers used to control thermal processes. Because this source category does not use a thermal process to produce fertilizer, the Agency agrees with the commenters that temperature is not an appropriate monitoring parameter for absorbers used in this source category, and has removed these monitoring options from Table 3 of the final rule (NESHAP subpart BB). However, in light of this comment, the Agency has revised Table 3 of NESHAP subpart BB to require liquid-to-gas ratio monitoring for low-energy absorbers (*i.e.,* absorbers that are designed to operate with pressure drops of 5 inches of water column or less) in lieu of monitoring influent liquid flow and pressure drop through the absorber. Furthermore, the Agency has revised Table 3 of NESHAP subpart BB to require influent liquid flow and pressure drop monitoring for high-energy (*i.e.,* high pressure drop) absorbers, such as venturi scrubbers; and we are keeping liquid-to-gas ratio monitoring as an option for high-energy absorbers in the final rule. For further explanation please see our response to the identical comment that was made for NESHAP subpart AA in section V.F.3.b.ii of this preamble.

iii. Acceptable Range From Baseline Average Value—Comment. One commenter requested that the EPA revise 40 CFR 63.625(d)(1)(ii)(B) to have similar wording to 40 CFR 63.625(d)(1)(ii)(A), in which the allowable parametric limits may encompass up to +/−20 percent of the of the baseline average values for the series of tests used under this option; that is, the parametric limit may extend −20 percent below the lowest baseline average and up to +20 percent above the highest baseline average from the series of performance tests used for this option.

Response. The Agency determined that it is not necessary to revise 40 CFR 63.625(d)(1)(ii)(B) to allow for a ±20 percent operating margin, as this commenter requests, because this provision already allows owners or operators to establish an operating limit range for a control device without having to apply an operating margin, such as ±20 percent. Owners or operators that use an absorber or a WESP to comply with the emission limits (and monitor pressure drop across each absorber or secondary voltage for a WESP) have two options to establish operating limits for demonstrating continuous compliance: (1) At 40 CFR 63.625(d)(1)(ii)(A), the operating limits may be determined using the most recent performance test and applying an operating margin of ±20 percent (*e.g.,* during the three test runs conducted for an owner's or operator's most recent performance test that demonstrated compliance with the emission limit, the arithmetic average of the absorber pressure drops recorded was 7 inches of water; therefore, under this option, the owner's or operator's operating limit range for this absorber would be 5.6 to 8.4 inches of water, or ±20 percent of 7); or (2) at 40 CFR 63.625(d)(1)(ii)(B), owners or operators may establish operating limit ranges based upon baseline values of operating parameters established in either historic performance tests or performance tests conducted specifically to establish such ranges (*e.g.,* an owner or operator could choose to conduct two consecutive performance tests consisting of three test runs each and if the owner or operator demonstrates compliance with the emission limit while operating an absorber with a pressure drop of 6 inches of water during the first performance test, and then in the second performance test the owner or operator demonstrates compliance with the emission limit while operating an absorber with a pressure drop of 10 inches of water, the owner's or operator's operating limit range for this absorber would be 6 to 10 inches of water under this option). Additionally, the rule permits owners or operators to undertake additional performance testing (for either option) to establish control device operating limits which reflect compliance with the emission limit for the full range of operating conditions of the control device. Therefore, the Agency has determined that no change to 40 CFR 63.625(d)(1)(ii)(B) is warranted.

iv. Operating Range Established From a Previous Test—Comment. One commenter stated that 40 CFR 63.627(a) is somewhat ambiguous, tending to suggest that affected facilities would be immediately required to implement new equipment operating ranges following a source test, even if operating conditions from previous source tests demonstrated compliance with fluoride emission standards. The commenter argued that there is no reason that a new performance test at a new operating range should invalidate a previous performance test at a different operating range.

Response. The Agency has clarified in the final rule at 40 CFR 63.627(a) that during the most recent performance test, if owners or operators demonstrate compliance with the emission limit while operating their control device outside the previously established operating limit, then limits must be established. Owners or operators must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test. For further explanation please see our response to the identical comment that was made for NESHAP subpart AA in section V.F.3.b.iii of this preamble.

v. Approving Operating Ranges—Comment. Several commenters support the EPA's proposal to eliminate the requirement that facilities may not implement new operating parameter ranges until the Administrator has approved them, or 30 days have passed since submission of the performance test results. However, two of these commenters pointed out that the EPA did not make the same allowance in 40 CFR 63.625(d)(1)(ii)(B), where a series of tests (potentially including historical tests) are used to establish an operating range. A commenter pointed out that 40 CFR 63.625(d)(1)(ii)(B), as proposed, does not provide the 30-day default period for the effectiveness of the new ranges if the EPA Administrator does not act; therefore, as currently set forth in the proposed rule, sources will be left in limbo waiting for the EPA Administrator to respond before they can implement new ranges. A commenter suggested that the EPA revise the proposed regulatory language to require submission of the new ranges to EPA, but delete the requirement to request and obtain EPA's approval of the new ranges. Similarly, another commenter requested the EPA clarify the process for establishing new equipment operating ranges following source performance testing. This commenter contended that facilities should have the ability to update operating parameters if they desire based on source testing, and the facility should be required to submit the new ranges, but not be required to obtain EPA's approval of the new ranges.

In addition, a commenter requested that the EPA clarify how revising the proposed regulatory language to require submission of the new ranges to the

EPA, but deleting the requirement to request and obtain EPA's approval of the new ranges, will affect possible obligations to undertake permit modifications of title V permits under 40 CFR part 70. This commenter stated that such administrative processes are not fully anticipated in the proposed rule.

Response. In the proposed NESHAP subpart BB, the Agency intended that facilities not be required to obtain approval, and instead, immediately comply with a new operating limit when it is developed and submitted to the Administrator. Therefore, the requirements at 40 CFR 63.625(d)(1)(ii)(B) have been revised in the final rule, as the commenter requests, to remove the requirement that facilities must request and obtain approval of the Administrator for changing operating limits. Furthermore, the Agency suggests that the title V permit be modified as soon as the Administrator is notified of a change in an operating limit. The Agency acknowledges that corrections and modifications to permit applications could become a problem for a facility, particularly if the Administrator determines the operating limit is not appropriate after a facility has already applied for the change to be made in their air permit; however, we expect this scenario to be rare.

c. Translation of Total Fluoride to HF Emission Limits—Comment. Several commenters expressed concerns regarding the methodology for expressing the existing total fluoride limits in terms of HF (refer to section V.F.3.c of this preamble for a summary of comments received on this topic).

Response. In light of information provided by commenters, the Agency has re-evaluated the proposed revision to the standard and determined that EPA Method 320 is not an appropriate test method for accurately measuring HF emissions from process lines at this specific source category due to the complex and often incomplete chemical reactions with silicon compounds in these sources. Accordingly, we are not adopting the proposed HF standards, and instead we are retaining the existing total fluoride limits for all emission sources in subpart BB. For further explanation on this determination, refer to section V.F.3.c of this preamble. Although, at the present time, the Agency is not finalizing HF standards in NESHAP subpart BB, it may be possible to do so in a future rulemaking with additional data and specificity on monitoring requirements.

4. What is the rationale for our final decisions regarding these other changes to the Phosphate Fertilizer Production NESHAP and NSPS?

For the reasons provided above and in the preamble for the proposed rule, we are finalizing the proposed requirement in NESHAP subpart BB that pressure drop across an absorber must be greater than 5 inches of water in order to use the option of measuring pressure drop as an operating parameter; and other proposed clarifications and corrections.

Additionally, for the reasons provided above, we are making the revisions, clarifications and corrections noted in section VI.E.2 in the final rules for NESHAP subpart BB, NSPS subpart V, NSPS subpart W, and NSPS subpart X.

VII. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted

A. What are the affected facilities?

We anticipate that the 13 facilities currently operating in the U.S. will be affected by these amendments. We do not expect any new facilities to be constructed or expanded in the foreseeable future.

B. What are the air quality impacts?

We anticipate HF emissions reductions as a result of one facility installing controls on its oxidation reactor to comply with the SPA total fluoride limit. However, we do not have emissions data for its oxidation reactor to calculate these reductions. In addition, the revised rule will mitigate future increases of Hg emissions from phosphate rock calciners by requiring compliance with numeric emission limits.

C. What are the cost impacts?

We have estimated compliance costs for all existing sources to add the necessary controls and monitoring devices, perform inspections, and implement recordkeeping and reporting requirements to comply with the final rules. Based on this analysis, we anticipate an overall total capital investment of $346,000, with an associated total annualized cost of approximately $294,000. We do not anticipate the construction of any new phosphoric acid manufacturing plants or phosphate fertilizer production facilities in the next 5 years. Therefore, there are no anticipated new source cost impacts. We estimated the cost to install a venturi scrubber to meet the SPA process line total fluoride standard, when oxidation reactor emissions are included, for one facility. For all emission sources, we calculated capital and annual costs for testing, monitoring, recordkeeping, and reporting. The memorandum, ''Control Costs and Emissions Reductions for Phosphoric Acid and Phosphate Fertilizer Production Source Categories—Final Rule,'' which is available in the docket for this action, documents the control cost analyses.

D. What are the economic impacts?

Economic impact analyses focus on changes in market prices and output levels. If changes in market prices and output levels in the primary markets are significant, we also examine impacts on other markets. Both the magnitude of costs needed to comply with the rule and the distribution of these costs among affected facilities can have a role in determining how the market will change in response to the rule. We project that no facility will incur significant costs.

Because no small firms will incur control costs, there is no significant impact on small entities. Thus, we do not expect this regulation to have a significant impact on a substantial number of small entities.

E. What are the benefits?

The revised rule will mitigate future increases of Hg emissions from phosphate rock calciners by requiring compliance with numeric emission limits. These avoided emissions will result in improvements in air quality and reduced negative health effects associated with exposure to air pollution of these emissions. However, we have not quantified or monetized the benefits of reducing these emissions for this rulemaking because information is not available to monetize potential benefits and we are not aware of any new phosphate rock calciners that will be constructed in the next three years.

F. What analysis of environmental justice did we conduct?

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practical and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the U.S.

The EPA has determined that this rule will not have disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. To gain a better understanding of the source category and near source populations, the EPA conducted a proximity analysis on phosphate facilities to identify any overrepresentation of minority, low income, or indigenous populations. This analysis only gives some indication of the prevalence of sub-populations that may be exposed to air pollution from the sources; it does not identify the demographic characteristics of the most highly affected individuals or communities, nor does it quantify the level of risk faced by those individuals or communities.

The proximity analysis reveals that most demographic categories are below or within 20 percent of their corresponding national averages. The two exceptions are the minority and African American populations. The ratio of African Americans living within 3 miles of any source affected by this rule is 131 percent higher than the national average (29 percent versus 13 percent). The percentage of minorities living within 3 miles of any source affected by this rule is 37 percent above the national average (35 percent versus 28 percent). The large minority population is a direct result of the higher percentage of African Americans living near these facilities (the other racial minorities are below or equal to the national average). However, as noted previously, we found the risks from these source categories to be acceptable for all populations.

The changes to the standard increase the level of environmental protection for all affected populations by ensuring no future emission increases from the source categories. The proximity analysis results and the details concerning their development are presented in the October 2012 memorandum, ''Environmental Justice Review: Phosphate Fertilizer Production and Phosphoric Acid,'' a copy of which is available in Docket ID No. EPA–HQ–OAR–2012–0522.

G. What analysis of children's environmental health did we conduct?

While this action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997), we note that the current standards provide an ample margin of safety to protect public health. Consideration of children's health is accounted for in our risk analyses, which compare projected exposures to various health benchmarks that are based on the most sensitive populations.

VIII. Statutory and Executive Order Reviews

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review. The EPA analyzed the potential costs and benefits associated with this action. The results are presented in sections VII.C and E of this preamble.

B. Paperwork Reduction Act (PRA)

The information collection activities in these rules have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 1790.06. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

We are finalizing new paperwork requirements to the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories in the form of additional requirements for stack testing, performance evaluations, and work practices for fugitive sources.

We estimate 12 regulated entities are currently subject to 40 CFR part 63, subpart AA and 11 regulated entities are currently subject to 40 CFR part 63, subpart BB and each will be subject to all applicable standards. The annual monitoring, reporting, and recordkeeping burden for these amendments to subpart AA and BB is estimated to be $224,000 per year (averaged over the first 3 years after the effective date of the standards). This includes 670 labor hours per year at a total labor cost of $55,000 per year, and total non-labor capital and operating and maintenance costs of $169,000 per year. This estimate includes performance tests, notifications, reporting and recordkeeping associated with the new requirements for emission points and associated control devices. The total burden to the federal government is estimated to be 330 hours per year at a total labor cost of $17,000 per year (averaged over the first 3 years after the effective date of the standard). Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. This rule will not impose any requirements on small entities because we do not project that any small entities will incur costs due to these rule amendments. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action has tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized tribal governments, nor preempt tribal law. The tribal implications are primarily due to the close proximity of one facility to a tribe (the Shoshone-Bannock).

The EPA consulted with tribal officials under the EPA Policy on

Consultation and Coordination with Indian Tribes early in the process of developing this regulation to permit them to have meaningful and timely input into its development. The Agency provided an overview of the source categories and rulemaking process during a monthly teleconference with the National Tribal Air Association. Additionally, we provided targeted outreach, including a visit to the Shoshone-Bannock tribe and meeting with environmental leaders for the tribe.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in sections V.A. and VI.A.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR part 51

This action involves technical standards. The EPA has decided to use analytical methods of the Association of Official Analytical Chemists (AOAC) and of the Association of Fertilizer and Phosphate Chemists (AFPC). The AOAC methods include: AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, AOAC Official Method 929.01 Sampling of Solid Fertilizers, AOAC Official Method 929.02 Preparation of Fertilizer Sample, AOAC Official Method 978.01 Phosphorous (Total) in Fertilizers, Automated Method, AOAC Official Method 969.02 Phosphorous (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, AOAC Official Method 962.02 Phosphorous (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method and Quinolinium Molybdophosphate Method 958.01 Phosphorous (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method. The AFPC methods for analysis of phosphate rock include: No. 1 Preparation of Sample, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method A—Volumetric Method, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method B—Gravimetric Quimociac Method, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method C—Spectrophotometric Method. The AFPC methods for analysis of phosphoric acid, superphosphate, triple superphosphate and ammonium phosphates include: No. 3 Total Phosphorus-P_2O_5, Method A-Volumetric Method, No. 3 Total Phosphorus-P_2O_5, Method B—Gravimetric Quimociac Method and No. 3 Total Phosphorus-P_2O_5, Method C—Spectrophotometric Method.

As discussed in the preamble of the proposal, under NESHAP subpart AA and NESHAP subpart BB, we conducted searches for EPA Methods 5, 13A, 13B, and 30B. The EPA conducted searches through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We contacted voluntary consensus standards (VCS) organizations, and accessed and searched their databases. We did not identify any applicable VCS for EPA Methods 5, 13A, 13B, or 30B. Additional information for the VCS search and determinations can be found in the memorandum, ''Voluntary Consensus Standard Results for Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing,'' which is available in the docket for this action. The EPA solicited comments on VCS and invited the public to identify potentially applicable VCS; however, we did not receive comments regarding this aspect of NESHAP subpart AA and NESHAP subpart BB.

The EPA is incorporating, into NESHAP subpart AA and NESHAP subpart BB, the following guidance document: EPA–454/R–98–015, Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997. This guidance document provides procedures for selecting, installing, setting up, adjusting, and operating a bag leak detection system; and also includes quality assurance procedures. This guidance document is readily accessible at *http://www.epa.gov/ttn/emc/cem.html.*

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it increases the level of protection provided to human health or the environment. The results of this evaluation are contained in the memorandum titled ''Environmental Justice Review: Phosphate Fertilizer Production and Phosphoric Acid,'' which is available in Docket ID No. EPA–HQ–OAR–2012–0522, and are discussed in section VII.F of this preamble.

K. Congressional Review Act

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the U.S. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 60

Environmental protection, Air pollution control, Fertilizers, Fluoride, Particulate matter, Phosphate, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: July 21, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, parts 60 and 63 of title 40, chapter I, of the Code of Federal Regulations are amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart T—Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants

■ 2. Section 60.200 is amended by revising paragraph (a) to read as follows:

§ 60.200 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each wet-process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day.

* * * * *

■ 3. Section 60.201 is amended by revising paragraph (a) to read as follows:

§ 60.201 Definitions.

* * * * *

(a) *Wet-process phosphoric acid plant* means any facility manufacturing phosphoric acid by reacting phosphate rock and acid. A wet-process phosphoric acid plant includes: Reactors, filters, evaporators, and hot wells.

* * * * *

■ 4. Section 60.203 is amended by revising paragraph (c) and adding paragraph (d) to read as follows:

§ 60.203 Monitoring of operations.

* * * * *

(c) The owner or operator of any wet-process phosphoric acid plant subject to the provisions of this part shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the absorber. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(d) Any facility under § 60.200(a) that commences construction, modification or reconstruction after November 7, 2014 is subject to the requirements of this paragraph instead of the requirements in paragraph (c) of this section. If an absorber is used to comply with § 60.202, then the owner or operator shall continuously monitor pressure drop through the absorber and meet the requirements specified in paragraphs (d)(1) through (4) of this section.

(1) The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CMS) that continuously measures and permanently records the pressure at the gas stream inlet and outlet of the absorber. The pressure at the gas stream inlet of the absorber may be measured using amperage on the blower if a correlation between pressure and amperage is established.

(2) The CMS must have an accuracy of ±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.

(3) The owner or operator shall establish an allowable range for the pressure drop through the absorber. The allowable range is ±20 percent of the arithmetic average of the three test runs conducted during the performance test required in § 60.8. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(4) The owner or operator shall demonstrate continuous compliance by maintaining the daily average pressure drop through the absorber to within the allowable range established in paragraph (d)(3) of this section. The daily average pressure drop through the absorber for each operating day shall be calculated using the data recorded by the monitoring system. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

■ 5. Subpart T is amended by adding § 60.205 to read as follows:

§ 60.205 Recordkeeping.

Any facility under § 60.200(a) that commences construction, modification or reconstruction after November 7, 2014 is subject to the requirements of this section. You must maintain the records identified as specified in § 60.7(f) and in paragraphs (a) and (b) of this section. All records required by this subpart must be maintained on site for at least 5 years.

(a) *Records of the daily average pressure.* Records of the daily average pressure drop through the absorber.

(b) *Records of deviations.* A deviation is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (b)(1) and (2) of this section being met.

(1) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum pressure drop, or greater than the maximum pressure drop established in § 60.203(d)(3).

(2) A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

Subpart U—Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants

■ 6. Section 60.210 is amended by revising paragraph (a) to read as follows:

§ 60.210 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each superphosphoric acid plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day.

* * * * *

■ 7. Section 60.211 is amended by revising paragraph (a) to read as follows:

§ 60.211 Definitions.

* * * * *

(a) *Superphosphoric acid plant* means any facility that concentrates wet-process phosphoric acid to 66 percent or greater P_2O_5 content by weight for eventual consumption as a fertilizer. A superphosphoric acid plant includes: evaporators, hot wells, acid sumps, oxidation reactors, and cooling tanks. An oxidation reactor includes any equipment or step that uses an oxidizing agent (*e.g.,* nitric acid, ammonium nitrate, or potassium permanganate) to treat superphosphoric acid.

* * * * *

■ 8. Section 60.213 is amended by revising paragraph (c) and adding paragraph (d) to read as follows:

§ 60.213 Monitoring of operations.

* * * * *

(c) Except as specified in paragraph (d) of this section, the owner or operator of any superphosphoric acid plant subject to the provisions of this part shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the absorber. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(d) Any affected facility as defined in § 60.210(a) that commences construction, modification or reconstruction after November 7, 2014 is subject to the requirements of this paragraph instead of the requirements in paragraph (c) of this section. If an absorber is used to comply with § 60.212, then the owner or operator shall continuously monitor pressure drop through the absorber and meet the requirements specified in paragraphs (d)(1) through (4) of this section.

(1) The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CMS) that continuously measures and permanently records the pressure at the gas stream inlet and outlet of the absorber. The pressure at the gas stream inlet of the absorber may be measured using amperage on the blower if a correlation between pressure and amperage is established.

(2) The CMS must have an accuracy of ±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.

(3) The owner or operator shall establish an allowable range for the pressure drop through the absorber. The allowable range is ±20 percent of the arithmetic average of the three test runs conducted during the performance test required in § 60.8. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(4) The owner or operator shall demonstrate continuous compliance by maintaining the daily average pressure drop through the absorber to within the allowable range established in paragraph (d)(3) of this section. The daily average pressure drop through the absorber for each operating day shall be calculated using the data recorded by the monitoring system. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

■ 9. Subpart U is amended by adding § 60.215 to read as follows:

§ 60.215 Recordkeeping.

An affected facility as defined in § 60.210(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this section. You must maintain the records identified as specified in § 60.7(f) and in paragraphs (a) and (b) of this section. All records required by this subpart must be maintained on site for at least 5 years.

(a) *Records of the daily average pressure.* Records of the daily average pressure drop through the absorber.

(b) *Records of deviations.* A deviation is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (b)(1) and (2) of this section being met.

(1) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum pressure drop, or greater than the maximum pressure drop established in § 60.213(d)(3).

(2) A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

Subpart V—Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants

■ 10. Section 60.223 is amended by revising paragraph (c) and adding paragraph (d) to read as follows:

§ 60.223 Monitoring of operations.

* * * * *

(c) Except as specified in paragraph (d) of this section, the owner or operator of any granular diammonium phosphate plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(d) Any affected facility as defined in § 60.220(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this paragraph instead of the requirements in paragraph (c) of this section. If an absorber is used to comply with § 60.222, then the owner or operator shall continuously monitor pressure drop through the absorber and meet the requirements specified in paragraphs (d)(1) through (4) of this section.

(1) The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CMS) that continuously measures and permanently records the pressure at the gas stream inlet and outlet of the absorber. The pressure at the gas stream inlet of the absorber may be measured using amperage on the blower if a correlation between pressure and amperage is established.

(2) The CMS must have an accuracy of ±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.

(3) The owner or operator shall establish an allowable range for the pressure drop through the absorber. The allowable range is ±20 percent of the arithmetic average of the three test runs conducted during the performance test required in § 60.8. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(4) The owner or operator shall demonstrate continuous compliance by maintaining the daily average pressure drop through the absorber to within the allowable range established in paragraph (d)(3) of this section. The daily average pressure drop through the absorber for each operating day shall be calculated using the data recorded by the monitoring system. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

■ 11. Section 60.224 is amended by revising paragraph (b)(3)(ii) to read as follows:

§ 60.224 Test methods and procedures.

* * * * *

(b) * * *

(3) * * *

(ii) The Association of Official Analytical Chemists (AOAC) Method 9 (incorporated by reference—see § 60.17) shall be used to determine the P_2O_5 content (R_p) of the feed.

■ 12. Subpart V is amended by adding § 60.225 to read as follows:

§ 60.225 Recordkeeping.

An affected facility as defined in § 60.220(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this section. You must maintain the records identified as specified in § 60.7(f) and in paragraphs (a) and (b) of this section. All records required by this subpart must be maintained on site for at least 5 years.

(a) Records of the daily average pressure drop through the absorber.

(b) Records of deviations. A deviation is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (b)(1) and (2) of this section being met.

(1) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum pressure drop, or greater than the maximum pressure drop established in § 60.223(d)(3).

(2) A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

Subpart W—Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants

■ 13. Section 60.230 is amended by revising paragraph (a) to read as follows:

§ 60.230 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each triple superphosphate plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day. For the purpose of this subpart, the affected facility includes any combination of: mixers, curing belts (dens), reactors, granulators, dryers, coolers, screens, mills, and facilities that store run-of-pile triple superphosphate.

* * * * *

■ 14. Section 60.233 is revised to read as follows:

§ 60.233 Monitoring of operations.

(a) The owner or operator of any triple superphosphate plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a flow monitoring device that can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) The owner or operator of any triple superphosphate plant shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in Mg/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of paragraph (a) of this section and then by proceeding according to § 60.234(b)(3).

(c) Except as specified in paragraph (d) of this section, the owner or operator of any triple superphosphate plant subject to the provisions of this part shall install, calibrate, maintain, and operate a monitoring device that continuously measures and permanently records the total pressure drop across the absorber. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(d) Any facility under § 60.230(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this paragraph instead of the requirements in paragraph (c) of this section. If an absorber is used to comply with § 60.232, then the owner or operator shall continuously monitor pressure drop through the absorber and meet the requirements specified in paragraphs (d)(1) through (4) of this section.

(1) The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CMS) that continuously measures and permanently records the pressure at the gas stream inlet and outlet of the absorber. The pressure at the gas stream inlet of the absorber may be measured using amperage on the blower if a correlation between pressure and amperage is established.

(2) The CMS must have an accuracy of ±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.

(3) The owner or operator shall establish an allowable range for the pressure drop through the absorber. The allowable range is ±20 percent of the arithmetic average of the three test runs conducted during the performance test required in § 60.8. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(4) The owner or operator shall demonstrate continuous compliance by maintaining the daily average pressure drop through the absorber to within the allowable range established in paragraph (d)(3) of this section. The daily average pressure drop through the absorber for each operating day shall be calculated using the data recorded by the monitoring system. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

■ 15. Subpart W is amended by adding § 60.235 to read as follows:

§ 60.235 Recordkeeping.

Any facility under § 60.230(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this section. You must maintain the records identified as specified in § 60.7(f) and in paragraphs (a) and (b) of this section. All records required by this subpart must be maintained onsite for at least 5 years.

(a) Records of the daily average pressure drop through the absorber.

(b) Records of deviations. A deviation is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (b)(1) and (2) of this section being met.

(1) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum pressure drop, or greater than the maximum pressure drop established in § 60.233(d)(3).

(2) A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

Subpart X—Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities

■ 16. Section 60.243 is amended by revising paragraph (c) and adding (e) to read as follows:

§ 60.243 Monitoring of operations.

* * * * *

(c) Except as specified in paragraph (e) of this section, the owner or operator of any granular triple superphosphate storage facility subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device that continuously measures and permanently records the total pressure drop across any absorber. The monitoring device shall have an accuracy of ±5 percent over its operating range.

* * * * *

(e) Any facility under § 60.240(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this paragraph instead of the requirements in paragraph (c) of this section. If an absorber is used to comply with § 60.232, then the owner or operator shall continuously monitor pressure drop through the absorber and meet the requirements specified in paragraphs (e)(1) through (4) of this section.

(1) The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CMS) that continuously measures and permanently records the pressure at the gas stream inlet and outlet of the absorber. The pressure at the gas stream inlet of the absorber may be measured using amperage on the blower if a correlation between pressure and amperage is established.

(2) The CMS must have an accuracy of ±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.

(3) The owner or operator shall establish an allowable range for the

pressure drop through the absorber. The allowable range is ±20 percent of the arithmetic average of the three test runs conducted during the performance test required in § 60.8. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(4) The owner or operator shall demonstrate continuous compliance by maintaining the daily average pressure drop through the absorber to within the allowable range established in paragraph (e)(3) of this section. The daily average pressure drop through the absorber for each operating day shall be calculated using the data recorded by the monitoring system. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

■ 17. Subpart X is amended by adding § 60.245 to read as follows:

§ 60.245 Recordkeeping.

Any facility under § 60.240(a) that commences construction, modification, or reconstruction after November 7, 2014 is subject to the requirements of this section. You must maintain the records identified as specified in § 60.7(f) and in paragraphs (a) and (b) of this section. All records required by this subpart must be maintained onsite for at least 5 years.

(a) Records of the daily average pressure drop through the absorber.

(b) Records of deviations. A deviation is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (b)(1) and (2) of this section being met.

(1) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum pressure drop, or greater than the maximum pressure drop established in § 60.243(e)(3).

(2) A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 18. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart A—General Provisions

■ 19. Section 63.14 is amended by revising paragraphs (b), (c)(1) through (7), and (l)(2) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida 33830.

(1) Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991:

(i) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(f), § 63.626(f).

(ii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method A—Volumetric Method, IBR approved for § 63.606(f), § 63.626(f).

(iii) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method B—Gravimetric Quimociac Method, IBR approved for § 63.606(f), § 63.626(f).

(iv) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method C—Spectrophotometric Method, IBR approved for § 63.606(f), § 63.626(f).

(v) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method A—Volumetric Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(vi) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method B—Gravimetric Quimociac Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(vii) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method C—Spectrophotometric Method, IBR approved for § 63.606(f), § 63.626(f), and (g).

(2) [Reserved]

(c) * * *

(1) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(2) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(3) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(4) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(5) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(6) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

(7) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(g).

* * * * *

(l) * * *

(2) EPA–454/R–98–015, Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, IBR approved for §§ 63.548(e), 63.606(m), 63.607(b), 63.626(h), 63.627(b), 63.7525(j), and 63.11224(f).

* * * * *

■ 20. Part 63 is amended by revising subpart AA to read as follows:

Subpart AA—National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants

Sec.

§ 63.600 Applicability.

(a) Except as provided in paragraphs (c) and (d) of this section, you are subject to the requirements of this subpart if you own or operate a phosphoric acid manufacturing plant that is a major source as defined in § 63.2. You must comply with the emission limitations, work practice standards, and operating parameter requirements specified in this subpart at all times.

(b) The requirements of this subpart apply to emissions of hazardous air pollutants (HAP) emitted from the following affected sources at a phosphoric acid manufacturing plant:

(1) Each wet-process phosphoric acid process line.

(2) Each evaporative cooling tower.

(3) Each phosphate rock dryer.

(4) Each phosphate rock calciner.

(5) Each superphosphoric acid process line.

(6) Each purified phosphoric acid process line.

(7) Each gypsum dewatering stack.

(8) Each cooling pond.

(c) The requirements of this subpart do not apply to a phosphoric acid manufacturing plant that is an area source as defined in § 63.2.

(d) The provisions of this subpart do not apply to research and development facilities as defined in § 63.601.

§ 63.601 Definitions.

Terms used in this subpart are defined in § 63.2 of the Clean Air Act and in this section as follows:

Active gypsum dewatering stack means a gypsum dewatering stack that is currently receiving gypsum, received gypsum within the last year, or is part of the facility's water management system. A gypsum dewatering stack that is considered closed by a state authority is not considered an active gypsum dewatering stack.

Breakthrough means the point in time when the level of mercury detected at the outlet of an adsorber system is 90 percent of the highest concentration allowed to be discharged consistent with the applicable emission limit.

Cooling pond means a natural or artificial open reservoir that is primarily used to collect and cool water that comes into direct contact with raw materials, intermediate products, by-products, waste products, or finished products from a phosphoric acid manufacturing plant. The water in the cooling pond is often used at phosphoric acid manufacturing plants as filter wash water, absorber water for air pollution control absorbers, and/or to transport phosphogypsum as slurry to a gypsum dewatering stack(s).

Equivalent P_2O_5 feed means the quantity of phosphorus, expressed as phosphorus pentoxide (P_2O_5), fed to the process.

Evaporative cooling tower means an open-water, re-circulating device that uses fans or natural draft to draw or force ambient air through the device to remove heat from process water by direct contact.

Exceedance means a departure from an indicator range established for monitoring under this subpart, consistent with any averaging period specified for averaging the results of the monitoring.

Existing source depends on the date that construction or reconstruction of an affected source commenced. A wet-process phosphoric acid process line, superphosphoric acid process line, phosphate rock dryer, phosphate rock calciner, evaporative cooling tower, or purified acid process line is an existing source if construction or reconstruction of the affected source commenced on or before December 27, 1996. A gypsum dewatering stack or cooling pond is an existing source if it meets one of two criteria:

(1) It was constructed or reconstructed on or before August 19, 2015; or

(2) It was constructed or reconstructed after August 19, 2015 and it was not required to obtain a permit by a state authority for the construction or reconstruction.

Gypsum dewatering stack means any defined geographic area associated with a phosphoric acid manufacturing plant in which gypsum is disposed of or stored, other than within a fully enclosed building, container, or tank.

Gypsum dewatering stack system means the gypsum dewatering stack, together with all pumps, piping, ditches, drainage conveyances, water control structures, collection pools, cooling ponds, surge ponds, auxiliary holding ponds, regional holding ponds and any other collection or conveyance system associated with the transport of gypsum from the plant to the gypsum dewatering stack, its management at the gypsum dewatering stack, and the process wastewater return to the phosphoric acid production or other process.

HAP metals mean those metals and their compounds (in particulate or volatile form) that are included on the list of hazardous air pollutants in section 112 of the Clean Air Act. HAP metals include, but are not limited to: Antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium expressed as particulate matter as measured by the methods and procedures in this subpart or an approved alternative method. For the purposes of this subpart, HAP metals (except mercury) are expressed as particulate matter as measured by Method 5 at 40 CFR part 60, appendix A–3.

New source depends on the date that construction or reconstruction of an affected source commences. A wet-process phosphoric acid process line, superphosphoric acid process line, phosphate rock dryer, phosphate rock calciner, evaporative cooling tower, or purified acid process line is a new source if construction or reconstruction of the affected source commenced after December 27, 1996. A gypsum dewatering stack or cooling pond is a new source if it meets two criteria:

(1) It was constructed or reconstructed after August 19, 2015; and

(2) It was required to obtain a permit by a state authority for the construction or reconstruction.

Oxidation reactor means any equipment or step that uses an oxidizing agent (*e.g.,* nitric acid, ammonium nitrate, or potassium permanganate) to treat superphosphoric acid.

Phosphate rock calciner means the equipment used to remove moisture and organic matter from phosphate rock through direct or indirect heating.

Phosphate rock dryer means the equipment used to reduce the moisture content of phosphate rock through direct or indirect heating.

Phosphate rock feed means all material entering any phosphate rock dryer or phosphate rock calciner including moisture and extraneous material as well as the following ore materials: Fluorapatite, hydroxylapatite, chlorapatite, and carbonateapatite.

Purified phosphoric acid process line means any process line that uses a HAP as a solvent in the separation of impurities from the product acid for the purposes of rendering that product suitable for industrial, manufacturing, or food grade uses. A purified phosphoric acid process line includes:

solvent extraction process equipment, solvent stripping and recovery equipment, seal tanks, carbon treatment equipment, cooling towers, storage tanks, pumps, and process piping.

Raffinate stream means the aqueous stream containing the impurities that are removed during the purification of wet-process phosphoric acid using solvent extraction.

Research and development facility means research or laboratory operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and where the facility is not engaged in the manufacture of products for commercial sale in commerce or other off-site distribution, except in a de minimis manner.

Rim ditch (cell) building technique means a gypsum dewatering stack construction technique that utilizes inner and outer dikes to direct gypsum slurry flow around the perimeter of the stack before directing the flow and allowing settling of finer materials into the settling compartment. For the purpose of this definition, the rim ditch (cell) building technique includes the compartment startup phase when gypsum is deposited directly into the settling compartment in preparation for ditch construction as well as the step-in or terminal phases when most solids must be directed to the settling compartment prior to stack closure. Decant return ditches are not rim ditches.

Shutdown commences when feed materials cease to be added to an affected source and ends when the affected source is deactivated, regardless of whether feed material is present in the affected source.

Startup commences when any feed material is first introduced into an affected source and ends when feed material is fully loaded into the affected source.

Superphosphoric acid process line means any process line that concentrates wet-process phosphoric acid to 66 percent or greater P_2O_5 content by weight. A superphosphoric acid process line includes: evaporators, hot wells, acid sumps, oxidation reactors, and cooling tanks.

Total fluorides means elemental fluorine and all fluoride compounds, including the HAP HF, as measured by reference methods specified in 40 CFR part 60, appendix A, Method 13 A or B, or by equivalent or alternative methods approved by the Administrator pursuant to § 63.7(f).

Wet-process phosphoric acid process line means any process line manufacturing phosphoric acid by reacting phosphate rock and acid. A wet-process phosphoric acid process line includes: reactors, filters, evaporators, and hot wells.

§ 63.602 Standards and compliance dates.

(a) On and after the dates specified in paragraphs (a)(1) through (6) of this section, for each wet-process phosphoric acid process line, superphosphoric acid process line, phosphate rock dryer, and phosphate rock calciner, you must comply with the emission limits as specified in paragraphs (a)(1) through (6) of this section. If a process line contains more than one emission point, you must sum the emissions from all emission points in a process line to determine compliance with the specified emission limits.

(1) For each existing wet-process phosphoric acid process line, superphosphoric acid process line, and phosphate rock dryer that commenced construction or reconstruction on or before December 27, 1996, you must comply with the emission limits specified in Table 1 to this subpart beginning on June 10, 2002.

(2) For each existing phosphate rock calciner that commenced construction or reconstruction on or before December 27, 1996, you must comply with the emission limits as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) You must comply with the total particulate emission limit specified in Table 1 to this subpart beginning on June 10, 2002.

(ii) You must comply with the mercury emission limit specified in Table 1 to this subpart beginning on August 19, 2015.

(iii) You must comply with the total fluorides emission limit specified in Table 1 to this subpart beginning on August 19, 2015.

(3) For each new wet-process phosphoric acid process line, superphosphoric acid process line, and phosphate rock dryer that commences construction or reconstruction after December 27, 1996 and on or before August 19, 2015, you must comply with the emission limits specified in Table 2 to this subpart beginning on June 10, 1999 or at startup, whichever is later.

(4) For each new wet-process phosphoric acid process line, superphosphoric acid process line, and phosphate rock dryer that commences construction or reconstruction after August 19, 2015, you must comply with the emission limits specified in Table 2 to this subpart immediately upon startup.

(5) For each new phosphate rock calciner that commences construction or reconstruction after December 27, 1996 and on or before August 19, 2015, you must comply with the emission limits as specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must comply with the total particulate emission limit specified in Table 2 to this subpart beginning on June 10, 1999 or at startup, whichever is later.

(ii) You must comply with the mercury emission limit specified in Table 2 to this subpart beginning on August 19, 2015, or upon startup, whichever is later.

(iii) You must comply with the total fluorides emission limit specified in Table 2 to this subpart beginning on August 19, 2015, or upon startup, whichever is later.

(6) For each new phosphate rock calciner that commences construction or reconstruction after August 19, 2015, you must comply with the emission limits specified in Table 2 to this subpart immediately upon startup.

(b) For each existing purified phosphoric acid process line that commenced construction or reconstruction on or before December 27, 1996, you must comply with the provisions of subpart H of this part and paragraphs (b)(1) through (3) of this section beginning on June 10, 2002. For each new purified phosphoric acid process line that commences construction or reconstruction after December 27, 1996, you must comply with the provisions of subpart H of this part and paragraphs (b)(1) through (3) of this section beginning on June 10, 1999 or at startup, whichever is later.

(1) Maintain a 30-day rolling average of daily concentration measurements of methyl isobutyl ketone equal to or below 20 parts per million by weight (ppmw) for each product acid stream.

(2) Maintain a 30-day rolling average of daily concentration measurements of methyl isobutyl ketone equal to or below 30 ppmw for each raffinate stream.

(3) Maintain the daily average temperature of the exit gas stream from the chiller stack below 50 degrees Fahrenheit.

(c) Beginning on June 10, 2002, you must not introduce into an existing evaporative cooling tower that commenced construction or reconstruction on or before December 27, 1996, any liquid effluent from any absorber installed to control emissions from process equipment. Beginning on June 10, 1999 or at startup, whichever is later, you must not introduce into a new evaporative cooling tower that commences construction or reconstruction after December 27, 1996, any liquid effluent from any absorber installed to control emissions from process equipment.

(d) For each gypsum dewatering stack system, you must prepare, and operate in accordance with, a gypsum dewatering stack and cooling pond management plan that contains the information specified in paragraph (e) of this section beginning on August 19, 2016.

(e) The gypsum dewatering stack and cooling pond management plan must include the information specified in paragraphs (e)(1) through (3) of this section. You must submit the gypsum dewatering stack and cooling pond management plan for approval to the Administrator as specified in paragraph (e)(4) of this section.

(1) Location (including latitude and longitude of centroid in decimal degrees to four decimal places) of each gypsum dewatering stack and each cooling pond in the gypsum dewatering stack system.

(2) Permitted maximum footprint acreage of each gypsum dewatering stack and each cooling pond in the gypsum dewatering stack system.

(3) Control measures that you use to minimize fugitive hydrogen fluoride emissions from the gypsum dewatering stack system. If you operate one or more active gypsum dewatering stacks or cooling ponds that are considered new sources as defined in § 63.601, then you must use, and include in the management plan, at least two of the control measures listed in paragraphs (e)(3)(i) through (vii) of this section for your gypsum dewatering stack system. If you only operate active gypsum dewatering stacks and cooling ponds that are considered existing sources as defined in § 63.601, then you must use, and include in the management plan, at least one of the control measures listed in paragraphs (e)(3)(i) through (vii) of this section for your gypsum dewatering stack system.

(i) For at least one cooling pond that is considered part of your gypsum dewatering stack system, you may choose to submerge the discharge pipe to a level below the surface of the cooling pond.

(ii) For at least one cooling pond that is considered part of your gypsum dewatering stack system, you may choose to use lime (or any other caustic substance) to raise the pH of the liquid (*e.g.,* the condensed vapors from the flash cooler and evaporators, and scrubbing liquid) discharged into the cooling pond. If you choose this control measure, then you must include in the plan the method used to raise the pH of the liquid discharged into the cooling pond, the target pH value (of the liquid discharged into the cooling pond) expected to be achieved by using the method, and the analyses used to determine and support the raise in pH.

(iii) For all cooling ponds that are considered part of your gypsum dewatering stack system, you may choose to reduce the total cooling pond surface area based on a facility specific evaluation plan. If you choose this control measure, then you must include in the facility specific evaluation plan certified by an independent licensed professional engineer or similarly qualified individual. You must also include in the plan the method used to reduce total cooling pond footprint, the analyses used to determine and support the reduction in the total cooling pond surface area, and the amount of total cooling pond surface area that was reduced due to the facility specific evaluation plan.

(iv) For at least one gypsum dewatering stack that is considered part of your gypsum dewatering stack system, you may choose to minimize the surface area of the gypsum pond associated with the active gypsum dewatering stack by using a rim ditch (cell) building technique or other building technique.

(v) For at least one gypsum dewatering stack that is considered part of your gypsum dewatering stack system, you may choose to apply slaked lime to the active gypsum dewatering stack surfaces. If you choose this control measure, then you must include in the plan the method used to determine the specific locations slaked lime is applied. The plan must also include the methods used to determine the quantity of, and when to apply, slaked lime (*e.g.,* slaked lime may be applied to achieve a state ambient air standard for fluorides, measured as hydrogen fluoride).

(vi) For at least one gypsum dewatering stack that is considered part of your gypsum dewatering stack system, you may choose to apply soil caps and vegetation, or a synthetic cover, to a portion of side slopes of the active gypsum dewatering stack. If you choose this control measure, then you must include in the plan the method used to determine the specific locations of soil caps and vegetation, or synthetic cover; and specify the acreage and locations where soil caps and vegetation, or synthetic cover, is applied. The plan must also include a schedule describing when soil caps and vegetation, or synthetic cover, is to be applied.

(vii) For all gypsum dewatering stacks that are considered part of your gypsum dewatering stack system, you may choose to establish closure requirements that at a minimum, contain requirements for the specified items in paragraphs (e)(3)(vii)(A) and (B) of this section.

(A) A specific trigger mechanism for when you must begin the closure process on the gypsum dewatering stack; and

(B) A requirement to install a final cover. For purposes of this paragraph, final cover means the materials used to cover the top and sides of a gypsum dewatering stack upon closure.

(4) You must submit your plan for approval to the Administrator at least 6 months prior to the compliance date specified in § 63.602(d), or with the permit application for modification, construction, or reconstruction. The plan must include details on how you will implement and show compliance with the control technique(s) that you have selected to use. The Administrator will approve or disapprove your plan within 90 days after receipt of the plan. To change any of the information submitted in the plan, you must submit a revised plan 60 days before the planned change is to be implemented in order to allow time for review and approval by the Administrator before the change is implemented.

(f) Beginning on August 19, 2015, during periods of startup and shutdown (as defined in § 63.601), you must comply with the work practice specified in this paragraph in lieu of the emission limits specified in paragraph (a) of this section. During periods of startup and shutdown, you must operate any control device(s) being used at the affected source, monitor the operating parameters specified in Table 3 of this subpart, and comply with the operating limits specified in Table 4 of this subpart.

§ 63.603 [Reserved]

§ 63.604 [Reserved]

§ 63.605 Operating and monitoring requirements.

(a) For each wet-process phosphoric acid process line or superphosphoric acid process line subject to the provisions of this subpart, you must comply with the monitoring requirements specified in paragraphs (a)(1) and (2) of this section.

(1) Install, calibrate, maintain, and operate a continuous monitoring system (CMS) according to your site-specific monitoring plan specified in § 63.608(c). The CMS must have an accuracy of ±5 percent over its operating range and

must determine and permanently record the mass flow of phosphorus-bearing material fed to the process.

(2) Maintain a daily record of equivalent P_2O_5 feed. Calculate the equivalent P_2O_5 feed by determining the total mass rate, in metric ton/hour of phosphorus bearing feed, using the monitoring system specified in paragraph (a)(1) of this section and the procedures specified in § 63.606(f)(3).

(b) For each phosphate rock dryer or phosphate rock calciner subject to the provisions of this subpart, you must comply with the monitoring requirements specified in paragraphs (b)(1) and (2) of this section.

(1) Install, calibrate, maintain, and operate a CMS according to your site-specific monitoring plan specified in § 63.608(c). The CMS must have an accuracy of ±5 percent over its operating range and must determine and permanently record either:

(i) The mass flow of phosphorus-bearing feed material to the phosphate rock dryer or calciner, or

(ii) The mass flow of product from the phosphate rock dryer or calciner.

(2) Maintain the records specified in paragraphs (b)(2)(i) and (ii) of this section.

(i) If you monitor the mass flow of phosphorus-bearing feed material to the phosphate rock dryer or calciner as specified in paragraph (b)(1)(i) of this section, maintain a daily record of phosphate rock feed by determining the total mass rate in metric tons/hour of phosphorus-bearing feed.

(ii) If you monitor the mass flow of product from the phosphate rock dryer or calciner as specified in paragraph (b)(1)(ii) of this section, maintain a daily record of product by determining the total mass rate in metric ton/hour of product.

(c) For each purified phosphoric acid process line, you must comply with the monitoring requirements specified in paragraphs (c)(1) and (2) of this section.

(1) Install, calibrate, maintain, and operate a CMS according to your site-specific monitoring plan specified in § 63.608(c). The CMS must continuously measure and permanently record the stack gas exit temperature for each chiller stack.

(2) Measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once each day.

(d) If you use a control device(s) to comply with the emission limits specified in Table 1 or 2 of this subpart, you must install a continuous parameter monitoring system (CPMS) and comply with the requirements specified in paragraphs (d)(1) through (5) of this section.

(1) You must monitor the operating parameter(s) applicable to the control device that you use as specified in Table 3 to this subpart and establish the applicable limit or range for the operating parameter limit as specified in paragraphs (d)(1)(i) and (ii) of this section, as applicable.

(i) Except as specified in paragraph (d)(1)(ii) of this section, determine the value(s) as the arithmetic average of operating parameter measurements recorded during the three test runs conducted for the most recent performance test.

(ii) If you use an absorber or a wet electrostatic precipitator to comply with the emission limits in Table 1 or 2 to this subpart and you monitor pressure drop across the absorber or secondary voltage for a wet electrostatic precipitator, you must establish allowable ranges using the methodology specified in paragraphs (d)(1)(ii)(A) and (B) of this section.

(A) The allowable range for the daily averages of the pressure drop across an absorber, or secondary voltage for a wet electrostatic precipitator, is ±20 percent of the baseline average value determined in paragraph (d)(1)(i) of this section. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(B) As an alternative to paragraph (d)(1)(ii)(A) of this section, you may establish allowable ranges for the daily averages of the pressure drop across an absorber, or secondary voltage for an electrostatic precipitator, for the purpose of assuring compliance with this subpart using the procedures described in this paragraph. You must establish the allowable ranges based on the baseline average values recorded during previous performance tests, or the results of performance tests conducted specifically for the purposes of this paragraph. You must conduct all performance tests using the methods specified in § 63.606. You must certify that the control devices and processes have not been modified since the date of the performance test from which you obtained the data used to establish the allowable ranges. When a source using the methodology of this paragraph is retested, you must determine new allowable ranges of baseline average values unless the retest indicates no change in the operating parameters outside the previously established ranges.

(2) You must monitor, record, and demonstrate continuous compliance using the minimum frequencies specified in Table 4 to this subpart.

(3) You must comply with the calibration and quality control requirements that are applicable to the operating parameter(s) you monitor as specified in Table 5 to this subpart.

(4) If you use a non-regenerative adsorption system to achieve the mercury emission limits specified in Table 1 or 2 to this subpart, you must comply with the requirements specified in paragraph (e) of this section.

(5) If you use a sorbent injection system to achieve the mercury emission limits specified in Table 1 or 2 to this subpart and you use a fabric filter to collect the associated particulate matter, the system must meet the requirements for fabric filters specified in paragraph (f) of this section.

(e) If you use a non-regenerative adsorption system to achieve the mercury emission limits specified in Table 1 or 2 to this subpart, you must comply with the requirements specified in paragraphs (e)(1) through (3) of this section.

(1) Determine the adsorber bed life (*i.e.,* the expected life of the sorbent in the adsorption system) using the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) If the adsorber bed is expected (designed) to have a life of less than 2 years, determine the outlet concentration of mercury on a quarterly basis until breakthrough occurs for the first three adsorber bed change-outs. The adsorber bed life shall equal the average length of time between each of the three change-outs.

(ii) If the adsorber bed is expected (designed) to have a life of 2 years or greater, determine the outlet concentration of mercury on a semi-annual basis until breakthrough occurs for the first two adsorber bed change-outs. The adsorber bed life must equal the average length of time between each of the two change-outs.

(iii) If more than one adsorber is operated in parallel, or there are several identical operating lines controlled by adsorbers, you may determine the adsorber bed life by measuring the outlet concentration of mercury from one of the adsorbers or adsorber systems rather than determining the bed life for each adsorber.

(iv) The adsorber or adsorber system you select for the adsorber bed life test must have the highest expected inlet gas mercury concentration and the highest operating rate of any adsorber in operation at the affected source. During the test to determine adsorber bed life, you must use the fuel that contains the highest level of mercury in any fuel-burning unit associated with the adsorption system being tested.

(2) You must replace the sorbent in each adsorber on or before the end of the adsorbent bed life, calculated in paragraph (e)(1) of this section.

(3) You must re-establish the adsorber bed life if the sorbent is replaced with a different brand or type, or if any process changes are made that would lead to a shorter bed lifetime.

(f) Beginning August 19, 2016, if you use a fabric filter system to comply with the emission limits specified in Table 1 or 2 to this subpart, then the fabric filter must be equipped with a bag leak detection system that is installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (f)(1) through (10) of this section.

(1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (*e.g.,* for a positive-pressure fabric filter) of the fabric filter.

(2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic feet) or less.

(3) Use a bag leak detection system equipped with a device to continuously record the output signal from the system sensor.

(4) Use a bag leak detection system equipped with a system that will trigger an alarm when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located such that the alert is observed readily by plant operating personnel.

(5) Install a bag leak detection system in each compartment or cell for positive-pressure fabric filter systems that do not duct all compartments or cells to a common stack. Install a bag leak detector downstream of the fabric filter if a negative-pressure or induced-air filter system is used. If multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(6) Calibration of the bag leak detection system must, at a minimum, consist of establishing the baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(7) After initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as established in your site-specific monitoring plan required in § 63.608(c). In no event may the sensitivity be increased more than 100 percent or decreased by more than 50 percent over a 365-day period unless such adjustment follows a complete inspection of the fabric filter system that demonstrates that the system is in good operating condition.

(8) Operate and maintain each fabric filter and bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. If the alarm sounds more than 5 percent of the operating time during a 6-month period, it is considered an operating parameter exceedance. Calculate the alarm time (*i.e.,* time that the alarm sounds) as specified in paragraphs (f)(8)(i) through (iii) of this section.

(i) If inspection of the fabric filter demonstrates that corrective action is not required, the alarm duration is not counted in the alarm time calculation.

(ii) If corrective action is required, each alarm time is counted as a minimum of 1 hour.

(iii) If it takes longer than 1 hour to initiate corrective action, each alarm time is counted as the actual amount of time taken to initiate corrective action.

(9) If the alarm on a bag leak detection system is triggered, you must initiate procedures within 1 hour of an alarm to identify the cause of the alarm and then initiate corrective action, as specified in § 63.608(d)(2), no later than 48 hours after an alarm. Failure to take these actions within the prescribed time periods is considered a violation.

(10) Retain records of any bag leak detection system alarm, including the date, time, duration, and the percent of the total operating time during each 6-month period that the alarm sounds, with a brief explanation of the cause of the alarm, the corrective action taken, and the schedule and duration of the corrective action.

(g) If you choose to directly monitor mercury emissions instead of using CPMS as specified in paragraph (d) of this section, then you must install and operate a mercury CEMS in accordance with Performance Specification 12A of appendix B to part 60 of this chapter, or a sorbent trap-based integrated monitoring system in accordance with Performance Specification 12B of appendix B to part 60 of this chapter. You must continuously monitor mercury emissions as specified in paragraphs (g)(1) through (4) of this section.

(1) The span value for any mercury CEMS must include the intended upper limit of the mercury concentration measurement range during normal operation, which may be exceeded during other short-term conditions lasting less than 24 consecutive operating hours. However, the span should be at least equivalent to approximately two times the emissions standard. You may round the span value to the nearest multiple of 10 micrograms per cubic meter of total mercury.

(2) You must operate and maintain each mercury CEMS or sorbent trap-based integrated monitoring system according to the quality assurance requirements specified in Procedure 5 of appendix F to part 60 of this chapter.

(3) You must conduct relative accuracy testing of mercury monitoring systems, as specified in Performance Specification 12A, Performance Specification 12B, or Procedure 5 of appendix B to part 60 of this chapter, at normal operating conditions.

(4) If you use a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to your site-specific monitoring plan specified in § 63.608(c).

§ 63.606 Performance tests and compliance provisions.

(a) You must conduct an initial performance test to demonstrate compliance with the applicable emission limits specified in Tables 1 and 2 to this subpart, within 180 days of the applicable compliance date specified in § 63.602.

(b) After you conduct the initial performance test specified in paragraph (a) of this section, you must conduct a performance test once per calendar year.

(c) For affected sources (as defined in § 63.600) that have not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, you must conduct a performance test no later than 180 days after the re-start of the affected source according to the applicable provisions in § 63.7(a)(2).

(d)(1) You must conduct the performance tests specified in this section at representative (normal) conditions for the process. Representative (normal) conditions means those conditions that:

(i) Represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and

(ii) Are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

(2) You must record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(e) In conducting all performance tests, you must use as reference methods and procedures the test methods in 40 CFR part 60, appendix A, or other methods and procedures as specified in this section, except as provided in § 63.7(f).

(f) You must determine compliance with the applicable total fluorides standards specified in Tables 1 and 2 to this subpart as specified in paragraphs (f)(1) through (3) of this section.

(1) Compute the emission rate (E) of total fluorides for each run using Equation AA–1:

$$E = \left(\sum_{i=1}^{N} C_i Q_i \right) / (PK) \qquad \text{(Eq. AA-1)}$$

Where:

E = Emission rate of total fluorides, gram/metric ton (pound/ton) of equivalent P_2O_5 feed.
C_i = Concentration of total fluorides from emission point ''i,'' milligram/dry standard cubic meter (milligram/dry standard cubic feet).
Q_i = Volumetric flow rate of effluent gas from emission point ''i,'' dry standard cubic meter/hour (dry standard cubic feet/hour).
N = Number of emission points associated with the affected facility.
P = Equivalent P_2O_5 feed rate, metric ton/hour (ton/hour).
K = Conversion factor, 1000 milligram/gram (453,600 milligram/pound).

(2) You must use Method 13A or 13B (40 CFR part 60, appendix A) to determine the total fluorides concentration (C_i) and the volumetric flow rate (Q_i) of the effluent gas at each emission point. The sampling time for each run at each emission point must be at least 60 minutes. The sampling volume for each run at each emission point must be at least 0.85 dscm (30 dscf). If Method 13B is used, the fusion of the filtered material described in Section 7.3.1.2 and the distillation of suitable aliquots of containers 1 and 2, described in section 7.3.3 and 7.3.4 in Method 13 A, may be omitted.

(3) Compute the equivalent P_2O_5 feed rate (P) using Equation AA–2:

$$P = M_p R_p \qquad \text{(Eq. AA-2)}$$

Where:

P = P_2O_5 feed rate, metric ton/hr (ton/hour).
M_p = Total mass flow rate of phosphorus-bearing feed, metric ton/hour (ton/hour).
R_p = P_2O_5 content, decimal fraction.

(i) Determine the mass flow rate (M_p) of the phosphorus-bearing feed using the measurement system described in § 63.605(a).

(ii) Determine the P_2O_5 content (R_p) of the feed using, as appropriate, the following methods specified in Methods Used and Adopted By The Association of Florida Phosphate Chemists (incorporated by reference, see § 63.14) where applicable:

(A) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample.

(B) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method A—Volumetric Method.

(C) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method B—Gravimetric Quimociac Method.

(D) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method C—Spectrophotometric Method.

(E) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method A—Volumetric Method.

(F) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method B—Gravimetric Quimociac Method.

(G) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method C—Spectrophotometric Method.

(g) You must demonstrate compliance with the applicable particulate matter standards specified in Tables 1 and 2 to this subpart as specified in paragraphs (g)(1) through (3) of this section.

(1) Compute the emission rate (E) of particulate matter for each run using Equation AA–3:

$$E = (C\ Q) / (P\ K) \qquad \text{(Eq. AA-3)}$$

Where:

E = Emission rate of particulate matter, kilogram/megagram (pound/ton) of phosphate rock feed.
C = Concentration of particulate matter, gram/dry standard cubic meter (gram/dry standard cubic feet).
Q = Volumetric flow rate of effluent gas, dry standard cubic meter/hour (dry standard cubic feet/hour).
P = Phosphate rock feed rate, megagram/hour (ton/hour).
K = Conversion factor, 1000 grams/kilogram (453.6 grams/pound).

(2) Use Method 5 at 40 CFR part 60, appendix A–3 to determine the particulate matter concentration (C) and volumetric flow rate (Q) of the effluent gas. Except as specified in paragraph (h) of this section, the sampling time and

sample volume for each run must be at least 60 minutes and 0.85 dry standard cubic meter (30 dry standard cubic feet).

(3) Use the CMS described in § 63.605(b) to determine the phosphate rock feed rate (P) for each run.

(h) To demonstrate compliance with the particulate matter standards for phosphate rock calciners specified in Tables 1 and 2 to this subpart, you must use Method 5 at 40 CFR part 60, appendix A–3 to determine the particulate matter concentration. The sampling volume for each test run must be at least 1.70 dry standard cubic meter.

(i) To demonstrate compliance with the mercury emission standards for phosphate rock calciners specified in Tables 1 and 2 to this subpart, you must use Method 30B at 40 CFR part 60, appendix A–8 to determine the mercury concentration, unless you use a CEMS to demonstrate compliance. If you use a non-regenerative adsorber to control mercury emissions, you must use this test method to determine the expected bed life as specified in § 63.605(e)(1).

(j) If you choose to monitor the mass flow of product from the phosphate rock dryer or calciner as specified in § 63.605(b)(1)(ii), you must either:

(1) Simultaneously monitor the feed rate and output rate of the phosphate rock dryer or calciner during the performance test, or

(2) Monitor the output rate and the input and output moisture contents of the phosphate rock dryer or calciner during the performance test and calculate the corresponding phosphate rock dryer or calciner input rate.

(k) For sorbent injection systems, you must conduct the performance test at the outlet of the fabric filter used for sorbent collection. You must monitor and record operating parameter values for the fabric filter during the performance test. If the sorbent is replaced with a different brand or type of sorbent than was used during the performance test, you must conduct a new performance test.

(l) If you use a mercury CEMS as specified in § 63.605(g), or paragraph (i) of this section, you must demonstrate initial compliance based on the first 30 operating days during which you operate the affected source using a CEMS. You must obtain hourly mercury concentration and stack gas volumetric flow rate data.

(m) If you use a CMS, you must conduct a performance evaluation, as specified in § 63.8(e), in accordance with your site-specific monitoring plan in § 63.608(c). For fabric filters, you must conduct a performance evaluation of the bag leak detection system consistent with the guidance provided in Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance (incorporated by reference, see § 63.14). You must record the sensitivity of the bag leak detection system to detecting changes in particulate matter emissions, range, averaging period, and alarm set points during the performance test.

§ 63.607 Notification, recordkeeping, and reporting requirements.

(a) You must comply with the notification requirements specified in § 63.9. During the most recent performance test, if you demonstrate compliance with the emission limit while operating your control device outside the previously established operating limit, you must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test. When a source is retested and the performance test results are submitted to the Administrator pursuant to paragraph (b)(1) of this section, § 63.7(g)(1), or § 63.10(d)(2), you must indicate whether the operating limit is based on the new performance test or the previously established limit. Upon establishment of a new operating limit, you must thereafter operate under the new operating limit. If the Administrator determines that you did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, you must conduct a new performance test and establish a new operating limit.

(b) You must comply with the reporting and recordkeeping requirements in § 63.10 as specified in paragraphs (b)(1) through (5) of this section.

(1) You must comply with the general recordkeeping requirements in § 63.10(b)(1).

(2) As required by § 63.10(d), you must report the results of the initial and subsequent performance tests as part of the notification of compliance status required in § 63.9(h). You must verify in the performance test reports that the operating limits for each process have not changed or provide documentation of revised operating limits established according to § 63.605, as applicable. In the notification of compliance status, you must also:

(i) Certify to the Administrator annually that you have complied with the evaporative cooling tower requirements specified in § 63.602(c).

(ii) Submit analyses and supporting documentation demonstrating conformance with the Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance (incorporated by reference, see § 63.14) and specifications for bag leak detection systems as part of the notification of compliance status report.

(iii) Submit the gypsum dewatering stack and cooling pond management plan specified in § 63.602(e).

(iv) If you elect to demonstrate compliance by following the procedures in § 63.605(d)(1)(ii)(B), certify to the Administrator annually that the control devices and processes have not been modified since the date of the performance test from which you obtained the data used to establish the allowable ranges.

(v) Each time a gypsum dewatering stack is closed, certify to the Administrator within 90 days of closure, that the final cover of the closed gypsum dewatering stack is a drought resistant vegetative cover that includes a barrier soil layer that will sustain vegetation.

(3) As required by § 63.10(e)(3), you must submit an excess emissions report for any exceedance of an emission limit, work practice standard, or operating parameter limit if the total duration of the exceedances for the reporting period is 1 percent of the total operating time for the reporting period or greater. The report must contain the information specified in § 63.10 and paragraph (b)(4) of this section. When exceedances of an emission limit or operating parameter have not occurred, you must include such information in the report. You must submit the report semiannually and the report must be delivered or postmarked by the 30th day following the end of the calendar half. If you report exceedances, you must submit the excess emissions report quarterly until a request to reduce reporting frequency is approved as described in § 63.10(e)(3)(ii).

(4) In the event that an affected unit fails to meet an applicable standard, record and report the following information for each failure:

(i) The date, time and duration of the failure.

(ii) A list of the affected sources or equipment for which a failure occurred.

(iii) An estimate of the volume of each regulated pollutant emitted over any emission limit.

(iv) A description of the method used to estimate the emissions.

(v) A record of actions taken to minimize emissions in accordance with § 63.608(b), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(5) You must submit a summary report containing the information specified in § 63.10(e)(3)(vi). You must submit the summary report semiannually and the report must be delivered or postmarked by the 30th day following the end of the calendar half.

(c) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(d) In computing averages to determine compliance with this subpart, you must exclude the monitoring data specified in paragraphs (d)(1) and (2) of this section.

(1) Periods of non-operation of the process unit;

(2) Periods of no flow to a control device; and any monitoring data recorded during CEMS or continuous parameter monitoring system (CPMS) breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments.

(e) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(f) Within 60 days after the date of completing each continuous emissions monitoring system performance evaluation (as defined in § 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (f)(1) or (2) of this section.

(1) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance evaluation data in an electronic file format consistent with the XML schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

§ 63.608 General requirements and applicability of general provisions of this part.

(a) You must comply with the general provisions in subpart A of this part as specified in appendix A to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(c) For each CMS (including CEMS or CPMS) used to demonstrate compliance with any applicable emission limit or work practice, you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan according to the requirements specified in paragraphs (c)(1) through (3) of this section. You must submit the site-specific monitoring plan, if requested by the Administrator, at least 60 days before the initial performance evaluation of the CMS. The requirements of this paragraph also apply if a petition is made to the Administrator for alternative monitoring parameters under § 63.8(f).

(1) You must include the information specified in paragraphs (c)(1)(i) through (vi) of this section in the site-specific monitoring plan.

(i) Location of the CMS sampling probe or other interface. You must include a justification demonstrating that the sampling probe or other interface is at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to this subpart.

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d)(1) and (2) and Table 5 to this subpart.

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must include a schedule for conducting initial and subsequent performance evaluations in the site-specific monitoring plan.

(3) You must keep the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If you revise the site-specific monitoring plan, you must keep previous (*i.e.,* superseded) versions of the plan on site to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. You must include the program of corrective action required under § 63.8(d)(2) in the plan.

(d) For each bag leak detection system installed to comply with the requirements specified in § 63.605(f), you must include the information specified in paragraphs (d)(1) and (2) of this section in the site-specific monitoring plan specified in paragraph (c) of this section.

(1) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations), including how the alarm set point will be established.

(2) A corrective action plan describing corrective actions to be taken and the timing of those actions when the bag leak detection alarm sounds. Corrective actions may include, but are not limited to, the actions specified in paragraphs (d)(2)(i) through (vi) of this section.

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in regulated material emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective fabric filter compartment.

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(vi) Shutting down the process controlled by the fabric filter.

§ 63.609 [Reserved]

§ 63.610 Exemption from new source performance standards.

Any affected source subject to the provisions of this subpart is exempted from any otherwise applicable new source performance standard contained in 40 CFR part 60, subpart T, subpart U, or subpart NN. To be exempt, a source must have a current operating permit pursuant to title V of the Clean Air Act and the source must be in compliance with all requirements of this subpart. For each affected source, this exemption is effective upon the date that you demonstrate to the Administrator that the requirements of §§ 63.605 and 63.606 have been met.

§ 63.611 Implementation and enforcement.

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable state, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a state, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a state, local, or Tribal agency.

(b) The authorities specified in paragraphs (b)(1) through (5) of this section are retained by the Administrator of U.S. EPA and cannot be delegated to State, local, or Tribal agencies.

(1) Approval of alternatives to the requirements in §§ 63.600, 63.602, 63.605, and 63.610.

(2) Approval of requests under §§ 63.7(e)(2)(ii) and 63.7 (f) for alternative requirements or major changes to the test methods specified in this subpart, as defined in § 63.90.

(3) Approval of requests under § 63.8(f) for alternative requirements or major changes to the monitoring requirements specified in this subpart, as defined in § 63.90.

(4) Waiver or approval of requests under § 63.10(f) for alternative requirements or major changes to the recordkeeping and reporting requirements specified in this subpart, as defined in § 63.90.

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

TABLE 1 TO SUBPART AA OF PART 63—EXISTING SOURCE EMISSION LIMITS [a] [b]

For the following existing sources . . .	You must meet the emission limits for the specified pollutant . . .		
	Total fluorides	Total particulate	Mercury
Wet-Process Phosphoric Acid Line	0.020 lb/ton of equivalent P_2O_5 feed.		
Superphosphoric Acid Process Line[c].	0.010 lb/ton of equivalent P_2O_5 feed.		
Superphosphoric Acid Submerged Line with a Submerged Combustion Process.	0.20 lb/ton of equivalent P_2O_5 feed.		
Phosphate Rock Dryer		0.2150 lb/ton of phosphate rock feed.	
Phosphate Rock Calciner	9.0E–04 lb/ton of rock feed[d]	0.181 g/dscm	0.14 mg/dscm corrected to 3 percent oxygen[d]

[a] The existing source compliance date is June 10, 2002, except as noted.

[b] During periods of startup and shutdown, for emission limits stated in terms of pounds of pollutant per ton of feed, you are subject to the work practice standards specified in § 63.602(f).

[c] Beginning on August 19, 2016, you must include oxidation reactors in superphosphoric acid process lines when determining compliance with the total fluorides limit.

[d] Compliance date is August 19, 2015.

TABLE 2 TO SUBPART AA OF PART 63—NEW SOURCE EMISSION LIMITS [a] [b]

For the following new sources . . .	You must meet the emissions limits for the specified pollutant . . .		
	Total fluorides	Total particulate	Mercury
Wet-Process Phosphoric Acid Line	0.0135 lb/ton of equivalent P_2O_5 feed.		
Superphosphoric Acid Process Line [c].	0.00870 lb/ton of equivalent P_2O_5 feed.		
Phosphate Rock Dryer	...	0.060 lb/ton of phosphate rock feed.	
Phosphate Rock Calciner	9.0E–04 lb/ton of rock feed	0.092 g/dscm	0.014 mg/dscm corrected to 3 percent oxygen

[a] The new source compliance dates are based on date of construction or reconstruction as specified in § 63.602(a).

[b] During periods of startup and shutdown, for emission limits stated in terms of pounds of pollutant per ton of feed, you are subject to the work practice standards specified in § 63.602(f).

[c] Beginning on August 19, 2016, you must include oxidation reactors in superphosphoric acid process lines when determining compliance with the total fluorides limit.

TABLE 3 TO SUBPART AA OF PART 63—MONITORING EQUIPMENT OPERATING PARAMETERS

You must . . .	If . . .	And you must monitor . . .	And . . .
Absorbers (Wet Scrubbers)			
Install a continuous parameter monitoring system (CPMS) for liquid flow at the inlet of the absorber.	Your absorber is designed and operated with pressure drops of 5 inches of water column or more; and you choose to monitor only the influent liquid flow, rather than the liquid-to-gas ratio.	Influent liquid flow.	
Install CPMS for liquid and gas flow at the inlet of the absorber.	Your absorber is designed and operated with pressure drops of 5 inches of water column or less; or. Your absorber is designed and operated with pressure drops of 5 inches of water column or more, and you choose to monitor the liquid-to-gas ratio, rather than only the influent liquid flow, and you want the ability to lower liquid flow with changes in gas flow.	Liquid-to-gas ratio as determined by dividing the influent liquid flow rate by the inlet gas flow rate. The units of measure must be consistent with those used to calculate this ratio during the performance test.	You must measure the gas stream by: Measuring the gas stream flow at the absorber inlet; or Using the design blower capacity, with appropriate adjustments for pressure drop.
Install CPMS for pressure at the gas stream inlet and outlet of the absorber.	Your absorber is designed and operated with pressure drops of 5 inches of water column or more.	Pressure drop through the absorber.	You may measure the pressure of the inlet gas using amperage on the blower if a correlation between pressure and amperage is established
Sorbent Injection			
Install a CPMS for flow rate	...	Sorbent injection rate.	
Install a CPMS for flow rate	...	Sorbent injection carrier gas flow rate.	
Wet Electrostatic Precipitators			
Install secondary voltage meter.	You control mercury or metal HAP (particulate matter) using an electrostatic precipitator.	Secondary voltage.	

TABLE 4 TO SUBPART AA OF PART 63—OPERATING PARAMETERS, OPERATING LIMITS AND DATA MONITORING, RECORDKEEPING AND COMPLIANCE FREQUENCIES

For the operating parameter applicable to you, as specified in Table 3 . . .	You must establish the following operating limit . . .	And you must monitor, record, and demonstrate continuous compliance using these minimum frequencies . . .		
		Data measurement	Data recording	Data averaging period for compliance
Absorbers (Wet Scrubbers)				
Influent liquid flow	Minimum inlet liquid flow	Continuous	Every 15 minutes.	Daily.
Influent liquid flow rate and gas stream flow rate.	Minimum influent liquid-to-gas ratio	Continuous	Every 15 minutes.	Daily.

TABLE 4 TO SUBPART AA OF PART 63—OPERATING PARAMETERS, OPERATING LIMITS AND DATA MONITORING, RECORDKEEPING AND COMPLIANCE FREQUENCIES—Continued

For the operating parameter applicable to you, as specified in Table 3 . . .	You must establish the following operating limit . . .	And you must monitor, record, and demonstrate continuous compliance using these minimum frequencies . . .		
		Data measurement	Data recording	Data averaging period for compliance
Pressure drop	Pressure drop range	Continuous	Every 15 minutes.	Daily.
Sorbent Injection				
Sorbent injection rate	Minimum injection rate	Continuous	Every 15 minutes.	Daily.
Sorbent injection carrier gas flow rate.	Minimum carrier gas flow rate	Continuous	Every 15 minutes.	Daily.
Fabric Filters				
Alarm time	Maximum alarm time is not established on a site-specific basis but is specified in § 63.605(f)(9).	Continuous	Each date and time of alarm start and stop.	Maximum alarm time specified in § 63.605(f)(9).
Wet Electrostatic Precipitator				
Secondary voltage	Secondary voltage range	Continuous	Every 15 minutes.	Daily.

TABLE 5 TO SUBPART AA OF PART 63—CALIBRATION AND QUALITY CONTROL REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEM (CPMS)

If you monitor this parameter . . .	Your accuracy requirements are . . .	And your calibration requirements are . . .
Temperature	±1 percent over the normal range of temperature measured or 2.8 degrees Celsius (5 degrees Fahrenheit), whichever is greater, for non-cryogenic temperature ranges. ±2.5 percent over the normal range of temperature measured or 2.8 degrees Celsius (5 degrees Fahrenheit), whichever is greater, for cryogenic temperature ranges.	Performance evaluation annually and following any period of more than 24 hours throughout which the temperature exceeded the maximum rated temperature of the sensor, or the data recorder was off scale. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant temperature sensor. Selection of a representative measurement location.
Flow Rate	±5 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater, for liquid flow rate. ±5 percent over the normal range of flow measured or 280 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow rate. ±5 percent over the normal range measured for mass flow rate.	Performance evaluation annually and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant flow sensor. Selection of a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
Pressure	±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.	Checks for obstructions (*e.g.,* pressure tap pluggage) at least once each process operating day. Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months, unless the CPMS has a redundant pressure sensor. Selection of a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

TABLE 5 TO SUBPART AA OF PART 63—CALIBRATION AND QUALITY CONTROL REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEM (CPMS)—Continued

If you monitor this parameter . . .	Your accuracy requirements are . . .	And your calibration requirements are . . .
Sorbent Injection Rate	±5 percent over the normal range measured	Performance evaluation annually. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant sensor. Select a representative measurement location that provides measurement of total sorbent injection.
Secondary voltage	±1kV	

APPENDIX A TO SUBPART AA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART AA

40 CFR citation	Requirement	Applies to subpart AA	Comment
§ 63.1(a)(1) through (4)	General Applicability	Yes	None.
§ 63.1(a)(5)		No	[Reserved].
§ 63.1(a)(6)	Contact information	Yes	None.
§ 63.1(a)(7)–(9)		No	[Reserved].
§ 63.1(a)(10) through (12)	Time periods	Yes	None.
§ 63.1(b)	Initial Applicability Determination	Yes	None.
§ 63.1(c)(1)	Applicability After Standard Established	Yes	None.
§ 63.1(c)(2)	Permits	Yes	Some plants may be area sources.
§ 63.1(c)(3)–(4)		No	[Reserved].
§ 63.1(c)(5)	Area to Major source change	Yes	None.
§ 63.1(d)		No	[Reserved].
§ 63.1(e)	Applicability of Permit Program	Yes	None.
§ 63.2	Definitions	Yes	Additional definitions in § 63.601.
§ 63.3	Units and Abbreviations	Yes	None.
§ 63.4(a)(1) and (2)	Prohibited Activities	Yes	None.
§ 63.4(a)(3) through (5)		No	[Reserved].
§ 63.4(b) and (c)	Circumvention/Fragmentation	Yes	None.
§ 63.5(a)	Construction/Reconstruction Applicability.	Yes	None.
§ 63.5(b)(1)	Existing, New, Reconstructed Sources Requirements.	Yes	None.
§ 63.5(b)(2)		No	[Reserved].
§ 63.5(b)(3), (4), and (6)	Construction/Reconstruction approval and notification.	Yes	None.
§ 63.5(b)(5)		No	[Reserved].
§ 63.5(c)		No	[Reserved].
§ 63.5(d)	Application for Approval of Construction/Reconstruction.	Yes	None.
§ 63.5(e)	Approval of Construction/Reconstruction	Yes	None.
§ 63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes	None.
§ 63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes	None.
§ 63.6(b)(1) through (5)	New and Reconstructed Sources Dates	Yes	See also § 63.602.
§ 63.6(b)(6)		No	[Reserved].
§ 63.6(b)(7)	Area to major source change	Yes	None.
§ 63.6(c)(1)and (2)	Existing Sources Dates	Yes	§ 63.602 specifies dates.
§ 63.6(c)(3) and (4)		No	[Reserved].
§ 63.6(c)(5)	Area to major source change	Yes	None.
§ 63.6(d)		No	[Reserved].
§ 63.6(e)(1)(i) and (ii)	Operation & Maintenance Requirements	No	See § 63.608(b) for general duty requirement.
§ 63.6(e)(iii)		Yes	None.
§ 63.6(e)(2)		No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan.	No	None.
§ 63.6(f)	Compliance with Emission Standards	No	See general duty at § 63.608(b).
§ 63.6(g)	Alternative Standard	Yes	None.
§ 63.6(h)	Compliance with Opacity/VE Standards	No	Subpart AA does not include VE/opacity standards.
§ 63.6(i)(1) through (14)	Extension of Compliance	Yes	None.
§ 63.6(i)(15)		No	[Reserved].
§ 63.6(i)(16)		Yes	None.
§ 63.6(j)	Exemption from Compliance	Yes	None.
§ 63.7(a)	Performance Test Requirements Applicability.	Yes	None.

APPENDIX A TO SUBPART AA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART AA—Continued

40 CFR citation	Requirement	Applies to subpart AA	Comment
§ 63.7(b)	Notification	Yes	None.
§ 63.7(c)	Quality Assurance/Test Plan	Yes	None.
§ 63.7(d)	Testing Facilities	Yes	None.
§ 63.7(e)(1)	Conduct of Tests; startup, shutdown, and malfunction provisions.	No	§ 63.606 specifies additional requirements.
§ 63.7(e)(2) through (4)	Conduct of Tests	Yes	§ 63.606 specifies additional requirements.
§ 63.7(f)	Alternative Test Method	Yes	None.
§ 63.7(g)	Data Analysis	Yes	None.
§ 63.7(h)	Waiver of Tests	Yes	None.
§ 63.8(a)	Monitoring Requirements Applicability	Yes	None.
§ 63.8(b)	Conduct of Monitoring	Yes	None.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation.	No	See 63.608(b) for general duty requirement.
§ 63.8(c)(1)(ii)		Yes	None.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS.	No	None.
§ 63.8(c)(2) through (4)	CMS Operation/Maintenance	Yes	None.
§ 63.8(c)(5)	COMS Operation	No	Subpart AA does not require COMS.
§ 63.8(c)(6) through (8)	CMS requirements	Yes	None.
§ 63.8(d)(1) and (2)	Quality Control	Yes	None.
§ 63.8(d)(3)	Written procedure for CMS	No	See § 63.608 for requirement.
§ 63.8(e)	CMS Performance Evaluation	Yes	None.
§ 63.8(f)(1) through (5)	Alternative Monitoring Method	Yes	None.
§ 63.8(f)(6)	Alternative to RATA Test	Yes	None.
§ 63.8(g)(1)	Data Reduction	Yes	None.
§ 63.8(g)(2)		Yes	None.
§ 63.8(g)(3) through (5)		Yes	None.
§ 63.9(a)	Notification Requirements Applicability	Yes	None.
§ 63.9(b)	Initial Notifications	Yes	None.
§ 63.9(c)	Request for Compliance Extension	Yes	None.
§ 63.9(d)	New Source Notification for Special Compliance Requirements.	Yes	None.
§ 63.9(e)	Notification of Performance Test	Yes	None.
§ 63.9(f)	Notification of VE/Opacity Test	No	Subpart AA does not include VE/opacity standards.
§ 63.9(g)	Additional CMS Notifications	Yes	Subpart AA does not require CMS performance evaluation, COMS, or CEMS.
§ 63.9(h)(1) through (3)	Notification of Compliance Status	Yes	None.
§ 63.9(h)(4)		No	[Reserved].
§ 63.9(h)(5) and (6)		Yes	None.
§ 63.9(i)	Adjustment of Deadlines	Yes	None.
§ 63.9(j)	Change in Previous Information	Yes	None.
§ 63.10(a)	Recordkeeping/Reporting-Applicability	Yes	None.
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes	None.
§ 63.10(b)(2)(i)	Startup or shutdown duration	No	None.
§ 63.10(b)(2)(ii)	Malfunction	No	See § 63.607 for recordkeeping and reporting requirement.
§ 63.10(b)(2)(iii)	Maintenance records	Yes	None.
§ 63.10(b)(2)(iv) and (v)	Startup, shutdown, malfunction actions	No	None.
§ 63.10(b)(2)(vi) through (xiv)	General Recordkeeping Requirements	Yes	None.
§ 63.10(b)(3)	General Recordkeeping Requirements	Yes	None.
§ 63.10(c)(1)	Additional CMS Recordkeeping	Yes	None.
§ 63.10(c)(2) through (4)		No	[Reserved].
§ 63.10(c)(5)		Yes	None.
§ 63.10(c)(6)		Yes	None.
§ 63.10(c)(7) and (8)		Yes	None.
§ 63.10(c)(9)		No	[Reserved].
§ 63.10(c)(10) through (13)		Yes	None.
§ 63.10(c)(14)		Yes	None.
§ 63.10(c)(15)	Startup Shutdown Malfunction Plan Provisions.	No	None.
§ 63.10(d)(1)	General Reporting Requirements	Yes	None.
§ 63.10(d)(2)	Performance Test Results	Yes	None.
§ 63.10(d)(3)	Opacity or VE Observations	No	Subpart AA does not include VE/opacity standards.
§ 63.10(d)(4)	Progress Reports	Yes	None.
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	No	See § 63.607 for reporting of excess emissions.

APPENDIX A TO SUBPART AA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART AA—Continued

40 CFR citation	Requirement	Applies to subpart AA	Comment
§ 63.10(e)(1) and (2)	Additional CMS Reports	Yes	None.
§ 63.10(e)(3)	Excess Emissions/CMS Performance Reports.	Yes	None.
§ 63.10(e)(4)	COMS Data Reports	No	Subpart AA does not require COMS.
§ 63.10(f)	Recordkeeping/Reporting Waiver	Yes	None.
§ 63.11	Control Device and Work Practice Requirements.	Yes	None.
§ 63.12	State Authority and Delegations	Yes	None.
§ 63.13	Addresses	Yes	None.
§ 63.14	Incorporation by Reference	Yes	None.
§ 63.15	Information Availability/Confidentiality	Yes	None.
§ 63.16	Performance Track Provisions	No	Terminated.

■ 21. Part 63 is amended by revising subpart BB to read as follows:

Subpart BB—National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizers Production Plants

§ 63.620 Applicability.

(a) Except as provided in paragraphs (c) and (d) of this section, you are subject to the requirements of this subpart if you own or operate a phosphate fertilizer production plant that is a major source as defined in § 63.2. You must comply with the emission limitations, work practice standards, and operating parameter requirements specified in this subpart at all times.

(b) The requirements of this subpart apply to emissions of hazardous air pollutants (HAP) emitted from the following affected sources at a phosphate fertilizer production plant:

(1) Each phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line).

(2) Each granular triple superphosphate process line.

(3) Each granular triple superphosphate storage building.

(4) Evaporative cooling tower.

(c) The requirements of this subpart do not apply to a phosphate fertilizer production plant that is an area source as defined in § 63.2.

(d) The provisions of this subpart do not apply to research and development facilities as defined in § 63.621.

§ 63.621 Definitions.

Terms used in this subpart are defined in § 63.2 of the Clean Air Act and in this section as follows:

Diammonium and/or monoammonium phosphate process line means any process line manufacturing granular diammonium and/or monoammonium phosphate by reacting ammonia with phosphoric acid that has been derived from or manufactured by reacting phosphate rock and acid. A diammonium and/or monoammonium phosphate process line includes: Reactors, granulators, dryers, coolers, screens, and mills.

Equivalent P_2O_5 feed means the quantity of phosphorus, expressed as phosphorus pentoxide (P_2O_5), fed to the process.

Equivalent P_2O_5 stored means the quantity of phosphorus, expressed as phosphorus pentoxide, being cured or stored in the affected facility.

Evaporative cooling tower means an open-water, re-circulating device that uses fans or natural draft to draw or force ambient air through the device to remove heat from process water by direct contact.

Exceedance means a departure from an indicator range established for monitoring under this subpart, consistent with any averaging period specified for averaging the results of the monitoring.

Existing source depends on the date that construction or reconstruction of an affected source commenced. A phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, or granular triple superphosphate storage is an existing source if construction or reconstruction of the affected source commenced on or before December 27, 1996.

Fresh granular triple superphosphate means granular triple superphosphate produced within the preceding 72 hours.

Granular triple superphosphate process line means any process line, not including storage buildings, that manufactures granular triple superphosphate by reacting phosphate rock with phosphoric acid. A granular triple superphosphate process line includes: mixers, curing belts (dens), reactors, granulators, dryers, coolers, screens, and mills.

Granular triple superphosphate storage building means any building curing or storing fresh granular triple superphosphate. A granular triple superphosphate storage building includes: storage or curing buildings, conveyors, elevators, screens, and mills.

New source depends on the date that construction or reconstruction of an affected source commences. A phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, or granular triple superphosphate storage is a new source if construction or reconstruction of the affected source commenced after December 27, 1996.

Phosphate fertilizer process line means any process line that manufactures a granular phosphate fertilizer by reacting phosphoric acid with ammonia. A phosphate fertilizer process line includes: reactors, granulators, dryers, coolers, screens, and mills.

Phosphate fertilizer production plant means any production plant that manufactures a granular phosphate fertilizer by reacting phosphoric acid with ammonia.

Research and development facility means research or laboratory operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and where the facility is not engaged in the manufacture of products for commercial sale in commerce or other off-site distribution, except in a de minimis manner.

Shutdown commences when feed materials cease to be added to an affected source and ends when the affected source is deactivated, regardless of whether feed material is present in the affected source.

Startup commences when any feed material is first introduced into an affected source and ends when feed material is fully loaded into the affected source.

Total fluorides means elemental fluorine and all fluoride compounds, including the HAP hydrogen fluoride, as measured by reference methods specified in 40 CFR part 60, appendix A, Method 13 A or B, or by equivalent or alternative methods approved by the Administrator pursuant to § 63.7(f).

§ 63.622 Standards and compliance dates.

(a) On and after the dates specified in paragraphs (a)(1) through (3) of this section, for each phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, and granular triple superphosphate storage building, you must comply with the emission limits as specified in paragraphs (a)(1) through (3) of this section. If a process line contains more than one emission point, you must sum the emissions from all emission points in a process line to determine compliance with the specified emission limits.

(1) For each existing phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, and granular triple superphosphate storage building that commenced construction or reconstruction on or before December 27, 1996, you must comply with the emission limits specified in Table 1 to this subpart beginning on June 10, 2002.

(2) For each new phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, and granular triple superphosphate storage building that commences construction or reconstruction after December 27, 1996 and on or before August 19, 2015, you must comply with the emission limits specified in Table 2 to this subpart beginning on June 10, 1999 or at startup, whichever is later.

(3) For each new phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), granular triple superphosphate process line, and granular triple superphosphate storage building that commences construction or reconstruction after August 19, 2015, you must comply with the emission limits specified in Table 2 to this subpart immediately upon startup.

(b) Beginning on June 10, 2002, you must not ship fresh granular triple superphosphate from your existing granular triple superphosphate storage building that commenced construction or reconstruction on or before December 27, 1996. Beginning on June 10, 1999 or at startup, whichever is later, you must not ship fresh granular triple superphosphate from your new granular triple superphosphate storage building that commences construction or reconstruction after December 27, 1996.

(c) Beginning on August 19, 2015, you must not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment.

(d) Beginning on August 19, 2015, during periods of startup and shutdown (as defined in § 63.621), you must comply with the work practice specified in this paragraph in lieu of the emission limits specified in paragraph (a) of this section. During periods of startup and shutdown, you must operate any control device(s) being used at the affected source, monitor the operating parameters specified in Table 3 of this subpart, and comply with the operating limits specified in Table 4 of this subpart.

§ 63.623 [Reserved]

§ 63.624 [Reserved]

§ 63.625 Operating and monitoring requirements.

(a) For each phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), or granular triple superphosphate process line subject to the provisions of this subpart, you must comply with the monitoring requirements specified in paragraphs (a)(1) and (2) of this section.

(1) Install, calibrate, maintain, and operate a continuous monitoring system (CMS) according to your site-specific monitoring plan specified in § 63.628(c). The CMS must have an accuracy of ±5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing material fed to the process.

(2) Maintain a daily record of equivalent P_2O_5 feed. Calculate the equivalent P_2O_5 feed by determining the total mass rate in metric ton/hour of phosphorus bearing feed using the procedures specified in § 63.626(f)(3).

(b) For each granular triple superphosphate storage building subject to the provisions of this subpart, you must maintain an accurate record of the mass of granular triple superphosphate in storage to permit the determination of the amount of equivalent P_2O_5 stored.

(c) For each granular triple superphosphate storage building subject to the provisions of this subpart, you must comply with the requirements specified in paragraphs (c)(1) and (2) of this section.

(1) Maintain a daily record of total equivalent P_2O_5 stored by multiplying the percentage P_2O_5 content, as determined by § 63.626(f)(3)(ii), by the total mass of granular triple superphosphate stored as specified in paragraph (b) of this section.

(2) Develop for approval by the Administrator a site-specific methodology including sufficient recordkeeping for the purposes of demonstrating compliance with § 63.622(b).

(d) If you use a control device(s) to comply with the emission limits specified in Table 1 or 2 of this subpart, you must install a continuous parameter monitoring system (CPMS) and comply with the requirements specified in paragraphs (d)(1) through (4) of this section.

(1) You must monitor the operating parameter(s) applicable to the control device that you use as specified in Table 3 to this subpart and establish the applicable limit or range for the operating parameter limit as specified in

paragraphs (d)(1)(i) and (ii) of this section, as applicable.

(i) Except as specified in paragraph (d)(1)(ii) of this section, determine the value(s) as the arithmetic average of operating parameter measurements recorded during the three test runs conducted for the most recent performance test.

(ii) If you use an absorber to comply with the emission limits in Table 1 or 2 to this subpart and you monitor pressure drop across the absorber, you must establish allowable ranges using the methodology specified in paragraphs (d)(1)(ii)(A) and (B) of this section.

(A) The allowable range for the daily averages of the pressure drop across each absorber is ±20 percent of the baseline average value determined in paragraph (d)(1)(i) of this section. The Administrator retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that a source's level of emissions is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

(B) As an alternative to paragraph (d)(1)(ii)(A) of this section, you may establish allowable ranges for the daily averages of the pressure drop across an absorber for the purpose of assuring compliance with this subpart using the procedures described in this paragraph. You must establish the allowable ranges based on the baseline average values recorded during previous performance tests or the results of performance tests conducted specifically for the purposes of this paragraph. You must conduct all performance tests using the methods specified in § 63.626. You must certify that the control devices and processes have not been modified since the date of the performance test from which you obtained the data used to establish the allowable ranges. When a source using the methodology of this paragraph is retested, you must determine new allowable ranges of baseline average values unless the retest indicates no change in the operating parameters outside the previously established ranges.

(2) You must monitor, record, and demonstrate continuous compliance using the minimum frequencies specified in Table 4 to this subpart.

(3) You must comply with the calibration and quality control requirements that are applicable to the operating parameter(s) you monitor as specified in Table 5 to this subpart.

(4) If you use a fabric filter system to comply with the emission limits specified in Table 1 or 2 to this subpart, the system must meet the requirements for fabric filters specified in paragraph (e) of this section.

(e) Beginning August 19, 2016, if you use a fabric filter system to comply with the emission limits specified in Table 1 or 2 to this subpart, then the fabric filter must be equipped with a bag leak detection system that is installed, calibrated, maintained and continuously operated according to the requirements in paragraphs (e)(1) through (10) of this section.

(1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (*e.g.,* for a positive-pressure fabric filter) of the fabric filter.

(2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic feet) or less.

(3) Use a bag leak detection system equipped with a device to continuously record the output signal from the system sensor.

(4) Use a bag leak detection system equipped with a system that will trigger an alarm when an increase in relative particulate material emissions over a preset level is detected. The alarm must be located such that the alert is observed readily by plant operating personnel.

(5) Install a bag leak detection system in each compartment or cell for positive-pressure fabric filter systems that do not duct all compartments or cells to a common stack. Install a bag leak detector downstream of the fabric filter if a negative-pressure or induced-air filter is used. If multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(6) Calibration of the bag leak detection system must, at a minimum, consist of establishing the baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(7) After initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time, except as established in your site-specific monitoring plan required in § 63.628(c). In no event may the sensitivity be increased more than 100 percent or decreased by more than 50 percent over a 365-day period unless such adjustment follows a complete inspection of the fabric filter system that demonstrates that the system is in good operating condition.

(8) Operate and maintain each fabric filter and bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. If the alarm sounds more than 5 percent of the operating time during a 6-month period, it is considered an operating parameter exceedance. Calculate the alarm time (*i.e.,* time that the alarm sounds) as specified in paragraphs (e)(8)(i) through (iii) of this section.

(i) If inspection of the fabric filter demonstrates that corrective action is not required, the alarm duration is not counted in the alarm time calculation.

(ii) If corrective action is required, each alarm time is counted as a minimum of 1 hour.

(iii) If it takes longer than 1 hour to initiate corrective action, each alarm time (*i.e.,* time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.

(9) If the alarm on a bag leak detection system is triggered, you must initiate procedures within 1 hour of an alarm to identify the cause of the alarm and then initiate corrective action, as specified in § 63.628(d)(2), no later than 48 hours after an alarm. Failure to take these actions within the prescribed time periods is considered a violation.

(10) Retain records of any bag leak detection system alarm, including the date, time, duration, and the percent of the total operating time during each 6-month period that the alarm triggers, with a brief explanation of the cause of the alarm, the corrective action taken, and the schedule and duration of the corrective action.

§ 63.626 Performance tests and compliance provisions.

(a) You must conduct an initial performance test to demonstrate compliance with the emission limits specified in Tables 1 and 2 to this subpart, within 180 days of the applicable compliance date specified in § 63.622.

(b) After you conduct the initial performance test specified in paragraph (a) of this section, you must conduct a performance test once per calendar year.

(c) For affected sources (as defined in § 63.620) that have not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, you must conduct a performance test no later than 180 days after the re-start of the affected source according to the applicable provisions in § 63.7(a)(2).

(d)(1) You must conduct the performance tests specified in this section at representative (normal) conditions for the process. Representative (normal) conditions means those conditions that:

(i) Represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and

(ii) Are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition.

(2) Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test. You must record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(e) In conducting all performance tests, you must use as reference methods and procedures the test methods in 40 CFR part 60, appendix A, or other methods and procedures as specified in this section, except as provided in § 63.7(f).

(f) For each phosphate fertilizer process line (*e.g.,* diammonium and/or monoammonium phosphate process line), and granular triple superphosphate process line, you must determine compliance with the applicable total fluorides standards specified in Tables 1 and 2 to this subpart as specified in paragraphs (f)(1) through (3) of this section.

(1) Compute the emission rate (E) of total fluorides for each run using Equation BB–1:

$$E = \left(\sum_{i=1}^{N} C_i Q_i \right) / (PK) \qquad \text{(Eq. BB-1)}$$

Where:

E = Emission rate of total fluorides, gram/metric ton (pound/ton) of equivalent P_2O_5 feed.

Ci = Concentration of total fluorides from emission point ''i,'' milligram/dry standard cubic meter (milligram/dry standard cubic feet).

Qi = Volumetric flow rate of effluent gas from emission point ''i,'' dry standard cubic meter/hour (dry standard cubic feet/hour).

N = Number of emission points associated with the affected facility.

P = Equivalent P_2O_5 feed rate, metric ton/hour (ton/hour).

K = Conversion factor, 1000 milligram/gram (453,600 milligram/pound).

(2) You must use Method 13A or 13B (40 CFR part 60, appendix A) to determine the total fluorides concentration (C_i) and the volumetric flow rate (Q_i) of the effluent gas at each emission point. The sampling time for each run at each emission point must be at least 60 minutes. The sampling volume for each run at each emission point must be at least 0.85 dscm (30 dscf). If Method 13B is used, the fusion of the filtered material described in Section 7.3.1.2 and the distillation of suitable aliquots of containers 1 and 2, described in section 7.3.3 and 7.3.4 in Method 13 A, may be omitted.

(3) Compute the equivalent P_2O_5 feed rate (P) using Equation BB–2:

$$P = M_p R_p \qquad \text{(Eq. BB-2)}$$

Where:

P = P_2O_5 feed rate, metric ton/hour (ton/hour).

M_p = Total mass flow rate of phosphorus-bearing feed, metric ton/hour (ton/hour).

R_p = P_2O_5 content, decimal fraction.

(i) Determine the mass flow rate (M_p) of the phosphorus-bearing feed using the measurement system described in § 63.625(a).

(ii) Determine the P_2O_5 content (R_p) of the feed using, as appropriate, the following methods specified in the Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists (incorporated by reference, see § 63.14) where applicable:

(A) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample.

(B) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method A—Volumetric Method.

(C) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method B—Gravimetric Quimociac Method.

(D) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or Ca3(PO$_4$)$_2$, Method C—Spectrophotometric Method.

(E) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method A—Volumetric Method.

(F) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method B—Gravimetric Quimociac Method.

(G) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method C—Spectrophotometric Method.

(g) For each granular triple superphosphate storage building, you must determine compliance with the applicable total fluorides standards specified in Tables 1 and 2 to this subpart as specified in paragraphs (g)(1) through (7) of this section.

(1) You must conduct performance tests only when the following quantities of product are being cured or stored in the facility:

(i) Total granular triple superphosphate is at least 10 percent of the building capacity, and

(ii) Fresh granular triple superphosphate is at least six percent of the total amount of granular triple superphosphate, or

(iii) If the provision in paragraph (g)(1)(ii) of this section exceeds production capabilities for fresh granular triple superphosphate, the fresh granular triple superphosphate is equal to at least 5 days maximum production.

(2) Compute the emission rate (E) of total fluorides for each run using Equation BB–3:

$$E = \left(\sum_{i=1}^{N} C_i Q_i \right) / (PK) \qquad \text{(Eq. BB-3)}$$

Where:

E = Emission rate of total fluorides, gram/hour/metric ton (pound/hour/ton) of equivalent P_2O_5 stored.

C_i = Concentration of total fluorides from emission point ''i'', milligram/dry standard cubic meter (milligram/dry standard cubic feet).

Q_i = Volumetric flow rate of effluent gas from emission point ''i'', dry standard cubic meter/hour (dry standard cubic feet/hour).

N = Number of emission points in the affected facility.

P = Equivalent P_2O_5 stored, metric tons (tons).

K = Conversion factor, 1000 milligram/gram (453,600 milligram/pound).

(3) You must use Method 13A or 13B (40 CFR part 60, appendix A) to determine the total fluorides concentration (C_i) and the volumetric flow rate (Q_i) of the effluent gas at each emission point. The sampling time for each run at each emission point must be at least 60 minutes. The sampling volume for each run at each emission point must be at least 0.85 dscm (30 dscf). If Method 13B is used, the fusion of the filtered material described in Section 7.3.1.2 and the distillation of suitable aliquots of containers 1 and 2, described in section 7.3.3 and 7.3.4 in Method 13A, may be omitted.

(4) Compute the equivalent P_2O_5 stored (P) using Equation BB–4:

$$P = M_p R_p \qquad \text{(Eq. BB-4)}$$

Where:

P = P_2O_5 stored (ton).

M_p = Amount of product in storage, metric ton (ton).

R_p = P_2O_5 content of product in storage, weight fraction.

(5) Determine the amount of product (M_p) in storage using the measurement system described in § 63.625(b) and (c).

(6) Determine the P_2O_5 content (R_p) of the product stored using, as appropriate, the following methods specified in the Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists (incorporated by reference, see § 63.14) where applicable:

(i) Section XI, Methods of Analysis For Phosphoric Acid, Superphosphate, Triple superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method A—Volumetric Method.

(ii) Section XI, Methods of Analysis For Phosphoric Acid, Superphosphate, Triple superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method B—Gravimetric Quimociac Method.

(iii) Section XI, Methods of Analysis For Phosphoric Acid, Superphosphate, Triple superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method C—Spectrophotometric Method, or,

(7) Determine the P_2O_5 content (R_p) of the product stored using, as appropriate, the following methods specified in the Official Methods of Analysis of AOAC International (incorporated by reference, see § 63.14) where applicable:

(i) AOAC Official Method 957.02 Phosphorus (Total) In Fertilizers, Preparation of Sample Solution.

(ii) AOAC Official Method 929.01 Sampling of Solid Fertilizers.

(iii) AOAC Official Method 929.02 Preparation of Fertilizer Sample.

(iv) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method.

(v) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method.

(vi) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method.

(vii) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method.

(h) If you use a CMS, you must conduct a performance evaluation, as specified in § 63.8(e), in accordance with your site-specific monitoring plan in § 63.628(c). For fabric filters, you must conduct a performance evaluation of the bag leak detection system consistent with the guidance provided in Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance (incorporated by reference, see § 63.14). You must record the sensitivity of the bag leak detection system to detecting changes in particulate matter emissions, range, averaging period, and alarm set points during the performance test.

§ 63.627 Notification, recordkeeping, and reporting requirements.

(a) You must comply with the notification requirements specified in § 63.9. During the most recent performance test, if you demonstrate compliance with the emission limit while operating your control device outside the previously established operating limit, you must establish a new operating limit based on that most recent performance test and notify the Administrator that the operating limit changed based on data collected during the most recent performance test. When a source is retested and the performance test results are submitted to the Administrator pursuant to paragraph (b)(1) of this section, § 63.7(g)(1), or § 63.10(d)(2), you must indicate whether the operating limit is based on the new performance test or the previously established limit. Upon establishment of a new operating limit, you must thereafter operate under the new operating limit. If the Administrator determines that you did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, you must conduct a new performance test and establish a new operating limit.

(b) You must comply with the reporting and recordkeeping requirements in § 63.10 as specified in paragraphs (b)(1) through (5) of this section.

(1) You must comply with the general recordkeeping requirements in § 63.10(b)(1); and

(2) As required by § 63.10(d), you must report the results of the initial and subsequent performance tests as part of the notification of compliance status required in § 63.9(h). You must verify in the performance test reports that the operating limits for each process have not changed or provide documentation of revised operating limits established according to § 63.625, as applicable. In the notification of compliance status, you must also:

(i) Certify to the Administrator that you have not shipped fresh granular triple superphosphate from an affected facility.

(ii) Certify to the Administrator annually that you have complied with the evaporative cooling tower requirements specified in § 63.622(c).

(iii) Submit analyses and supporting documentation demonstrating conformance with the Office Of Air Quality Planning And Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance (incorporated by reference, see § 63.14) and specifications for bag leak detection systems as part of the notification of compliance status report.

(iv) If you elect to demonstrate compliance by following the procedures in § 63.625(d)(1)(ii)(B), certify to the Administrator annually that the control devices and processes have not been modified since the date of the performance test from which you obtained the data used to establish the allowable ranges.

(3) As required by § 63.10(e)(1), you must submit an excess emissions report for any exceedance of an emission or operating parameter limit if the total duration of the exceedances for the reporting period is 1 percent of the total operating time for the reporting period or greater. The report must contain the information specified in § 63.10 and paragraph (b)(4) of this section. When exceedances of an emission limit or operating parameter have not occurred, you must include such information in the report. You must submit the report semiannually and the report must be delivered or postmarked by the 30th day following the end of the calendar half. If exceedances are reported, you must submit the excess emissions report quarterly until a request to reduce reporting frequency is approved as described in § 63.10(e)(3).

(4) In the event that an affected unit fails to meet an applicable standard, record and report the following information for each failure:

(i) The date, time and duration of the failure.

(ii) A list of the affected sources or equipment for which a failure occurred.

(iii) An estimate of the volume of each regulated pollutant emitted over any emission limit.

(iv) A description of the method used to estimate the emissions.

(v) A record of actions taken to minimize emissions in accordance with § 63.628(b), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(5) You must submit a summary report containing the information specified in § 63.10(e)(3)(vi). You must submit the summary report semiannually and the report must be delivered or postmarked by the 30th day following the end of the calendar half.

(c) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on site, or accessible from a central location by computer or other means that instantly provide access at the site, for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(d) In computing averages to determine compliance with this subpart, you must exclude the monitoring data specified in paragraphs (d)(1) through (3) of this section.

(1) Periods of non-operation of the process unit;

(2) Periods of no flow to a control device; and

(3) Any monitoring data recorded during continuous parameter monitoring system (CPMS) breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments.

(e) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

§ 63.628 General requirements and applicability of general provisions of this part.

(a) You must comply with the general provisions in subpart A of this part as specified in appendix A to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(c) For each CMS used to demonstrate compliance with any applicable emission limit, you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan according to the requirements specified in paragraphs (c)(1) through (3) of this section. You must submit the site-specific monitoring plan, if requested by the Administrator, at least 60 days before the initial performance evaluation of the CMS. The requirements of this paragraph also apply if a petition is made to the Administrator for alternative monitoring parameters under § 63.8(f).

(1) You must include the information specified in paragraphs (c)(1)(i) through (vi) of this section in the site-specific monitoring plan.

(i) Location of the CMS sampling probe or other interface. You must include a justification demonstrating that the sampling probe or other interface is at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to this subpart.

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d)(1) and (2) and Table 5 to this subpart.

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), (e)(2)(i).

(2) You must include a schedule for conducting initial and subsequent performance evaluations in the site-specific monitoring plan.

(3) You must keep the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If you revise the site-specific monitoring plan, you must keep previous (*i.e.,* superseded) versions of the plan on site to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. You must include the program of corrective action required under § 63.8(d)(2) in the plan.

(d) For each bag leak detection system installed to comply with the requirements specified in § 63.625(e), you must include the information specified in paragraphs (d)(1) and (2) of this section in the site-specific monitoring plan specified in paragraph (c) of this section.

(1) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations), including how the alarm set-point will be established.

(2) A corrective action plan describing corrective actions to be taken and the timing of those actions when the bag leak detection alarm sounds. Corrective actions may include, but are not limited to, the actions specified in paragraphs (d)(2)(i) through (vi) of this section.

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in regulated material emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective fabric filter compartment.

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(vi) Shutting down the process controlled by the fabric filter.

§ 63.629 Miscellaneous requirements.

The Administrator retains the authority to approve site-specific test plans for uncontrolled granular triple superphosphate storage buildings developed pursuant to § 63.7(c)(2)(i).

§ 63.630 [Reserved]

§ 63.631 Exemption from new source performance standards.

Any affected source subject to the provisions of this subpart is exempted from any otherwise applicable new source performance standard contained in 40 CFR part 60, subpart V, subpart W, or subpart X. To be exempt, a source must have a current operating permit pursuant to title V of the Clean Air Act and the source must be in compliance with all requirements of this subpart. For each affected source, this exemption is effective upon the date that you demonstrate to the Administrator that the requirements of §§ 63.625 and 63.626 have been met.

§ 63.632 Implementation and enforcement.

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable state, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a state, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a state, local, or Tribal agency.

(b) The authorities specified in paragraphs (b)(1) through (5) of this section are retained by the Administrator of U.S. EPA and cannot be delegated to State, local, or Tribal agencies.

(1) Approval of alternatives to the requirements in §§ 63.620, 63.622, 63.625, 63.629, and 63.631.

(2) Approval of requests under §§ 63.7(e)(2)(ii) and 63.7 (f) for alternative requirements or major changes to the test methods specified in this subpart, as defined in § 63.90.

(3) Approval of requests under § 63.8(f) for alternative requirements or major changes to the monitoring requirements specified in this subpart, as defined in § 63.90.

(4) Waiver or approval of requests under § 63.10(f) for alternative requirements or major changes to the recordkeeping and reporting requirements specified in this subpart, as defined in § 63.90.

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

TABLE 1 TO SUBPART BB OF PART 63—EXISTING SOURCE EMISSION LIMITS [a] [b]

For the following existing sources . . .	You must meet the emission limits for the specified pollutant . . .
	Total fluorides
Phosphate Fertilizer Process Line (*e.g.,* Diammonium and/or Monoammonium Phosphate Process Line).	0.060 lb/ton of equivalent P_2O_5 feed.
Granular Triple Superphosphate Process Line	0.150 lb/ton of equivalent P_2O_5 feed.
GTSP storage building	5.0×10^{-4} lb/hr/ton of equivalent P_2O_5 stored.

[a] The existing source compliance date is June 10, 2002.

[b] During periods of startup and shutdown, for emission limits stated in terms of pounds of pollutant per ton of feed, you are subject to the work practice standards specified in § 63.622(d).

TABLE 2 TO SUBPART BB OF PART 63—NEW SOURCE EMISSION LIMITS [a] [b]

For the following new sources . . .	You must meet the emission limits for the specified pollutant . . .
	Total fluorides
Phosphate Fertilizer Process Line (*e.g.,* Diammonium and/or Monoammonium Phosphate Process Line).	0.0580 lb/ton of equivalent P_2O_5 feed.
Granular Triple Superphosphate Process Line	0.1230 lb/ton of equivalent P_2O_5 feed.
GTSP storage building	5.0×10^{-4} lb/hr/ton of equivalent P_2O_5 stored.

[a] The new source compliance dates are based on date of construction or reconstruction as specified in § 63.622(a).

[b] During periods of startup and shutdown, for emission limits stated in terms of pounds of pollutant per ton of feed, you are subject to the work practice standards specified in § 63.622(d).

TABLE 3 TO SUBPART BB OF PART 63—MONITORING EQUIPMENT OPERATING PARAMETERS

You must . . .	If . . .	And you must monitor . . .	And . . .
Absorbers (Wet Scrubbers)			
Install a continuous parameter monitoring system (CPMS) for liquid flow at the inlet of the absorber..	Your absorber is designed and operated with pressure drops of 5 inches of water column or more; and you choose to monitor only the influent liquid flow, rather than the liquid-to-gas ratio.	Influent liquid flow.	
Install CPMS for liquid and gas flow at the inlet of the absorber.	Your absorber is designed and operated with pressure drops of 5 inches of water column or less; or. Your absorber is designed and operated with pressure drops of 5 inches of water column or more, and you choose to monitor the liquid-to-gas ratio, rather than only the influent liquid flow, and you want the ability to lower liquid flow with changes in gas flow.	Liquid-to-gas ratio as determined by dividing the influent liquid flow rate by the inlet gas flow rate. The units of measure must be consistent with those used to calculate this ratio during the performance test.	You must measure the gas stream by: Measuring the gas stream flow at the absorber inlet; or Using the design blower capacity, with appropriate adjustments for pressure drop.
Install CPMS for pressure at the gas stream inlet and outlet of the absorber.	Your absorber is designed and operated with pressure drops of 5 inches of water column or more.	Pressure drop through the absorber	You may measure the pressure of the inlet gas using amperage on the blower if a correlation between pressure and amperage is established.

TABLE 4 TO SUBPART BB OF PART 63—OPERATING PARAMETERS, OPERATING LIMITS AND DATA MONITORING, RECORDKEEPING AND COMPLIANCE FREQUENCIES

For the operating parameter applicable to you, as specified in Table 3 . . .	You must establish the following operating limit during your performance test . . .	And you must monitor, record, and demonstrate continuous compliance using these minimum frequencies	Data measurement	Data recording
Absorbers (Wet Scrubbers)				
Influent liquid flow	Minimum inlet liquid flow	Continuous	Every 15 minutes	Daily.
Influent liquid flow rate and gas stream flow rate.	Minimum influent liquid-to-gas ratio.	Continuous	Every 15 minutes	Daily.
Pressure drop	Pressure drop range	Continuous	Every 15 minutes	Daily.

TABLE 5 TO SUBPART BB OF PART 63—CALIBRATION AND QUALITY CONTROL REQUIREMENTS FOR CONTINUOUS PARAMETER MONITORING SYSTEMS (CPMS)

If you monitor this parameter . . .	Your accuracy requirements are . . .	And your calibration requirements are . . .
Flow Rate	± 5 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater, for liquid flow rate.. ± 5 percent over the normal range of flow measured or 28 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow rate.. ± 5 percent over the normal range measured for mass flow rate..	Performance evaluation annually and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant flow sensor. Selection of a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
Pressure	± 5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater..	Checks for obstructions (*e.g.,* pressure tap pluggage) at least once each process operating day. Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months, unless the CPMS has a redundant pressure sensor. Selection of a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

Appendix A to Subpart BB of Part 63—Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart BB

40 CFR citation	Requirement	Applies to subpart BB	Comment
§ 63.1(a)(1) through (4)	General Applicability	Yes	None.
§ 63.1(a)(5)		No	[Reserved].
§ 63.1(a)(6)	Contact information	Yes	None.
§ 63.1(a)(7) through (9)		No	[Reserved].
§ 63.1(a)(10) through (12)	Time periods	Yes	None.
§ 63.1(b)	Initial Applicability Determination	Yes	None.
§ 63.1(c)(1)	Applicability After Standard Established.	Yes	None.
§ 63.1(c)(2)	Permits	Yes	Some plants may be area sources.
§ 63.1(c)(3) through (4)		No	[Reserved].
§ 63.1(c)(5)	Area to Major source change	Yes	None.
§ 63.1(d)		No	[Reserved].
§ 63.1(e)	Applicability of Permit Program	Yes	None.
§ 63.2	Definitions	Yes	Additional definitions in § 63.621.
§ 63.3	Units and Abbreviations	Yes	None.
§ 63.4(a)(1) and (2)	Prohibited Activities	Yes	None.
§ 63.4(a)(3) through (5)		No	[Reserved].
§ 63.4(b) and (c)	Circumvention/Fragmentation	Yes	None.
§ 63.5(a)	Construction/Reconstruction Applicability.	Yes	None.
§ 63.5(b)(1)	Existing, New, Reconstructed Sources Requirements.	Yes	None.
§ 63.5(b)(2)		No	[Reserved].
§ 63.5(b)(3), (4), and (6)	Construction/Reconstruction approval and notification.	Yes	None.
§ 63.5(b)(5)		No	[Reserved].
§ 63.5(c)		No	[Reserved].
§ 63.5(d)	Application for Approval of Construction/Reconstruction.	Yes	None.
§ 63.5(e)	Approval of Construction/Reconstruction.	Yes	None.
§ 63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes	None.
§ 63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes	None.

40 CFR citation	Requirement	Applies to subpart BB	Comment
§ 63.6(b)(1) through (5)	New and Reconstructed Sources Dates.	Yes	See also § 63.622.
§ 63.6(b)(6)		No	[Reserved].
§ 63.6(b)(7)	Area to major source change	Yes	None.
§ 63.6(c)(1) and (2)	Existing Sources Dates	Yes	§ 63.622 specifies dates.
§ 63.6(c)(3) and (4)		No	[Reserved].
§ 63.6(c)(5)	Area to major source change	Yes	None.
§ 63.6(d)		No	[Reserved].
§ 63.6(e)(1)(i) and (ii)	Operation & Maintenance Requirements.	No	See § 63.628(b) for general duty requirement.
§ 63.6(e)(iii)		Yes	None.
§ 63.6(e)(2)		No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan.	No	None.
§ 63.6(f)	Compliance with Emission Standards	No	See general duty at § 63.628(b).
§ 63.6(g)	Alternative Standard	Yes	None.
§ 63.6(h)	Compliance with Opacity/VE Standards.	No	Subpart BB does not include VE/opacity standards.
§ 63.6(i)(1) through (14)	Extension of Compliance	Yes	None.
§ 63.6(i)(15)		No	[Reserved].
§ 63.6(i)(16)		Yes	None.
§ 63.6(j)	Exemption from Compliance	Yes	None.
§ 63.7(a)	Performance Test Requirements Applicability.	Yes	None.
§ 63.7(b)	Notification	Yes	None.
§ 63.7(c)	Quality Assurance/Test Plan	Yes	None.
§ 63.7(d)	Testing Facilities	Yes	None.
§ 63.7(e)(1)	Conduct of Tests; startup, shutdown and malfunction provisions.	No	§ 63.626 specifies additional requirements.
§ 63.7(e)(2) through (4)	Conduct of Tests	Yes	§ 63.626 specifies additional requirements.
§ 63.7(f)	Alternative Test Method	Yes	None.
§ 63.7(g)	Data Analysis	Yes	None.
§ 63.7(h)	Waiver of Tests	Yes	None.
§ 63.8(a)	Monitoring Requirements Applicability.	Yes	None.
§ 63.8(b)	Conduct of Monitoring	Yes	None.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation.	No	See § 63.628(b) for general duty requirement.
§ 63.8(c)(1)(ii)		Yes	None.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS.	No	None.
§ 63.8(c)(2) through (4)	CMS Operation/Maintenance	Yes	None.
§ 63.8(c)(5)	COMS Operation	No	Subpart BB does not require COMS.
§ 63.8(c)(6) through (8)	CMS requirements	Yes	None.
§ 63.8(d)(1) and (2)	Quality Control	Yes	None.
§ 63.8(d)(3)	Written procedure for CMS	No	See § 63.628 for requirement.
§ 63.8(e)	CMS Performance Evaluation	Yes	None.
§ 63.8(f)(1) through (5)	Alternative Monitoring Method	Yes	None.
§ 63.8(f)(6)	Alternative to RATA Test	No	Subpart BB does not require CEMS.
§ 63.8(g)(1)	Data Reduction	Yes	None.
§ 63.8(g)(2)		No	Subpart BB does not require COMS or CEMS.
§ 63.8(g)(3) through (5)		Yes	None.
§ 63.9(a)	Notification Requirements Applicability.	Yes	None.
§ 63.9(b)	Initial Notifications	Yes	None.
§ 63.9(c)	Request for Compliance Extension	Yes	None.
§ 63.9(d)	New Source Notification for Special Compliance Requirements.	Yes	None.
§ 63.9(e)	Notification of Performance Test	Yes	None.
§ 63.9(f)	Notification of VE/Opacity Test	No	Subpart BB does not include VE/opacity standards.
§ 63.9(g)	Additional CMS Notifications	Yes	None.
§ 63.9(h)(1) through (3)	Notification of Compliance Status	Yes	None.
§ 63.9(h)(4)		No	[Reserved].
§ 63.9(h)(5) and (6)		Yes	None.
§ 63.9(i)	Adjustment of Deadlines	Yes	None.
§ 63.9(j)	Change in Previous Information	Yes	None.
§ 63.10(a)	Recordkeeping/Reporting-Applicability.	Yes	None.
§ 63.10(b)(1)	General Recordkeeping Requirements.	Yes	None.
§ 63.10(b)(2)(i)	Startup or shutdown duration	No	None.

40 CFR citation	Requirement	Applies to subpart BB	Comment
§ 63.10(b)(2)(ii)	Malfunction	No	See § 63.627 for recordkeeping and reporting requirement.
§ 63.10(b)(2)(iii)	Maintenance records	Yes	None.
§ 63.10(b)(2)(iv) and (v)	Startup, shutdown, malfunction actions.	No	None.
§ 63.10(b)(2)(vi) through (xiv)	General Recordkeeping Requirements.	Yes	None.
§ 63.10(b)(3)	General Recordkeeping Requirements.	Yes	None.
§ 63.10(c)(1)	Additional CMS Recordkeeping	Yes	None.
§ 63.10(c)(2) through (4)		No	[Reserved].
§ 63.10(c)(5)		Yes	None.
§ 63.10(c)(6)		Yes	None.
§ 63.10(c)(7) and (8)		Yes	None.
§ 63.10(c)(9)		No	[Reserved].
§ 63.10(c)(10) through (13)		Yes	None.
§ 63.10(c)(14)		Yes	None.
§ 63.10(c)(15)	Startup Shutdown Malfunction Plan Provisions.	No	None.
§ 63.10(d)(1)	General Reporting Requirements	Yes	None.
§ 63.10(d)(2)	Performance Test Results	Yes	None.
§ 63.10(d)(3)	Opacity or VE Observations	No	Subpart BB does not include VE/opacity standards.
§ 63.10(d)(4)	Progress Reports	Yes	None.
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	No	See § 63.627 for reporting of excess emissions.
§ 63.10(e)(1) and (2)	Additional CMS Reports	Yes	None.
§ 63.10(e)(3)	Excess Emissions/CMS Performance Reports.	Yes	None.
§ 63.10(e)(4)	COMS Data Reports	No	Subpart BB does not require COMS.
§ 63.10(f)	Recordkeeping/Reporting Waiver	Yes	None.
§ 63.11	Control Device and Work Practice Requirements.	Yes	None.
§ 63.12	State Authority and Delegations	Yes	None.
§ 63.13	Addresses	Yes	None.
§ 63.14	Incorporation by Reference	Yes	None.
§ 63.15	Information Availability/Confidentiality	Yes	None.
§ 63.16	Performance Track Provisions	No	Terminated.

[FR Doc. 2015–19732 Filed 8–18–15; 8:45 am]

BILLING CODE 6560–50–P

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Section 52.2591 is amended by adding paragraphs (g), (h), and (i) to read as follows:

§ 52.2591 Section 110(a)(2) infrastructure requirements.

* * * * *

(g) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2008 ozone NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), the transport provisions in section 110(a)(2)(D)(i)(I), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

(h) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 nitrogen dioxide (NO_2) NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

(i) Approval—In a June 20, 2013, submission with a January 28, 2015, clarification, Wisconsin certified that the state has satisfied the infrastructure SIP requirements of section 110(a)(2)(A) through (H), and (J) through (M) for the 2010 sulfur dioxide (SO_2) NAAQS. We are not taking action on the prevention of significant deterioration requirements related to section 110(a)(2)(C), (D)(i)(II), and (J), the transport provisions in section 110(a)(2)(D)(i)(I), and the state board requirements of (E)(ii). We will address these requirements in a separate action.

[FR Doc. 2015–22864 Filed 9–10–15; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2011–0817; FRL–9933–76–OAR]

RIN 2060–AQ93

National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correcting amendments.

SUMMARY: The Environmental Protection Agency (EPA) published a final rule in the **Federal Register** on July 27, 2015, titled National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants. This final rule makes technical corrections and clarifications to the regulations published in that final rule. The rule also includes a provision describing performance testing requirements when a source demonstrates compliance with the hydrochloric acid (HCl) emissions standard using a continuous emissions monitoring system (CEMS) for sulfur dioxide measurement and reporting.

DATES: Effective September 9, 2015.

FOR FURTHER INFORMATION CONTACT: Ms. Sharon Nizich, Sector Policies and Programs Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number: (919) 541–2825; facsimile number: (919) 541–5450; email address: *nizich.sharon@epa.gov.* For information about the applicability of the national emission standards for hazardous air pollutants or new source performance standards, contact Mr. Patrick Yellin, Monitoring, Assistance and Media Programs Division (2227A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460; telephone number (202) 564–2970; email address *yellin.patrick@epa.gov.*

SUPPLEMENTARY INFORMATION:

Summary of Technical Corrections

The EPA received communications from representatives of the Portland cement industry on five occasions in August 2015 (see memo to the docket (EPA–HQ–OAR–2011–0817) titled, ‘‘Communications on Errors PCA August 2015’’). These communications outlined several errors in the regulatory text of the final rule (80 FR 44772). These all pertain to monitoring requirements. The EPA agrees that these are errors (typographical and unintended phrasing or omissions), and is correcting these errors in this document. We are also removing two passages (which consisted of four sentences) that were inadvertently left in the final amendments, but were discussed by the EPA as being removed in the Response to Comment (RTC) document for the final amendments (see docket item EPA–HQ–OAR–2011–0817–0870, page 8). In the RTC, we discussed that data substitution is not an allowed practice when determining compliance, but these four sentences discuss procedures for data substitution. Leaving these sentences in the rule, thus, does not reflect the EPA's stated intention, and would lead to confusion given the direct conflict between the RTC document and the rule text.

We are making one further technical correction involving timing of performance tests. The correction keeps in place the specified time by which performance tests must be conducted, but will no longer set out a window of time in which the test must be conducted. The net effect is that performance tests can be conducted earlier than the window of time in the current rule text if a source desires to conduct its performance test earlier. The EPA had already indicated in the RTC document that it was making this change (see docket item EPA–HQ–OAR–2011–0817–0870, page 5). The EPA regards this amendment as a clarification (the current rule could be interpreted to allow earlier testing) so that the rule reads precisely as intended, as stated by the EPA in the RTC document.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

■ 2. Amend § 63.1349 by:

■ a. In paragraph (b)(4)(i), removing ''ppmvd'' and adding in its place ''ppmvw''.

■ b. In paragraph (b)(7)(v), revising the second sentence.

■ c. In paragraph (c), revising the second sentence.

The revisions read as follows:

§ 63.1349 Performance testing requirements.

* * * * *

(b) * * *

(7) * * *

(v)* * * You are required to measure oHAP at the coal mill inlet or outlet and you must also measure oHAP at the alkali bypass outlet. * * *

* * * * *

(c) * * * Performance tests required every 30 months must be completed no more than 31 calendar months after the previous performance test except where that specific pollutant is monitored using CEMS; performance tests required every 12 months must be completed no more than 13 calendar months after the previous performance test.

* * * * *

■ 3. Amend § 63.1350 by:

■ a. In paragraph (k)(2)(ii), revising the last sentence.

■ b. Revising paragraph (k)(2)(iii).

■ c. In paragraph (l)(1) introductory text, revising the last sentence.

■ d. In paragraph (l)(1)(ii)(B), revising the last sentence.

■ e. In paragraph (l)(1)(ii)(C), removing the last two sentences.

The revisions read as follows:

§ 63.1350 Monitoring requirements.

* * * * *

(k) * * *

(2) * * *

(ii) * * * In this manner all hourly average values exceeding the span value measured by the Hg CEMS during the week following the above span linearity challenge when the CEMS response exceeds +/−20 percent of the certified value of the reference gas must be normalized using Equation 22.

(iii) Quality assure any data above the span value established in paragraph (k)(1) of this section using the following procedure. Any time two consecutive one-hour average measured concentrations of Hg exceeds the span value you must, within 24 hours before or after, introduce a higher, ''above span'' Hg reference gas standard to the Hg CEMS. The ''above span'' reference gas must meet the requirements of PS 12A, Section 7.1, must target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include ''above span'' calibrations done before or after the above span measurement period. Record and report the results of this procedure as you would for a daily calibration. The ''above span'' calibration is successful if the value measured by the Hg CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the Hg CEMS exceeds 20 percent of the certified value of the reference gas, then you must normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the ''above span'' calibration for reporting based on the Hg CEMS response to the reference gas as shown in equation 22 below. Only one ''above span'' calibration is needed per 24 hour period.

$$\frac{Certified\ reference\ gas\ value}{Measured\ value\ of\ reference\ gas}\ x\ Measured\ stack\ gas\ result$$

$$= Normalized\ stack\ gas\ result \qquad (Eq. 22)$$

* * * * *

(l) * * *

(1) * * * The span value and calibration requirements in paragraphs (l)(1)(i) and (ii) of this section apply to HCl CEMS other than those installed and certified under PS 15.

* * * * *

(ii) * * *

(B) * * * Any HCl CEMS above span linearity challenge response exceeding +/−20 percent of the certified value of the reference gas requires that all above span hourly averages during the week following the above span linearity challenge must be normalized using Equation 23.

* * * * *

Dated: September 2, 2015.

Janet G. McCabe,

Acting Assistant Administrator, Office of Air and Radiation.

[FR Doc. 2015–22945 Filed 9–9–15; 4:15 pm]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[EPA–HQ–OPP–2015–0214; FRL–9933–35]

Tetraethylene Glycol; Exemption From the Requirement of a Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes an exemption from the requirement of a tolerance for residues of tetraethylene glycol (CAS Reg. No. 112–60–7) when used as an inert ingredient (solvent) in pesticide formulations applied to growing crops. Exponent, Inc. on behalf of Drexel Chemical Company submitted a petition to EPA under the Federal Food, Drug, and Cosmetic Act (FFDCA), requesting establishment of an exemption from the requirement of a tolerance. This regulation eliminates the need to establish a maximum permissible level for residues of tetraethylene glycol.

DATES: This regulation is effective September 11, 2015. Objections and requests for hearings must be received on or before November 10, 2015, and must be filed in accordance with the instructions provided in 40 CFR part 178 (see also Unit I.C. of the **SUPPLEMENTARY INFORMATION**).

ADDRESSES: The docket for this action, identified by docket identification (ID) number EPA–HQ–OPP–2015–0214, is available at *http://www.regulations.gov* or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW., Washington, DC 20460–0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the OPP

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Part III

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2010–0544; FRL–9932–44–OAR]

RIN 2060–AQ40

National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review (RTR), and the rule review, we conducted for the Secondary Aluminum Production source category regulated under national emission standards for hazardous air pollutants (NESHAP). In this action, we are finalizing several amendments to the NESHAP based on the rule review. These final amendments include a requirement to report performance testing through the Electronic Reporting Tool (ERT); provisions allowing owners and operators to change furnace classifications; requirements to account for unmeasured emissions during compliance testing for group 1 furnaces that do not have add-on control devices; alternative compliance options for the operating and monitoring requirements for sweat furnaces; compliance provisions for hydrogen fluoride; provisions addressing emissions during periods of startup, shutdown, and malfunction (SSM); and other corrections and clarifications to the applicability, definitions, operating, monitoring and performance testing requirements. These amendments will improve the monitoring, compliance and implementation of the rule.

DATES: *Effective date:* This final action is effective on September 18, 2015.

Compliance dates: The compliance date for the final amendments listed in 40 CFR 63.1501(b) for existing secondary aluminum production affected sources is March 16, 2016. The compliance date for the final amendments listed in 40 CFR 63.1501(c) for existing affected sources is September 18, 2017. The owner or operator of a new affected source that commences construction or reconstruction after February 14, 2012, must comply with all of the requirements listed in 40 CFR 63.1501(b) and (c) by September 18, 2015 or upon startup, whichever is later.

The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of September 18, 2015.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0544. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Rochelle Boyd, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–1390; fax number: (919) 541–3207; and email address: *boyd.rochelle@epa.gov.* For specific information regarding the risk modeling methodology, contact James Hirtz, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0881; fax number: (919) 541–0840; and email address: *hirtz.james@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Scott Throwe, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC West Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564–7013; and email address: *throwe.scott@epa.gov.*

SUPPLEMENTARY INFORMATION: *Preamble Acronyms and Abbreviations.* We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACGIH	American Conference of Government Industrial Hygienists
AEGL	acute exposure guideline levels
AERMOD	air dispersion model used by the HEM–3 model
APCD	air pollution control device
AMOS	ample margin of safety
ATSDR	Agency for Toxic Substances and Disease Registry
BACT	best available control technology
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CBI	confidential business information
CDX	Central Data Exchange
CFR	Code of Federal Regulations
D/F	dioxins and furans
Dscf	dry standard cubic feet
Dscm	dry standard cubic meters
EJ	environmental justice
EPA	United States Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines
ERT	Electronic Reporting Tool
g	grams
gr	grains
HAP	hazardous air pollutants
HCl	hydrogen chloride
HEM–3	Human Exposure Model, Version 3
HF	hydrogen fluoride
HI	hazard index
HQ	hazard quotient
ICR	information collection request
IRIS	Integrated Risk Information System
km	kilometer
lb	pounds
lbs/yr	pounds per year
LOAEL	lowest-observed-adverse-effect level
MACT	maximum achievable control technology
MIR	maximum individual risk
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NATA	National Air Toxics Assessment
NEI	National Emissions Inventory
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOAEL	no observed adverse effects level
NRC	National Research Council
NTTAA	National Technology Transfer and Advancement Act
O&M	operation and maintenance
OAQPS	Office of Air Quality Planning and Standards
OECA	Office of Enforcement and Compliance Assurance
OMB	Office of Management and Budget
OM&M	operation, maintenance and monitoring
PAH	polycyclic aromatic hydrocarbons
PB–HAP	hazardous air pollutants known to be persistent and bio-accumulative in the environment
PEL	probable effect levels
PM	particulate matter
POM	polycyclic organic matter
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RfD	reference dose
RTR	Risk and Technology Review
SAB	Science Advisory Board

SAPU	secondary aluminum processing unit
SBA	Small Business Administration
SOP	standard operating procedures
SSM	startup, shutdown, and malfunction
TEQ	toxicity equivalents
THC	total hydrocarbons
TOSHI	target organ-specific hazard index
tpy	tons per year
TRIM.FaTE	Total Risk Integrated Methodology Fate, Transport and Ecological Exposure model
TTN	Technology Transfer Network
UBC	used beverage containers
UF	uncertainty factor
µ/m3	microgram per cubic meter
UMRA	Unfunded Mandates Reform Act
UPL	upper prediction limit
URE	unit risk estimate

Background Information. On February 14, 2012, and December 8, 2014, the EPA proposed decisions based on the RTR and proposed revisions to the Secondary Aluminum Production NESHAP based on review of the rule. In this action, we are finalizing decisions and revisions to the rule. We summarize major comments we timely received regarding the proposed rule and provide responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the document, National Emission Standards for Hazardous Air Pollutants: Secondary Aluminum Production. Summary of Public Comments and Responses on Proposed Rule (77 FR 8576, February 14, 2012) and Supplemental Proposal (79 FR 72874, December 8, 2014), Docket ID No. EPA–HQ–OAR–2010–0544. A ''track changes'' version of the regulatory language that shows the regulatory changes in this action is also available in the docket for the convenience of the reader.

Organization of this Document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

Source category	NAICS code[a]
Primary Aluminum Production Facilities	331312
Secondary Aluminum Production Facilities	331314
Aluminum Sheet, Plate, and Foil Manufacturing Facilities	331315
Aluminum Extruded Product Manufacturing Facilities	331316
Other Aluminum Rolling and Drawing Facilities	331319
Aluminum Die Casting Facilities	331521
Aluminum Foundry Facilities	331524

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the secondary aluminum production source category. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at *http://www.epa.gov/ttn/atw/alum2nd/alum2pg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version at this same Web site.

Additional information is available on the (RTR) Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, and links to project Web sites for the RTR source categories.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by November 17, 2015. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC West Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems, or techniques, including but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, see 77 FR 8576 and 79 FR 72874.

B. What is the Secondary Aluminum Production source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA initially promulgated the Secondary Aluminum Production NESHAP on March 23, 2000 (65 FR 15690). The rule was amended on December 30, 2002 (67 FR 79808), September 3, 2004 (69 FR 53980), October 3, 2005 (70 FR 57513), and December 19, 2005 (70 FR 75320). The standards are codified at 40 CFR part 63, subpart RRR. The existing Subpart RRR NESHAP regulates HAP emissions from secondary aluminum production facilities that are major sources of HAP and that operate aluminum scrap shredders, thermal chip dryers, scrap dryers/delacquering kilns/decoating kilns, group 1 furnaces, group 2 furnaces, sweat furnaces, dross only furnaces, rotary dross coolers, and secondary aluminum processing units (SAPUs). The SAPUs include group 1 furnaces and in-line fluxers. The Subpart RRR NESHAP regulates HAP emissions from secondary aluminum production facilities that are area sources of HAP only with respect to emissions of dioxins/furans (D/F) from thermal chip dryers, scrap dryers/delacquering kilns/decoating kilns, group 1 furnaces, sweat furnaces, and SAPUs. The secondary aluminum industry consists of approximately 161 secondary aluminum production facilities, of which the EPA estimates 53 to be major sources of HAP. Several of the secondary aluminum facilities are co-located with primary aluminum, coil coating, and possibly other source category facilities. Natural gas boilers or process heaters may also be co-located at a few secondary aluminum facilities.

The standards promulgated in 2000 established emission limits for particulate matter (PM) as a surrogate for metal HAP, total hydrocarbons (THC) as a surrogate for organic HAP

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[1] The U.S. Court of Appeals for the District of Columbia Circuit has affirmed this approach of implementing CAA section 112(f)(2)(A). *NRC v. EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

other than D/F, D/F expressed as toxicity equivalents (TEQ), and hydrogen chloride (HCl) as a surrogate for acid gases including hydrogen fluoride (HF), chlorine, and fluorine. HAP are emitted from the following affected sources: Aluminum scrap shredders (subject to PM standards), thermal chip dryers (subject to standards for THC and D/F), scrap dryers/delacquering kilns/decoating kilns (subject to standards for PM, D/F, HCl, and THC), sweat furnaces (subject to D/F standards), dross-only furnaces (subject to PM standards), rotary dross coolers (subject to PM standards), group 1 furnaces (subject to standards for PM, HCl, and D/F), and in-line fluxers (subject to standards for PM and HCl). Group 2 furnaces and certain in-line fluxers are subject to work practice standards. For a more detailed description of the industry, processes, and the key requirements of the MACT rule, see the 2014 supplemental proposal (79 FR 72879, December 8, 2014).

C. What changes did we propose for the Secondary Aluminum Production source category in our February 14, 2012, and December 8, 2014, proposals?

On February 14, 2012, the EPA published a proposed rule in the **Federal Register** (77 FR 8576) for the Secondary Aluminum Production NESHAP, 40 CFR part 63, subpart RRR, that took into consideration the RTR analyses and other reviews of the MACT rule. We proposed that no amendments to Subpart RRR were necessary as a result of the RTR analyses. However, we proposed several amendments to correct and clarify existing requirements based on other reviews of the rule, including:

- Proposed criteria and procedures for changing furnace classification (*i.e.,* operating mode) and a limit on frequency of switching furnace classification of once per 6-month period, with an exception for control device maintenance requiring shutdown;
- Proposed amendments to clarify that performance tests under multiple scenarios may be required in order to reflect the emissions ranges for each regulated pollutant;
- Proposed compliance alternatives for testing of furnaces that do not have add-on air pollution control devices (also referred to as ''uncontrolled furnaces''), *i.e.,* either temporary installation of American Conference of Governmental Industrial Hygienists (ACGIH) hooding or, for existing uncontrolled furnaces, use of an assumption of 67-percent capture efficiency for furnace exhaust. If the source fails to demonstrate compliance using the 67-percent capture efficiency assumption, the source would have to retest within 90 days using hooding that meets ACGIH guidelines or submit a petition that such hoods are impractical and propose alternative testing procedures that will minimize unmeasured fugitive emissions;
- With regard to annual inspections of capture/collection systems, proposed codification of our existing interpretation that annual hood inspections include flow rate measurements using EPA Reference Methods 1 and 2;
- Proposed removal of exemptions from the requirement to comply with 40 CFR part 63, subpart RRR emission standards during periods of startup, shutdown, and malfunction (SSM), clarification of related provisions, and an alternative method for demonstrating compliance with certain emission limits during startup and shutdown;
- Proposed requirement for electronic submission of test results to increase the ease and efficiency of data submittal and improve data accessibility; and
- Proposed compliance date for existing affected sources to comply with the proposed amendments within 90 days after publication of the final rule.

In the 2012 proposal, we also proposed several other corrections and clarifications of the rule on the following topics based on recommendations and suggestions from individual representatives from state regulatory agencies and industry, as well as based on EPA experience, to correct errors in the rule and to help clarify the intent and implementation of the rule:

- ACGIH Guidelines;
- Testing worst-case scenarios;
- Lime injection rate;
- Flux monitoring;
- Cover flux;
- Capture and collection system definition;
- Bale breakers;
- Bag Leak Detection Systems (BLDS);
- Sidewell furnaces;
- Testing representative units;
- Initial performance tests;
- Scrap dryer/delacquering/decoating kiln and scrap shredder definitions;
- Group 2 furnace definition;
- HF emissions compliance;
- SAPU definition;
- Clean charge definition;
- Residence time definition;
- SAPU feed/charge rate;
- Dross-only versus dross/scrap furnaces;
- Applicability of rule to area sources;
- Altering parameters during testing with new scrap streams;
- Controlled furnaces that are temporarily idled for 24 hours or longer; and
- Annual compliance certification for area sources.

In the December 8, 2014, supplemental proposal (79 FR 72874), we presented a revised risk review and a revised technology review. Similar to the 2012 proposal, we found risks due to emissions of air toxics to be acceptable from this source category and we identified no cost-effective controls under the updated AMOS analysis or the technology review to achieve further emissions reductions. We proposed no revisions to the emission standards based on the revised risk and technology review. However, in the 2014 supplemental proposal, we supplemented and modified several of the proposed technical corrections and rule clarifications from the 2012 proposal, including the following:

- Revised proposed limit on the total number of furnace operating mode changes (*i.e.,* frequency) of four times in any 6-month period, with the ability of sources to apply to the appropriate authority for additional furnace operating mode changes;
- Revised wording in proposed 40 CFR 63.1511(b)(1) related to worst-case scenario testing clarifying under what conditions the performance tests are to be conducted;
- Revised proposed compliance requirements for performance testing of uncontrolled furnaces, such that if a source: (1) Chooses to use an assumption of 67-percent[2] capture/collection efficiency, instead of installing temporary hooding according to ACGIH guidelines, and (2) fails to demonstrate compliance using the 67-percent efficiency assumption, then the source must either retest using ACGIH hooding within 180 days (rather than the 90 days specified in the 2012 proposal) or petition the appropriate authority within 180 days that installing ACGIH hooding is impractical and propose alternative testing procedures that will minimize unmeasured emissions;
- Revised proposed requirement that emission sources comply with the emissions limits at all times, including periods of SSM. Proposed definitions of startup and shutdown as well as an additional alternative method for demonstrating compliance with certain emission limits during startup and shutdown;
- Revised proposed requirements for annual inspection of capture/collection

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[2] The capture efficiency of 66.67 percent was rounded to 67 percent.

systems to allow additional compliance options;

- Revised proposed compliance dates of 180 days for certain requirements and 2 years for other requirements; and
- Revised operating and monitoring requirements for sweat furnaces to allow an additional compliance option.

In addition, we withdrew our 2012 proposal to include provisions establishing an affirmative defense in light of a recent court decision vacating an affirmative defense in one of the EPA's CAA section 112(d) regulations. *NRDC v. EPA,* 749 F.3d 1055 (D.C. Cir. 2014) (vacating affirmative defense provisions in CAA section 112(d) rule establishing emission standards for Portland cement kilns).

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Secondary Aluminum Production source category. This action also finalizes changes to the NESHAP, including technical corrections and rule clarifications as well as alternative compliance options.

A. What are the final rule amendments based on the risk review for the Secondary Aluminum Production source category?

There are no rule amendments based on the risk review for this source category.

B. What are the final rule amendments based on the technology review for the Secondary Aluminum Production source category?

There are no rule amendments based on the technology review for this source category.

C. What are the final rule amendments addressing emissions during periods of startup, shutdown, and malfunction?

In its 2008 decision in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some section 112 standards apply continuously.

We have eliminated the SSM exemption in this rule. Consistent with *Sierra Club* v. *EPA*, the EPA has established standards in this rule that apply at all times. We have also revised Appendix A to Subpart RRR of part 63 (the General Provisions applicability table) in several respects as is explained in more detail below. For example, we have eliminated the incorporation of the General Provisions' requirement that the source develop an SSM plan. We have also eliminated and revised certain recordkeeping and reporting that is related to the SSM exemption as described in detail in the proposed rule and summarized again here.

In establishing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not established alternate emission standards for those periods.

We are finalizing amendments to eliminate provisions that exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standards during periods of SSM. As explained in the 2012 proposal and 2014 supplemental proposal, because the scrap processed at secondary aluminum production facilities is the source of emissions, we expect emissions during startup and shutdown would be no higher, and most likely significantly lower, than emissions during normal operations since no scrap is processed during those periods. The final amendments include alternative methods for demonstrating compliance with applicable emission limits that are expressed in units of pounds per ton of feed/charge, or microgram (μg) TEQ or nanogram (ng) TEQ per megagram (Mg) of feed/charge, based on emissions during startup and shutdown and, alternatively, demonstrating compliance by keeping records that show that during startup and shutdown, the feed/charge rate was zero, the flux rate was zero, and the affected source or emission unit was heated with electricity, propane, or natural gas as the sole sources of heat or was not heated. See 40 CFR 63.1513(f).

We are also finalizing definitions for the periods of startup and shutdown to account for the fact that many furnaces are batch operations and are often in a standby condition that, under the proposed definitions, might have been considered to be shutdown. The final definition of shutdown recognizes that shutdown begins when the addition of feed/charge is halted, the heat sources are removed, and product is removed from the equipment to the greatest extent practicable, and ends when the equipment cools to near ambient temperature. The final definition recognizes that, after tapping, most furnaces (tilting furnaces are an exception) retain a molten metal heel and are not emptied completely. In the final amendments, startup is defined as beginning with equipment warming from a shutdown and ending at the point that feed/charge or flux is introduced.

Other SSM-related changes include:

- Revising 40 CFR 63.1510(s)(2)(iv), 63.1515(b)(10), 63.1516(a), 63.1516(b)(1)(v), and 63.1517(b)(16)(i) to reflect the revised requirements related to periods of SSM;
- Revising 40 CFR 63.1506(a)(5) to incorporate the general duty from 40 CFR 63.6(e)(1)(i) to minimize emissions; and
- Adding 40 CFR 63.1516(d), and 40 CFR 63.1517(b)(18) and (19) to require reporting and recordkeeping associated with periods of SSM.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent, and not reasonably preventable failures of emissions control, process, or monitoring equipment (40 CFR 63.2) (Definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. Under CAA section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in section 112 that directs the Agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the D.C. Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA*, 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the Agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the

EPA to consider such events in setting CAA section 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. See, *e.g., Sierra Club* v. *EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.' '') See also *Weyerhaeuser* v. *Costle*, 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an air pollution control device with 99-percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady state type unit that would take days to shutdown, the source would go from 99-percent control to zero control until the control device was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations. As such, the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, sudden, infrequent, not reasonably preventable, and not caused in part by poor maintenance or careless operation. 40 CFR 63.2 (Definition of malfunction).

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate. In summary, the EPA interpretation of the CAA and, in particular, CAA section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

In the 2012 proposed rule, the EPA proposed to include an affirmative defense to civil penalties for violations caused by malfunctions. Although the EPA recognized that its case-by-case enforcement discretion provides sufficient flexibility, it proposed to include the affirmative defense to provide a more formalized approach and more regulatory clarity. See *Weyerhaeuser Co.* v. *Costle*, 590 F.2d 1011, 1057–58 (D.C. Cir. 1978) (holding that an informal case-by-case enforcement discretion approach is adequate); but see *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253, 1272–73 (9th Cir. 1977) (requiring a more formalized approach to consideration of ''upsets beyond the control of the permit holder.''). Under the proposed regulatory affirmative defense provisions, if a source could demonstrate in a judicial or administrative proceeding that it had met the requirements of the affirmative defense in the regulation, civil penalties would not be assessed. After the 2012 proposal, the United States Court of Appeals for the District of Columbia Circuit vacated an affirmative defense in one of the EPA's CAA section 112 regulations. *NRDC* v. *EPA*, 749 F.3d 1055 (D.C. Cir., 2014) (vacating affirmative defense provisions in CAA section 112 rule establishing emission standards for Portland cement kilns). The Court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts in such cases lies exclusively with the courts, not the EPA. Specifically, the Court found: ''As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.' '' See *NRDC* at 1063 (''[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA.'').[3] In light of *NRDC*, the EPA in the 2014 supplemental proposal withdrew the proposed affirmative defense and is not including a regulatory affirmative defense provision in the final rule. As explained above, if a source is unable to comply with emissions standards as a result of a malfunction, the EPA may use its case-by-case enforcement discretion to provide flexibility, as appropriate. Further, as the D.C. Circuit recognized, in an EPA or citizen enforcement action, the court has the discretion to consider any defense raised and determine whether penalties are appropriate. Cf. *NRDC* at 1064 (arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same is true for the presiding officer in EPA administrative enforcement actions.[4]

We are revising the General Provisions table (Appendix A to Subpart RRR of 40 CFR part 63) entry for 40 CFR 63.6(e)(1)(i) by changing the ''yes'' in

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[3] The Court's reasoning in *NRDC* focuses on civil judicial actions. The Court noted that ''EPA's ability to determine whether penalties should be assessed for Clean Air Act violations extends only to administrative penalties, not to civil penalties imposed by a court.'' *Id.*

[4] Although the *NRDC* case does not address the EPA's authority to establish an affirmative defense to penalties that is available in administrative enforcement actions, the EPA is not including such an affirmative defense in the final rule. As explained above, such an affirmative defense is not necessary, and in the 2014 supplemental proposal, we withdrew the proposed affirmative defense. Moreover, assessment of penalties for violatiing caused by malfunctions in administrative proceedings and judicial proceedings should be consistent, Cf. CAA section 113(e) (requiring both the Administrator and the Court to take specified criteria into account when assessing penalties).

column ''Applies to RRR'' to ''no.'' Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We have instead added general duty regulatory text at 40 CFR 63.1506(a)(5) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations, startup and shutdown, and malfunction events in describing the general duty. Therefore, the language the EPA is promulgating for Subpart RRR does not include that language from 40 CFR 63.6(e)(1).

We are also revising the General Provisions table entry for 40 CFR 63.6(e)(1)(ii) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 40 CFR 63.1506(a)(5).

We are revising the General Provisions table entry for 40 CFR 63.6(e)(3) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Generally, these paragraphs require development of an SSM plan and specify SSM recordkeeping and reporting requirements related to the SSM plan. As noted, the EPA is removing the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance and, thus, the SSM plan requirements are no longer necessary.

We are revising the General Provisions table entry for 40 CFR 63.6(f)(1) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' The current language of 40 CFR 63.6(f)(1) exempts sources from non-opacity standards during periods of SSM. As discussed above, the Court in *Sierra Club* vacated the exemptions contained in this provision and held that the CAA requires that some section 112 standards apply continuously. Consistent with *Sierra Club*, the EPA is revising standards in this rule to apply at all times.

We are revising the General Provisions table entry for 40 CFR 63.6(h)(1) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' The current language of 40 CFR 63.6(h)(1) exempts sources from opacity standards during periods of SSM. As discussed above, the Court in *Sierra Club* vacated the exemptions contained in this provision and held that the CAA requires that some section 112 standards apply continuously. Consistent with *Sierra Club*, the EPA is revising standards in this rule to apply at all times.

We are revising the General Provisions table entry for 40 CFR 63.7(e)(1) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Section 63.7(e)(1) describes performance testing requirements. The EPA is instead adding a performance testing requirement at 40 CFR 63.1513(f). The performance testing requirements we are adding differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption and language that precluded startup and shutdown periods from being considered ''representative'' for purposes of performance testing. The revised performance testing provisions include alternative methods for demonstrating compliance with emission limits that are expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge. Compliance with such limits during startup and shutdown can be demonstrated using the emissions measured during startup and shutdown along with the measured feed/charge rate from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. Alternatively, compliance can be demonstrated by keeping records that show that during startup and shutdown, the feed/charge rate was zero, the flux rate was zero, and the affected source or emission unit either was heated with electricity, propane, or natural gas as the sole sources of heat or was not heated. As in 40 CFR 63.7(e)(1), we are requiring in 40 CFR 63.1511(b) that performance tests conducted under this subpart not be conducted during malfunctions because conditions during malfunctions are often not representative of normal operating conditions. The EPA is adding language in 40 CFR 63.1517(b)(19) that requires the owner or operator to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions are representative of startup and shutdown operations. Section 63.7(e) requires that the owner or operator make available to the Administrator such records ''as may be necessary to determine the condition of the performance test'' available to the Administrator upon request, but does not specifically require the information to be recorded. The regulatory text the EPA is adding to this provision builds on that requirement and makes explicit the requirement to record the information.

We are revising the General Provisions table (Appendix A to Subpart RRR of 40 CFR part 63) entry for 40 CFR 63.8(c)(1)(i) and (iii) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

We are revising the General Provisions table entry for 40 CFR 63.8((d)(3) by changing the ''yes'' in column ''Applies to RRR'' to ''Yes, except for last sentence which refers to an SSM plan. SSM plans are not required.'' The final sentence in 40 CFR 63.8((d)(3) refers to the General Provisions' SSM plan requirement which is no longer applicable.

We are revising the General Provisions table entry for 40 CFR 63.10(b)(2)(i) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA is promulgating that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional records for startup and shutdown periods. However, we are adding an additional recordkeeping provision at 40 CFR 63.1517(b)(18) for owners and operators that wish to demonstrate compliance with emission limits that are expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, during startup and shutdown by keeping records that show that during startup and shutdown no feed/charge or flux was added, only clean fuel was used, or no fuel was used.

We are revising the General Provisions table entry for 40 CFR 63.10(b)(2)(ii) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA is adding such requirements to 40 CFR 63.1517. The regulatory text we are adding differs from the General Provisions it is replacing in that the General Provisions require the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA is applying the recordkeeping requirement to any failure to meet an applicable standard and is requiring that the source record the date, time, and duration of the failure rather than the ''occurrence.''

We are revising the General Provisions table entry for 40 CFR 63.10(b)(2)(iv) by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' When applicable, the provision requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.1517.

We are revising the General Provisions table entry for 40 CFR 63.10(b)(2)(v) by changing the ''yes'' to ''no.'' When applicable, the provision requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

We are revising the General Provisions table entry for 40 CFR 63.10(c)(15) by changing the ''yes'' to ''no.'' When applicable, the provision allows an owner or operator to use the affected source's SSM plan or records kept to satisfy the recordkeeping requirements of the SSM plan, specified in 40 CFR 63.6(e), to also satisfy the requirements of 40 CFR 63.10(c)(10) through (12). The EPA is eliminating this requirement because SSM plans will no longer be required, and, therefore, 40 CFR 63.10(c)(15) no longer serves any useful purpose.

We are revising the General Provisions table entry for 40 CFR 63.10(d)(5), including (5)(i) and (ii), by changing the ''yes'' in column ''Applies to RRR'' to ''no.'' Section 63.10(d)(5) describes the reporting requirements for SSM. We will no longer require owners or operators to determine whether actions taken to correct a malfunction are consistent with an SSM plan or report when actions taken during a startup, shutdown, or malfunction were not consistent with an SSM plan, because SSM plans will no longer be required. To replace the General Provisions reporting requirement, the EPA is adding reporting requirements to 40 CFR 63.1516(d). The replacement language differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We are requiring sources that fail to meet an applicable standard at any time to report the information concerning such events in the semi-annual excess emission report already required under 40 CFR part 63, subpart RRR. The report must contain the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of event, end date and time of the event, cause of the deviation or exceedance, corrective action taken, a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions. Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is promulgating this requirement to ensure that there is adequate information to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

D. What other changes have been made to the NESHAP?

This section provides a summary of other changes to the NESHAP. More details and further explanation of these changes are provided in section IV of this preamble and/or in the response to comments document, which is available in the docket for this action. These other changes include the following:

1. Clarification of applicability of rule provisions to area sources. We are finalizing revisions to clarify which operating, monitoring, performance testing, and annual compliance certification requirements apply to area sources.

2. Addition or revision of definitions. We added definitions for bale breaker, capture and collection system, HF, round top furnace, startup, shutdown, tap, and total reactive fluoride flux injection rate. We revised the definitions for aluminum scrap shredder, clean charge, cover flux, group 2 furnace, HCl, residence time, scrap dryer/delacquering/decoating kiln, and SAPU.

3. Revision of provisions to include HF. We have revised 40 CFR 63.1503, 63.1505, 63.1506, 63.1510, 63.1511, 63.1512, 63.1513, 63.1516, and Table 1 of the rule to address HF in the emission standards and in the performance testing, monitoring, and compliance demonstration provisions for group 1 furnaces.

4. Addition of criteria for changing furnace classifications and an allowed frequency of such changes of four times in any 6-month period. We are finalizing requirements for changing furnace classifications in 40 CFR 63.1510, 63.1514, and 63.1517 of the final rule.

5. Revisions to operating requirements. We are finalizing revisions to operating requirements with respect to the following:

- Provisions for controlled group 1 furnaces that will be idled for at least 24 hours in 40 CFR 63.1506(m)(7) and Table 2;
- A requirement for lime injection rate verification in 40 CFR 63.1506(m), 63.1510(i)(4), 63.1512, and Table 3; and
- Alternative compliance options for sweat furnaces in lieu of following the ACGIH Guidelines.

6. Revisions to monitoring requirements. We are finalizing revisions to monitoring requirements with regard to:

- Annual inspections of capture/collection systems in 40 CFR 63.1510(d)(2);
- Flux monitoring in 40 CFR 63.1510(j)(4) and in Table 3 of the rule;
- Bag leak detection system maintenance in 40 CFR 63.1510(f)(1)(ii) and in Table 3;
- Monitoring of sidewell group 1 furnaces in 40 CFR 63.1510(n)(1);
- SAPU compliance with emission factors in 40 CFR 63.1510(t); and
- Compliance options for sweat furnaces in 40 CFR 63.1510(d)(3) as an alternative to the monitoring requirements to conduct annual flow rate measurements using EPA Methods 1 and 2.

As a result of comments on the 2012 proposal, we are not finalizing an amendment to require a 60-day approval period for operation, maintenance and monitoring (OM&M) plans.

7. Revisions to requirements for performance testing/compliance demonstration. We are finalizing

revisions with respect to the following performance testing requirements:

- References to ACGIH guidelines in 40 CFR 63.1502 and 63.1506 and Tables 2 Table 3 for capture and collection systems;
- Section 63.1511(b)(1) and 63.1511(b)(6) to clarify the conditions under which performance tests must be conducted in order to be representative of testing for a ''worst case'' scenario and that multiple tests may be required to characterize all regulated pollutants;
- Section 63.1511(b)(3) to clarify testing requirements for batch processes;
- Section 63.1511(f)(6) to clarify that testing for representative units means that all performance tests must be conducted on the same affected source or emission unit;
- Section 63.1511(b) to allow 180 days to conduct initial performance testing;
- Section 63.1511(g)(5) with respect to altering parameters during performance testing with new feed/charge types; and
- Paragraphs in 40 CFR 63.1512(e) to clarify the requirement to account for unmeasured emissions during performance testing of uncontrolled group 1 furnaces, including:
  - ○ Requirements for installation of temporary hooding for performance testing on uncontrolled group 1 furnaces or, for existing uncontrolled furnaces, use of 80-percent capture efficiency assumption;
  - ○ testing requirements for new uncontrolled furnaces;
  - ○ conditions where installation of temporary hooding that meets ACGIH guidelines is impractical; and
  - ○ procedures to minimize unmeasured emissions during performance testing of uncontrolled furnaces.

8. Revisions to recordkeeping provisions. We are finalizing revisions to 40 CFR 63.1517(b)(4)(ii) with respect to lime injection rates, 40 CFR 63.1517(b)(14) with respect to records related to the annual inspection of capture/collection systems, and 40 CFR 63.1517(b)(19) with respect to records related to startups and shutdowns.

E. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on September 18, 2015.

The compliance date for the final amendments listed in 40 CFR 63.1501(d) for existing secondary aluminum production affected sources is March 16, 2016. The compliance date for the final amendments listed in 40 CFR 63.1501(c) for existing affected sources is September 18, 2017. The owner or operator of a new affected source that commences construction or reconstruction after February 14, 2012, must comply with all of the requirements of this subparat by September 18, 2015 or upon startup, whichever is later.

In the 2012 proposal, we proposed that existing affected sources comply with the proposed amendments within 90 days of the publication of the final rule in the **Federal Register**. As described in detail in the 2014 supplemental proposal (79 FR 72906), commenters stated that the proposed 90-day compliance deadline was insufficient for sources to comply with certain provisions of the final rule. These commenters recommended compliance dates of 2 to 3 years due to the need to conduct operational planning, maintenance planning, reprogramming of data acquisition systems, design and installation of hooding equipment, and/or negotiations with permitting authorities to gain performance test plan approvals. The EPA agreed that the proposed 90-day compliance deadline was insufficient. However, we did not agree that sources needed 2 to 3 years to comply with all the requirements. Based on consideration of the comments and further evaluation of the amount of time needed for each of the requirements, the 2014 supplemental proposal included extended compliance periods of 180 days for the revisions listed in 40 CFR 63.1501(d). In this action, we are finalizing compliance deadlines of 180 days after publication of this final rule in the **Federal Register** for the revisions in 40 CFR 63.1501(d). For the amendments related to HF emissions (40 CFR 63.1505(i)(4) and (k)(2)), testing of existing uncontrolled furnaces (40 CFR 63.1512(e)(4), (e)(5), (e)(6) and (e)(7)), and changing furnace classification (40 CFR 63.1514), the EPA agrees that a longer time to comply is appropriate and proposed a compliance period of 2 years in the 2014 supplemental proposal. In this action, we are finalizing a compliance deadline of 2 years after publication of this final rule in the **Federal Register** for the provisions listed in 40 CFR 63.1501(e).

F. What are the requirements for submission of performance test data to the EPA?

As stated in the preamble of the 2012 proposal, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is requiring owners and operators of secondary aluminum production facilities to submit electronic copies of certain required performance test reports.

As mentioned in the preamble of the proposal, data will be collected by direct computer-to-computer electronic transfer using EPA-provided software. As discussed in the proposal, the EPA-provided software is an electronic performance test report tool called the ERT. The ERT will generate an electronic report package which will be submitted to the Compliance and Emissions Data Reporting Interface (CEDRI) and then archived to the EPA's Central Data Exchange (CDX). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html*, and CEDRI can be accessed through the CDX Web site at *www.epa.gov/cdx*.

The requirement to submit performance test data electronically to the EPA does not create any additional performance testing and will apply only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site. The EPA believes, through this approach, industry will save time in the performance test submittal process. Additionally, this rulemaking benefits industry by cutting back on recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be kept in hard copy.

As mentioned in the proposed preamble, state, local, and tribal agencies will benefit from more streamlined and accurate review of performance test data that will be available on the EPA WebFIRE database. The public will also benefit. Having these data publicly available enhances transparency and accountability. For a more thorough discussion of electronic reporting of performance tests using direct computer-to-computer electronic transfer and using EPA-provided software, see the discussion in the preamble of the proposal.

In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, state, local, tribal agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

G. What materials are being incorporated by reference?

In this final rule, the EPA is including regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is incorporating by reference the following documents described in the amendments to 40 CFR 63.14:

- ASTM D7520–13, Standard Test Method for Determining the Opacity of a Plume in an Outdoor Ambient Atmosphere, approved December 1, 2013.
- EPA–625/3–89–016, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989, U.S. Environmental Protection Agency.
- Industrial Ventilation: A Manual of Recommended Practice, 23rd Edition, 1998, Chapter 3, ''Local Exhaust Hoods'' and Chapter 5, ''Exhaust System Design Procedure.'' American Conference of Governmental Industrial Hygienists.
- Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition, 2010, American Conference of Governmental Industrial Hygienists.

In the 2014 supplemental proposal, we identified ASTM D7520–09 as an alternative method for the currently required EPA Method 9. Since then, the method has been updated to incorporate specific requirements that we included as add-ons to our broad alternative test method approval of the 2009 version of the ASTM method. We do not expect any concerns changing to the new version because the additional requirements are handled by the vendors of the digital camera/software systems.

The EPA has made, and will continue to make, these documents generally available electronically through *www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the **ADDRESSES** section of this preamble for more information).

IV. What is the rationale for our final decisions and amendments for the Secondary Aluminum Production source category?

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the comment summary and response document, which is available in the docket.

A. Residual Risk Review for the Secondary Aluminum Production Source Category

1. What did we propose pursuant to CAA section 112(f) for the Secondary Aluminum Production source category?

Pursuant to CAA section 112(f), we conducted a revised residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and AMOS, in the December 8, 2014, supplemental proposal (79 FR 72874). The results of the revised risk assessment are presented briefly below in Table 2 and in more detail in the residual risk document, *Residual Risk Assessment for the Secondary Aluminum Source Category in Support of the 2015 Risk and Technology Review Final Rule,* which is available in the docket for this rulemaking.

a. *Inhalation Risk Assessment Results.* The results of the chronic baseline inhalation cancer risk assessment indicate that, based on estimates of current actual emissions, the maximum individual risk (MIR) posed by the Secondary Aluminum Production source category from major sources and from area sources was less than 1-in-1 million. The estimated cancer incidence was slightly higher for area sources compared to the major sources due to the larger number of area sources nationwide. The total estimated cancer incidence from secondary aluminum production sources from both major and area sources based on actual emission levels was 0.002 excess cancer cases per year, with emissions of D/F, naphthalene, and Polycyclic Aromatic Hydrocarbons (PAH) contributing 48 percent, 31 percent, and 11 percent, respectively, to this cancer incidence. In addition, we note that there are no excess cancer risks greater than or equal to 1-in-1 million as a result of inhalation exposure to actual emissions from this source category over a lifetime. The maximum modeled chronic non-cancer hazard index (HI) target organ-specific HI (TOSHI) value for the source category for both major and area sources based on actual emissions was estimated to be 0.04, with HCl emissions from group 1 furnaces accounting for 99 percent of the HI.

TABLE 2—SECONDARY ALUMINUM PRODUCTION SOURCE CATEGORY INHALATION RISK ASSESSMENT RESULTS

Number of facilities modeled	Maximum individual cancer risk (in 1-million) [a]		Estimated annual cancer incidence (cases/yr) [d]	Estimated population at increased risk of cancer ≥ 1-in-1 million [d]	Maximum chronic non-cancer TOSHI [b]		Worst-case maximum screening acute non-cancer HQ [c]
	Based on actual emissions	Based on allowable emissions			Based on actual emissions level	Based on allowable emissions level	
Major Sources (52)	0.6	4	0.0007	0	0.04	0.1	$HQ_{(REL)}$ = 0.7 (HF). $HQ_{(AEGL1)}$ = 0.4 (HCl).
Area Sources (103)	0.3	1	0.001	0	0.0003	0.001	NA.
Facility-wide (52 Major Sources)	70	NA	0.05	760,000	1	NA	NA.

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category for major sources and D/F emissions from the source category for area sources.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Secondary Aluminum Production source category for both actual and allowable emissions is the respiratory system.

[c] There is no acute dose-response value for D/F. Thus an acute hazard quotient (HQ) value for area sources was not calculated. The maximum off-site HQ acute value of 0.7 for actuals is driven by emissions of hydrofluoric acid. See section III.A.3 of the 2014 supplemental proposal (79 FR 72885) for explanation of acute dose-response values. Acute assessments are performed based on actual emissions.

[d] These estimates are based upon actual emissions.

When considering MACT-allowable emissions, the inhalation cancer MIR was estimated to be up to 4-in-1 million, driven by emissions of D/F compounds, naphthalene, and PAHs from the scrap dryer/delacquering/decoating kiln. The estimated potential cancer incidence considering allowable emissions for both major and area sources was estimated to be 0.014 excess cancer cases per year, or 1 case every 70 years. Approximately 3,400 people were estimated to have cancer risks greater than or equal to 1-in-1 million considering allowable emissions from secondary aluminum production plants. When considering MACT-allowable emissions, the maximum chronic non-cancer TOSHI value was estimated to be 0.1, driven by allowable emissions of HCl from the group 1 furnaces.

b. *Acute Risk Results.* Our screening analysis for worst-case acute impacts based on actual emissions indicates no pollutants exceeding an HQ value of 1 based upon the REL.

c. *Multipathway Risk Screening Results.* Results of the worst-case Tier 1 screening analysis indicated that 36 of the 52 major sources exceeded the persistent and bio-accumulative HAP (PB–HAP) emission cancer screening rates (based on estimates of actual emissions) for D/F, and 3 of the 52 major sources exceeded the Tier 1 screen value for PAHs. Regarding area sources, 60 of the 103 area sources exceeded the PB–HAP emission cancer screening rates (based on estimates of actual emissions) for D/F. For the compounds and facilities that did not screen out at Tier 1, we conducted a Tier 2 screen. The Tier 2 screen replaces some of the assumptions used in Tier 1 with site-specific data, including the location of fishable lakes and local precipitation, wind direction, and speed. The Tier 2 screen continues to rely on high-end assumptions about consumption of local fish and locally grown or raised foods (adult female angler at 99th percentile consumption for fish for the subsistence fisherman scenario and 90th percentile consumption for locally grown or raised foods for the farmer scenario). It is important to note that, even with the inclusion of some site-specific information in the Tier 2 analysis, the multipathway screening analysis is still a very conservative, health-protective assessment (*e.g.,* upper-bound consumption of local fish and locally grown and/or raised foods). In all likelihood, this analysis will yield results that serve as an upper-bound multipathway risk associated with a facility.

While the screening analysis was not designed to produce a quantitative risk result, the factor by which the emissions exceed the threshold serves as a rough gauge of the ''upper-limit'' risks we would expect from a facility. Thus, for example, if a facility emitted a PB–HAP carcinogen at a level 2 times the screening threshold, we can say with a high degree of confidence that the actual maximum cancer risks will be less than 2-in-1 million. Likewise, if a facility emitted a noncancer PB–HAP at a level 2 times the screening threshold, the maximum noncancer hazard would represent an HQ less than 2. The high degree of confidence comes from the fact that the screens are developed using the very conservative (health-protective) assumptions that we describe above.

Based on the Tier 2 cancer screening analysis, 25 of the 52 major sources and 34 of the 103 area sources emitted D/F above the Tier 2 cancer screening thresholds for the subsistence fisher and farmer scenarios. The individual D/F emissions were all scaled based on their toxicity to 2,3,7,8-tetrachlorodibenzo-p-dioxin and reported as TEQ. The subsistence fisher scenario for the highest risk facilities exceeded the D/F cancer threshold by a factor of 80 for the major sources and by a factor of 70 for the area sources. The Tier 2 analysis also identified 23 of the 52 major sources and 26 of the 103 area sources emitting D/F above the Tier 2 cancer screening thresholds for the subsistence farmer scenario. The highest exceedance of the Tier 2 screen value was 40 for the major sources and 20 for the area sources for the farmer scenario.

We had only one major source emitting PAHs above the Tier 2 cancer screen value with an exceedance of 2 for the farmer scenario. All PAH emissions were scaled based on their toxicity to benzo(a)pyrene and reported as TEQ.

A more refined Tier 3 multipathway screening analysis was conducted for six Tier 2 major source facilities. The six facilities were selected because the Tier 2 cancer screening assessments for these facilities had exceedances greater than or equal to 50 times the screen value for the subsistence fisher scenario. The major sources represented the highest screened cancer risk for multipathway impacts. Therefore, further screening analyses were not performed on the area sources. The Tier 3 screen examined the set of lakes from which the fisher might ingest fish. Any lakes that appeared not to be fishable or not publicly accessible were removed from the assessment, and the screening assessment was repeated. After we made the determination the critical lakes were fishable, we analyzed plume rise data for each of the sites. The Tier 3 screen was conducted only on those HAP that exceeded the Tier 2 screening threshold, which for this assessment were D/F and PAHs. Both of these PB–HAP are carcinogenic. The Tier 3 screen resulted in lowering the maximum exceedance of the screen value for the highest site from 80 to 70. Results for the other sites were all less than 70. The highest exceedance of the Tier 2 cancer screen value of 40 for the farmer scenario was also reduced in the Tier 3 screening assessment to a value of 30 for the major sources within this source category.

Overall, the refined multipathway screening analysis for D/F and PAHs utilizing the Tier 3 screen predicted a potential lifetime cancer risk of 70-in-1 million or lower to the most exposed individual, with D/F emissions from group 1 furnaces handling other than clean charge driving the risk. Cancer risks due to PAH emissions for the maximum exposed individual were less than 1-in-1 million.

The chronic non-cancer HQ was predicted to be below 1 for cadmium compounds and 1 for mercury compounds. For lead, we did not estimate any exceedances of the Primary Lead National Ambient Air Quality Standards (NAAQS).

Further details on the refined multipathway screening analysis can be found in Appendix 8 of the *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule,* which is available in the docket.

d. *Environmental Risk Screening Results.* We conducted an environmental risk screening assessment for the Secondary Aluminum Production source category for the following seven pollutants: PAHs, mercury (methyl mercury and mercuric chloride), cadmium, lead, D/F, HCl, and HF.

Of the seven pollutants included in the environmental risk screen, major sources in this source category emit PAHs, mercuric chloride, cadmium, lead, D/F, HCl, and HF. In the Tier 1 screening analysis for PB–HAP, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the lowest-observed-adverse-effect level (LOAEL) or no observed adverse effects level (NOAEL)) for PAHs, mercuric chloride, cadmium, and D/F. For lead, we did not estimate any exceedances of the Secondary Lead NAAQS. For HCl and HF, the average modeled concentration around each facility (*i.e.,* the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmark. In addition, each individual modeled concentration of HCl and HF (*i.e.,* each off-site data point in the modeling domain) was below the ecological benchmarks for all facilities.

Of the seven pollutants included in the environmental risk screen, area sources in this source category are regulated only for D/F. In the Tier 1 screening analysis for D/F, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the LOAEL or NOAEL) for D/F.

e. *Facility-wide Risk Assessment Results.* Considering facility-wide emissions at the 52 major sources, the MIR was estimated to be 70-in-1 million driven by arsenic and nickel emissions, and the chronic non-cancer TOSHI value was calculated to be 1, driven by emissions of cadmium compounds. The above risks were driven by emissions from the potline roof vents at the co-located primary aluminum production operations. The Secondary Aluminum Production source category represents less than 1 percent of the inhalation risks from the facility-wide assessment based upon actual emissions. The risks due to primary aluminum production operations are being addressed in a separate RTR rulemaking for the Primary Aluminum Production source category that EPA plans to finalize later this year.

f. *What demographic groups might benefit from this regulation?* We conducted a proximity analysis during the development of the proposed rule, and that analysis is also being used in support of this final rule. We conclude that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. However, the final rule will provide additional benefits to these demographic groups by improving the compliance, monitoring and implementation of the NESHAP.

The detailed results of the proximity analyses can be found in the *EJ Screening Report for Secondary Aluminum Area Sources and the EJ Screening Report for Secondary Aluminum Major Sources,* which are available in the docket for this rulemaking.

2. How did the risk review change for the Secondary Aluminum Production source category?

No new information was received that would alter the results of the revised risk review presented in support of the 2014 supplemental proposal, so no changes were made.

3. What key comments did we receive on the risk review, and what are our responses?

Several comments were received regarding the revised risk assessment for the Secondary Aluminum Production source category. The following is a summary of some key comments and our responses to those comments. Other comments received and our responses to those comments can be found in the document titled, *National Emission Standards for Hazardous Air Pollutant Emissions: Secondary Aluminum Production Summary of Public Comments and Responses on Proposed Rule (77 FR 8576, February 14, 2012) and Supplemental Proposal (79 FR 72874, December 8, 2014),* which is available in the docket for this action.

Comment: One commenter[5] stated that the EPA should reconsider its finding of acceptable risk and instead find risks unacceptable for the following reasons.

The multipathway risk from D/F emissions: *i.e.*, a lifetime cancer risk of up to 70-in-1 million for the most-exposed individual to emissions via a fish (‘‘fisher’’) route of exposure, and an additional cancer risk of up to 30-in-1 million for the most-exposed individual to such emissions from a farm (‘‘farmer’’) route of exposure. These exposures add up to 100-in-1 million. The EPA has a policy of adding cancer risks to determine the most-exposed individual's maximum risk. The EPA estimates cancer risks ‘‘as the sum of the risks for each of the carcinogenic HAP’’ because ‘‘[s]umming the risks of these individual compounds to obtain the cumulative cancer risks is an approach that was recommended by the EPA's SAB in their 2002 peer review of the EPA's National Air Toxics Assessment.’’ 79 FR 72886 and n.7 (citing National Air Toxic Assessment (NATA)—Evaluating the National-scale Air Toxics Assessment 1996 Data—a Science Advisory Board (SAB) Advisory). The Agency has given no valid justification for not recognizing that the maximum cancer risk from multipathway exposure could be as high as 100-in-1 million, sufficient for the EPA to find risk unacceptable. Furthermore, the EPA has recognized that the inhalation-based cancer risk could be as high as 4 (based on allowable emissions), or 0.6 (based on so-called ‘‘actual’’ emissions). Adding this risk (whether 0.6 or 4) to 100-in-1 million would exceed the EPA's benchmark of 100-in-1 million. The EPA has provided no valid basis for not adding inhalation and multipathway cancer risks. The EPA should look at the whole picture of cancer risk, in view of its additive policy for cancer. Thus, together these data points show that the EPA should find total cancer risk from this source category to be unacceptable.

Moreover, the EPA's multipathway risk does not evaluate all persistent and/or bioaccumulative pollutants, and, thus, its multipathway risk assessment is likely underestimating these risks. The EPA should evaluate all persistent, bioaccumulative, and toxics (PBTs) emitted by the secondary aluminum source category, including all HAP metals emitted (such as arsenic and nickel).

In addition, if inhalation-based cancer risk is more than 3 times as high from allowable emissions (as from so-called ‘‘actual’’ emissions), then multipathway-based cancer risk, which the EPA has not evaluated based on allowable emissions, is also likely to be more than 3 times as high, or at least higher than the numbers the EPA found. Thus, the fish-based risk could be as high as 210-in-1 million, and the farm-based risk could be as high as 90-in-1 million; together, the maximum multipathway cancer risk the EPA should be considering for the most-exposed individual is 300-in-1 million. The EPA has given no valid justification for not considering allowable emissions-based risk from multipathway exposure. Doing so would lead the Agency to find cancer risk from multipathway exposure to be well above 100-in-1 million.

The commenter stated that the above analysis shows why, based on cancer risk alone, the EPA should find secondary aluminum plants' current risk is unacceptable and, thus, set standards to reduce these plants' D/F and other cancer-causing emissions.

The commenter stated that the EPA also found other health risks, including chronic non-cancer and acute risks, which only add more evidence of the harm the most-exposed individual faces from this source category. The commenter stated that, for example, the acute HQ from HF is 0.7, and from HCl is 0.4, which, added together, to consider the maximum acute risk, would be 1.1, above the level at which the EPA recognizes harm can occur. The commenter stated that the EPA has not added these risks, nor given any valid justification for not doing so, even though if there is an acute spike in emissions, it is just as likely that the most-exposed person would breathe various pollutants that may spike together—*i.e.*, HCl, HF, and other pollutants, not just each pollutant individually. The commenter stated that the EPA's acute HQ is likely too low.

The commenter stated that it is also unclear whether the EPA has used the most current, most protective D/F reference doses and concentrations, including the 2012 D/F value of 7×10^{-10} milligram (mg)/kilogram (kg)-day, for chronic oral exposure; the EPA should confirm that it has used the best

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[5] In summarizing the key comments, we have indicated when a comment was submitted on the 2014 supplemental proposal. Unless otherwise noted, the remaining comments were submitted on the 2012 proposed rule.

available scientific information on reference values. The commenter stated that the EPA should follow the best available scientific approach to risk assessment, as shown in California's risk assessment guidance manual and supporting scientific documents.

Response: We disagree with the commenter's arguments for finding risks to be unacceptable and have combined risk to the extent that it is appropriate to do so. We explain below and in the Residual Risk Assessment document, which is available in the docket for this rulemaking, why we do not sum the risk results from the fisher and farmer scenarios in our multipathway analysis and why we do not combine the risk values from our inhalation assessment with those of the multipathway analysis. We also explain the scope of our multipathway analysis in terms of the pollutants, the source of their dose-response values, and the emission levels. In addition, we explain below why we do not use a TOSHI approach for acute analyses. (See also the *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule*.)

In the multipathway screening assessment, we did not sum the risk results of the fisher and farmer scenarios. The modeling approach used for this analysis constructs two different exposure scenarios, which serves as a conservative estimate of potential risks to the most-exposed receptor in each scenario. Based on the information and assumptions in the assessment, it is highly unlikely that the most-exposed farmer is the same person as the most-exposed fisher, therefore, it is not reasonable to add risk results from these two exposure scenarios. (See Appendix 5 and Section 2.5 of the *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule*.)

We disagree with the commenter's statement that we should combine the results of our inhalation and multipathway assessments for this source category. We determined that it would be inappropriate to do so based on the differences in the design and results of the two types of assessments, as well as the highly conservative nature of the multipathway assessment. First, the screening scenario is a hypothetical scenario, and, due to the theoretical construct of the screening model, exceedances of the thresholds are not directly translatable into, or additive with, estimates of risk or HQ for these facilities. The result of the multipathway screen is number representing an exceedance of a benchmark, which is a ratio, and the results of a cancer risk assessment is a mathematical probability (*i.e.,* increased risk of cancer due to exposure to the HAP emissions from the source category). It is not mathematically appropriate or consistent to add them together. Second, the multipathway risk assessment was a screening-level assessment and not a full risk assessment. The screening assessment used highly conservative assumptions designed to ensure that facilities with results below the screening threshold values did not have the potential for multipathway impacts of concern. The results of the multipathway screen represent a high-end estimate of what the multipathway risk or hazard may be. For example, an exceedance of 2 for a non-carcinogen can be interpreted to mean that we have high confidence that the hazard would be less than 2. Similarly, an exceedance of 30 for a carcinogen means that we have high confidence that the risk is lower than 30-in-1 million. Our confidence comes from the conservative, health-protective assumptions that are in the multipathway screens: We choose inputs from the upper end of the range of possible values for the influential parameters used in the screens; and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total multipathway exposure. We conclude that it is not appropriate to sum the risk results from the chronic inhalation assessment and the screening multipathway assessment. In addition, it is highly unlikely that the same receptor has the maximum results in both assessments. In other words, it is unlikely that the person with the highest chronic inhalation cancer risk is also the same person with the highest individual multipathway cancer risk because it is unlikely that the same receptor has the maximum exposure and risk in both assessments.

We currently do not have screening values for some PB–HAP, but we disagree that the multipathway assessment is inadequate because it did not include ''all HAP metals emitted (such as arsenic and nickel).'' We developed the current PB–HAP list considering all available information on persistence and bioaccumulation (see *http://www2.epa.gov/fera/air-toxics-risk-assessment-reference-library-volumes-1-3,* specifically Volume 1, Appendix D). (The Air Toxics Risk Assessment Reference Library presents the decision process by which the PB–HAP were selected and provides information on the fundamental principles of risk-based assessment for air toxics and how to apply those principles.) In developing the list, we considered HAP identified as PB–HAP by other EPA Program Offices (*e.g.,* the Great Waters Program), as well as information from the PBT profiler (see *http://www.pbtprofiler.net/*). Considering this list was peer-reviewed by the SAB and found to be acceptable, we believe it to be reasonable for use in risk assessments for the RTR program. Based on these sources and the limited available information on the persistence and bioaccumulation of other HAP, we do not believe that the potential for multipathway risk from other HAP not on the list, such as other metal HAP including arsenic and nickel, rises to the level of the PB–HAP on the list. However, in the future, we may add more pollutants to the multipathway analysis if we determine it is appropriate to do so.

Regarding the commenter's assertion that we did not base the multipathway risk assessment on allowable emissions, we believe it is reasonable for the multipathway risk assessment to be based on actual emissions for this source category, and not the allowable level of emissions that facilities are permitted to emit. The uncertainties associated with the multipathway screen along with uncertainties in the allowable emissions estimates, which are highly variable for this source category, would make a multipathway risk assessment based on allowable emissions highly uncertain. Such an assessment would be too uncertain to support a regulatory decision. Many of the best-performing (based on actual emissions) sources have allowable emissions that are orders of magnitude greater than their actual emissions, and those facilities could not reasonably be expected to operate in such a manner that would result in emissions that even approach our estimates of allowable emissions.

The commenter also argues for summing acute hazard quotients from different HAP to assess acute non-cancer risk. We do not sum results of the acute noncancer inhalation assessment to create a combined acute risk number that would represent the total acute risk for all pollutants that act in a similar way on the same organ system or systems (analogous to the chronic TOSHI) because the worst-case acute screen is already a conservative scenario. The acute screening scenario assumes worst-case meteorology, peak emissions for all emission points occurring concurrently and an individual being located at the site of maximum concentration for an hour. Thus, as noted in the risk assessment report available in the docket, ''because of the conservative nature of the acute inhalation screening and the variable nature of emissions and potential exposures, acute impacts were screened on an individual pollutant basis, not using the TOSHI approach.''

The dose-response values used in the risk assessment, including those for D/F, are based on the current peer reviewed Integrated Risk Information System (IRIS) values, as well as other similarly peer-reviewed values. Our approach, which uses conservative tools and assumptions, ensures that our decisions are appropriately health protective and environmentally protective. The approach for selecting appropriate health benchmark values, in general, places greater weight on the EPA derived health benchmarks than those from other agencies (see *http://www.epa.gov/ttn/atw/nata1999/99pdfs/healtheffectsinfo.pdf*). This approach has been endorsed by the SAB. The SAB further recommended that the EPA scrutinize values that emerge as drivers of risk assessment results and the Agency has incorporated this recommendation into the risk assessment process. This may result in the EPA determining that it is more appropriate to use a peer-reviewed dose-response value from another agency even if an IRIS value exists.

We generally draw no bright lines of acceptability regarding cancer or noncancer risks from source category HAP emissions. It is always important to consider the specific uncertainties of the emissions and health effects information regarding the source category in question when deciding exactly what level of cancer and noncancer risk should be considered acceptable. In addition, the source category-specific decision of what constitutes an acceptable level of risk should be a holistic one; that is, it should simultaneously consider all potential health impacts—chronic and acute, cancer and noncancer, and multipathway—along with their uncertainties, when determining the acceptable level of source category risk. The Benzene NESHAP decision framework of 1989 acknowledged this; such flexibility is imperative, because new information relevant to the question of risk acceptability is being developed all the time, and the accuracy and uncertainty of each piece of information must be considered in a weight-of-evidence approach for each decision. This relevant body of information is growing fast (and will continue to do so), necessitating a flexible weight-of-evidence approach that acknowledges both complexity and uncertainty in the simplest and most transparent way possible. While this challenge is formidable, it is nonetheless the goal of the EPA's RTR decision-making, and it is the goal of the risk assessment to provide the information to support the decision-making process.

Comment: One commenter recommended that the EPA consider potential or allowable emissions, rather than actual emissions, as much as possible in evaluating residual risk. The commenter stated that because facility emissions could increase over time for a variety of reasons, and with them the associated impacts, the use of potential or allowable emissions is more appropriate; an analysis based on actual emissions from a single point in time could underestimate the risk. The commenter stated that the major source HAP thresholds are based on maximum potential-to-emit, as opposed to actual emissions, and air agencies issue permits based on potential emissions. The commenter stated that limiting the scope of a risk evaluation to actual emissions would be inconsistent with the applicability section of 40 CFR part 63 rules. The commenter stated that they were pleased that the EPA used allowable emissions in parts of the rulemaking, but were concerned that the EPA continues to use actual emissions in other parts of its assessment. The commenter encouraged the agency to use allowable emissions in the future, including in assessing acute health risks.

One commenter agreed that the EPA appropriately concluded that secondary aluminum production does not pose risks warranting standard revision under section 112(f) of the CAA. The commenter noted that under the proposal, the EPA would find that the risks from the emission of HAP from sources in the Secondary Aluminum Production source category are acceptable and that the current MACT standards provide an AMOS to protect public health and prevent an adverse environmental effect. The commenter stated that to determine these findings, the EPA utilized both MACT-allowable and actual emissions data for its risk analysis. The commenter supported the findings of acceptable risk and an AMOS, but noted that the use of MACT-allowable emissions in the risk assessment process is not required for such a finding.

The commenter indicated that the use of actual emissions in risk assessments is more accurate than MACT-allowable emissions and is supported by the language of CAA section 112(f). The EPA is required to promulgate emission standards under CAA section 112(f) if ''excess cancer risks to the individual most exposed to emissions from a source'' are 1 in 1 million or greater. The commenter states that the statute does not use words such as ''maximum allowable,'' or ''potential.'' Rather, the statute limits the risk review to consider the risks to the individual most exposed to the emissions from a particular source. The commenter concluded that it is clear from the wording of the statute that Congress intended the EPA to estimate risk based on the actual exposure. The commenter also stated that MACT-allowable emissions represent a hypothetical, worst-case, emissions level to which an individual is unlikely to ever be exposed, especially given the already conservative assumptions inherent in the risk models. The commenter claimed that basing emission standards on worst-case scenarios can lead to imposition of costly and unnecessary controls which do little to reduce actual risk. The commenter claimed that, given that the EPA has actual emissions data from secondary aluminum production facilities, it should base its risk assessments on this best available data.

In contrast, another commenter stated that they support the findings of acceptable risk, AMOS; and they also support the EPA's revisions to the allowable emissions calculation method that uses the actual amount of charge; however, the use of MACT-allowable emissions in the risk assessment process is not required for such a finding. The commenter stated that due to process variability, sources cannot emit HAP at MACT-allowable levels at all times and remain in compliance and it is likely that sources may reduce their emissions due to state or local rules, or for reasons other than compliance. The commenter stated that basing emission standards on worst-case scenarios can lead to imposition of costly and unnecessary controls, which do little to reduce actual risk. The commenter stated that the EPA points to two previous actions in which the EPA noted that the use of allowable emissions was reasonable; however, in both of these actions, the EPA used actual emissions because they were the most accurate data available. Because the EPA has actual emissions data from secondary aluminum production facilities, the commenter asserted that it should base its risk assessments on these data. The commenter further stated that, to the extent that the EPA continues to calculate allowable emissions, they support the EPA's use of actual charge rates, which reflect real production rates and should result in more accurate allowable emissions totals than maximum production capacity.

Response: Consistent with previous risk assessments, the EPA considers both allowable and actual emissions in assessing chronic exposure and risk under CAA section 112(f)(2). See, *e.g.,* National Emission Standards for Coke Oven Batteries (70 FR 19998–19999, April 15, 2005); proposed and final National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (71 FR 34428, June 14, 2006, and 71 FR 76603, December 21, 2006). This approach is both reasonable and consistent with the flexibility inherent in the Benzene NESHAP framework for assessing acceptable risk and AMOS. As a general matter, modeling allowable emission levels is inherently reasonable since this reflects the maximum level sources could emit and still comply with national emission standards. But it is also reasonable to consider actual emissions, where such data are available, in the acceptable risk and AMOS analyses. See National Emission Standards for Coke Oven Batteries, 70 FR 19992, 19998 (April 15, 2005). The risk assessment for the Secondary Aluminum Production source category was conducted using actual and allowable emissions, and all of the results were considered in determining risk acceptability and AMOS. We agree with the commenter that it is appropriate to estimate allowable emissions using production rates that reflect current operations rather than using maximum production capacity. See *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule.*

One commenter claims that limiting our review to actual emissions would be inconsistent with the applicability section of 40 CFR part 63 rules. As explained above and in the 2014 supplemental proposal, however, we did not limit our review to actual emissions, but rather considered actual emissions and allowable emissions, as appropriate, in particular portions of the risk assessment. The commenter also urges the Agency to rely on allowable emissions for the purpose of our acute screening assessment. We did not rely on allowable emissions for the acute screening assessment due to the conservative assumptions used to gauge worst-case potential acute health effects. The conservative assumptions built into the acute health risk screening analysis include: (1) Use of peak 1-hour emissions that are on average 10 times the annual average 1-hour emission rates; (2) that all emission points experience peak emissions concurrently; (3) worst-case meteorology (from 1 year of local meteorology); and (4) that a person is located downwind at the point of maximum impact during this same 1hour period. Thus, performing an acute screen based on allowable emissions would be overly conservative and, at best, of questionable utility to decision makers.

We also note that our use of allowable emission levels in the risk assessments in this rulemaking did not result in revising the previously established standards due to risk concerns. Therefore, our consideration of allowable emissions in the risk assessments did not result in regulatory decisions that affect any facilities.

Comment: One commenter on the supplemental proposal stated that at least nine secondary aluminum facilities have co-located primary aluminum operations, and for both source categories the EPA found that the facility-wide MIR is 70-in-1 million, driven by arsenic, nickel, and hexavalent chromium, and that the TOSHI (chronic non-cancer risk) is 1, driven by cadmium. The commenter stated that both numbers appear to consider only inhalation risk and must be viewed in context, as scientists have directed the EPA to do. The commenter stated that, if considered in combination with the high secondary aluminum multipathway risk, and with the high inhalation and multipathway risks for primary aluminum, the facility-wide cancer risk provides additional evidence that risks from both source categories are unacceptable, because the most-exposed person's full amount of risk is the combined amount from the co-located primary and secondary aluminum, not just each source category separately. The commenter stated that it would be unlawful and arbitrary to consider each type of risk separately, when people near both sources are exposed to both kinds of risk at the same time, and, thus, face a higher overall amount of risk.

The commenter stated that the EPA has offered and can offer no valid justification for not finding risk from both source categories (including primary aluminum prebake, and secondary aluminum) to be unacceptable based on the co-located and combined risks. The commenter stated that the EPA may not lawfully ignore the full picture of risk that its combined rulemakings show is present for people exposed simultaneously to both source categories at the same facility.

The commenter further stated that, because the EPA only assessed facility-wide risks based on so-called ''actual'' emissions, the facility-wide risk number could be at least 1.5 to 3 times higher. The commenter bases this assertion on the EPA's recognition that allowable emissions from primary aluminum are about 1.5 to 1.9 times higher than actual emissions and the fact that allowable emissions from secondary aluminum are at least 3 times higher than actual emissions.

The commenter stated that it is important that EPA is evaluating facility-wide risk from sources in multiple categories that are co-located and that EPA needs to consider the results of such facility-wide analyses when determining if stronger standards should be established for these sources. The commenter stated that this rulemaking is an important opportunity for the EPA to recognize the need to act based on data showing significant combined and cumulative risks and impacts at the facility-wide level. The commenter stated that the EPA is also required to do so to meet its CAA section 7412(f)(2) duties.

The commenter stated that the EPA also should be evaluating the cumulative risks from all nearby toxics sources in multiple source categories, not looking only at multiple sources in the same category, and different sources at the same facility. The commenter stated that the EPA has said it recognizes the need to put risk in context, but still has not even attempted to evaluate the bigger picture of health risks by looking at all nearby sources (from various source categories, including those collocated and those not collocated). According to the commenter, in doing so would likely lead to recognizing that the individual most-exposed to each of these source categories is also experiencing significant risks from other sources, providing even more evidence as to why the EPA should reduce risks from the primary and secondary aluminum source categories.

Response: With regard to facility-wide assessments, we conducted such assessments for all 52 major sources in the source category, including the nine secondary aluminum production facilities co-located with primary aluminum reduction plants. The methods and results of the facility-wide risk assessment, in addition to the inhalation and multipathway analyses for facilities in the source category, are discussed above and in the risk assessment document for the 2014 supplemental proposal, as well as in the risk assessment document for the 2015 final rule. Specifically, we modeled whole-facility inhalation risks for both chronic cancer and non-cancer impacts to understand the risk contribution of the sources within the secondary aluminum source category to facility-wide risks. The individual cancer risks for the source category were aggregated for all carcinogens. In assessing noncancer hazard from chronic exposures for pollutants that have similar modes of action or (where this information is absent) that affect the same target organ, we aggregated the HQ. This process creates, for each target organ, a TOSHI, defined as the sum of hazard quotients for individual HAP that affect the same organ or organ system. All TOSHI calculations presented here were based exclusively on effects occurring at the ''critical dose'' (*i.e.*, the lowest dose that produces adverse health effects). Whole facility risks were estimated based on emissions data obtained from facilities.

The commenter stated that the EPA must find the risks unacceptable based on the whole-facility risks from co-located primary and secondary aluminum operations. The EPA does not typically include whole-facility assessments in the CAA section 112(f) acceptability determination for a source category. Reasons for this include the fact that emissions and source characterization data are usually not of the same vintage and quality for all source categories that are on the same site, and thus the results of the whole-facility assessment are generally not appropriate to include in the regulatory decisions regarding acceptability. However, in this rare case, we are developing the risk assessments for primary and secondary aluminum production at the same time. The data are generally of the same vintage and we have actual emissions data and source characterization data for both source categories. In response to the comment, we refer to the facility-wide risk assessment, which included the nine facilities with co-located primary and secondary aluminum operations. As discussed above and shown in Table 2, for the facility with the highest risk from inhalation, the facility-wide MIR for cancer from actual emissions is 70-in-1 million. The facility-wide non-cancer hazard is 1. The highest facility-wide exceedance of the multipathway screen is 70. There was no facility-wide exceedance of a noncancer threshold in the multipathway screen. Considering these facility-wide results as part of the acceptability determination does not change our determination that the risks are acceptable for the secondary aluminum source category. We note that while the incorporation of additional background concentrations from the environment in our risk assessments (including those from mobile sources and other industrial and area sources) could be technically challenging, they are neither mandated nor barred from our analysis. In developing the decision framework in the Benzene NESHAP used for making residual risk decisions, the EPA rejected approaches that would have mandated consideration of background levels of pollution in assessing the acceptability of risk, concluding that comparison of acceptable risk should not be associated with levels in polluted urban air (54 FR 38044, 38061, September 14, 1989). Background levels (including natural background) are not barred from the EPA's AMOS analysis, and the EPA may consider them, as appropriate and as available, along with other factors, such as cost and technical feasibility, in the second step of its CAA section 112(f) analysis. As discussed in the 2014 supplemental proposal, the risk assessment for this source category did not include background contributions (that may reflect emissions that are from outside the source category and from other than co-located sources) because the available data are of insufficient quality upon which to base a meaningful analysis.

The commenter is correct that we based our facility-wide risk assessment on actual emission rather than on estimated allowable emissions. Because the facility-wide allowable emissions estimates have not been subjected to the same level of scrutiny, quality assurance, and technical evaluation as the actual emissions estimates from the source category, a facility-wide risk assessment based on allowable emissions estimates would be too uncertain to support a regulatory decision.

4. What is the rationale for our final approach and final decisions for the risk review?

As discussed above and in the 2014 supplemental proposal, after considering health risk information and other factors, including uncertainties, we determined that the risks from the Secondary Aluminum Production source category are acceptable and the current standards provide an AMOS to protect public health. In summary, our revised risk assessment indicates cancer risks below the presumptive limit of acceptability and non-cancer results indicating minimal likelihood of adverse health effects, and we identified no control technologies or other measures that would be cost effective in further reducing risks (or potential risks). In particular, we did not identify any cost-effective approaches to further reduce D/F emissions and multipathway risk beyond what is already being achieved by the current NESHAP.

B. Technology Review for the Secondary Aluminum Production Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Secondary Aluminum Production source category?

Pursuant to CAA section 112(d)(6), we conducted a technology review to identify and evaluate developments in practices, processes and control technologies for the Secondary Aluminum Production source category, as described in the 2012 proposal. Details of the technology review and its findings are available in the memoranda, *Draft Technology Review for the Secondary Aluminum Production Source Category* (Docket item EPA–HQ–OAR–2010–0544–0144) and *Draft Technical Support Document for the Secondary Aluminum Production Source Category* (Docket item EPA–HQ–OAR–2010–0544–0152). The typical controls used to minimize emissions at secondary aluminum facilities include fabric filters for control of PM from aluminum scrap shredders; afterburners for control of THC and D/F from thermal chip dryers; afterburners plus lime-injected fabric filters for control of PM, HCl, THC and D/F from scrap dryers/delacquering kilns/decoating kilns; afterburners for control of D/F from sweat furnaces; fabric filters for control of PM from dross-only furnaces and rotary dross coolers; lime-injected fabric filters for control of PM and HCl from in-line fluxers; and lime-injected fabric filters for control of PM, HCl and D/F from group 1 furnaces. In our review of technology, we determined that there have been some developments in practices, processes or control technologies, but we did not identify any of the developments as cost-effective. We stated in the 2012 proposal that the technology review did not warrant any amendments to Subpart RRR.

Following the 2012 proposal, no public comments were received to alter the conclusions of our technology review for the Secondary Aluminum Production source category. In the 2014 supplemental proposal, we proposed that the technology review findings from the 2012 proposal were still valid and that the EPA was not aware of any changes in technology development since the 2012 proposal. See *Supplemental Proposal Technology Review for the Secondary Aluminum Production Source Category* and *Supplemental Proposal Technical Support Document for the Secondary Aluminum Production Source Category,* both available in the docket for this rulemaking. Based on our findings, no rule amendments based on the technology review were proposed.

2. How did the technology review change for the Secondary Aluminum Production source category?

Following the 2014 supplemental proposal, we received no comments and identified no information to alter our findings and conclusions in the technology review for the Secondary Aluminum Production source category. We did, however, update certain information on capture efficiency and costs. Updated information can be found in *Technical Support Document for the Secondary Aluminum Production Source Category Final Rule,* which is available in the docket for this rulemaking.

3. What key comments did we receive on the technology review, and what are our responses?

Comment: In a comment on the supplemental proposal, commenter 0301 stated that this source category is listed for regulation under 42 U.S.C. 7412(c)(6) as a result of its dioxin/furan emissions and that EPA has proposed to rely on the Secondary Aluminum standards to meet its section 7412(c)(6) responsibility, in part, for dioxin {Commenter's footnote: EPA, Completion of Requirement to Promulgate Emissions Standards, 79 FR 74,656, 74,664 tbl.1 (Dec. 16, 2014)}. The commenter stated that in this rulemaking, EPA has proposed not to update these emission standards to strengthen protection from dioxins/furans, even though it recognizes that developments in practices, processes, and control technologies have occurred that could reduce HAP emissions, such as activated carbon injection. The commenter stated that as explained in their 2012 comments on primary aluminum, when there are ''developments'' under section 7412(d)(6), EPA must promulgate revised standards. The commenter stated that revised emission standards—like any other section 7412(d) standards—must satisfy the floor and beyond-the-floor requirements of section 7412(d)(2)–(3), which state that they apply explicitly to ''emissions standards promulgated under this subsection,'' *i.e.*, under section 7412(d). The commenter stated that EPA must set revised standards that are at least as stringent as the emission limitation achieved by the relevant best-performing sources under section 7412(d)(3), and must assure the maximum achievable degree of emission reduction at the beyond-the-floor stage, as required by section 7412(d)(2).

Response: The original MACT standards for dioxins/furans for the secondary aluminum industry helped to satisfy the EPA's obligations under 42 U.S.C. 7412(c)(6), and the subsequent technology reviews for the source category has no bearing on our 112(c)(6) finding.

The commenter is incorrect in stating that there have been developments in practices, processes, and control technologies that would warrant revisions to the standards. As we stated in the preamble to the supplemental proposal (79 FR at 72901), there have been no developments in technology in this industry that warrant any changes to subpart RRR. The commenter's identification of activated carbon as a new control technology for this industry is also not correct as it has been available to the industry since before the 2000 final rule. Furthermore, as part of the technology review contained in the 2014 supplemental proposal (see 79 FR at 72901), we performed an analysis to evaluate lowering the D/F emissions limit from 15 to 10 μg TEQ/Mg for group 1 furnaces processing other than clean charge at all facilities. The analysis performed for the supplemental proposal assumed that furnaces above 10 μg TEQ/mg added activated carbon injection to achieve exactly the 10 ug TEQ/Mg limit. That analysis has been updated and assumes that all furnaces with emissions above 10 μg TEQ/Mg that add activated carbon injection achieve an 85-percent reduction in D/F emissions. The updated analysis is available in *Technical Support Document for the Secondary Aluminum Production Source Category Final Rule,* which is available in the docket for this rulemaking.

We disagree with the comments suggesting that the EPA must recalculate MACT floors and conduct beyond-the floor analyses under CAA section 112(d)(2)–(3) as part of the section 112(d)(6) review. As explained in a prior RTR rulemaking, the EPA does not read 112(d)(6) as requiring a reanalysis or recalculation of MACT floors. See National Emission Standards for Coke Oven Batteries (70 FR 19998–19999, April 15, 2005). We read section 112(d)(6) as providing the EPA with substantial latitude in weighing a variety of factors and arriving at an appropriate balance in considering revisions to standards promulgated under section 112(d)(2) & (3). Nothing in section 112(d)(6) expressly or implicitly requires that EPA recalculate the MACT floor as part of the section 112(d)(6) review. This position has been upheld by the court. *NRDC* v. *EPA*, 529 F.3d 1077, 1084 (D.C. Cir. 2008). We disagree with the commenters that the court's decision hinged on the fact that for the rulemaking at issue we had not identified any developments in practices, processes and control technologies under CAA section 112(d)(6). Rather, the court first states ''[w]e do not think the words 'review and revise as necessary' can be construed reasonably as imposing'' an obligation to completely recalculate maximum achievable control technology. *Id.*

In another comment on the supplemental proposal, one commenter stated that they concur with the Agency's determination that there have been no new developments in practices, processes or control technologies that are applicable to the secondary aluminum production source category that would warrant revisions to the NESHAP.

4. What is the rationale for our final approach for the technology review?

As discussed above and in the 2012 and 2014 proposals, we determined that there have been some developments in practices, processes or control technologies, but we concluded that the technology developments did not warrant any changes to Subpart RRR.

C. Testing of Group 1 Furnaces That Do Not Have Add-On Pollution Control Devices

1. What did we propose related to testing of uncontrolled group 1 furnaces?

In the 2012 proposal, to clarify how furnaces not equipped with an add-on air pollution control device and associated capture and collection system are to be tested for compliance, we proposed compliance alternatives addressing capture and collection of emissions for uncontrolled furnaces during performance testing. Specifically, we proposed that an owner or operator with an uncontrolled furnace could either temporarily install hooding that meets ACGIH guidelines for the duration of the testing or, for an existing uncontrolled furnace, assume 67-percent capture efficiency for furnace exhaust (*i.e.,* multiply measured emissions by 1.5 to account for the uncollected emissions) without installing temporary hooding. As proposed, if the source uses the 67-percent capture efficiency assumption but fails to demonstrate compliance with the emission standard, the source would have to retest using ACGIH hooding or may petition the appropriate authority (permitting authority for major sources or the Administrator for area sources) that such hoods are impractical for the source and propose alternative testing procedures that will minimize unmeasured emissions. We proposed that the retesting must occur within 90 days.

Based on comments received on the 2012 proposal and our consideration of specific testing scenarios and types of uncontrolled furnaces, we proposed revised requirements for the testing of uncontrolled furnaces in the 2014 supplemental proposal. We proposed that if a source uses the 67-percent capture efficiency assumption but fails to demonstrate compliance, then they must retest using ACGIH hooding within 180 days, or the source may petition the appropriate authority within 180 days that such hoods are impractical and propose alternative testing procedures that will minimize unmeasured emissions. In the supplemental proposal, we also proposed conditions that would be considered impractical to install temporary ACGIH hooding and alternative procedures to minimize unmeasured emissions during testing.

Based on comments received on the 2012 proposal, the 2014 supplemental proposal also contained a provision to exclude existing round top furnaces from the proposed requirement to install temporary ACGIH hooding or to use a 67-percent capture efficiency assumption, as well as the proposed option to submit a petition of impracticality. Instead, we proposed that round top furnaces must be operated to minimize unmeasured emissions during testing.

In response to commenters' requests, we proposed example procedures to minimize unmeasured emissions during testing and amendments to clarify in what circumstances installation of temporary capture hoods for testing would be considered impractical.

2. What changed since proposal related to testing of uncontrolled group 1 furnaces?

Based on our consideration of comments and additional information received following the 2014 supplemental proposal, the following changes have been made in the final rule:

- If a facility owner or operator knows in advance that installing ACGIH hoods for testing is not practical, the facility owner or operator may petition the appropriate authority at least 180 days in advance for approval of plans to use alternative testing procedures that will minimize unmeasured emissions during testing.
- Reconstructed round top furnaces are exempt from the testing requirements in 40 CFR 63.1512(e)(4)(i) and (ii), and (iii).
- Additional methods of minimizing unmeasured emissions during testing of uncontrolled group 1 furnaces are added to 40 CFR 63.1512(e)(7) including the use of one or more fans positioned to direct air flow into an open furnace door, and the use of a smaller but representative charge added to the furnace at one time and conducting the test without additional charge.
- We have revised the capture efficiency assumption to 80 percent.

3. What key comments did we receive related to testing of uncontrolled group 1 furnaces?

Comment: One commenter stated that the EPA should not impose a requirement for group 1 furnaces without add-on air pollution control devices (APCD) to construct hoods for performance tests or be subject to a 33-percent reduction in allowed emissions. The commenter asserted that the EPA improperly characterizes this burdensome proposed requirement as a revision to the NESHAP to reportedly ''correct and clarify provisions in the rule.''

One commenter stated that the EPA has provided no information to demonstrate that the proposed requirement for uncontrolled group 1 furnaces is warranted or is consistent with requirements for developing NESHAP. The commenter is concerned that the only support for the proposed hooding requirement that the EPA has provided in the docket is a summary of two stack tests conducted at a single facility. The commenter states that these tests show a large degree of variability between the two tests and for different chemical parameters within each test. The commenter argued that the EPA has provided no information to demonstrate that these tests are indicative of operations throughout the Secondary Aluminum Production source category.

According to the commenter, the information that the EPA provided in the Technical Support Document indicates that the EPA may not have analyzed an appropriate operation to establish regulatory requirements. The commenter observed that if, as indicated in the Technical Support Document, the canopy hood was sampled for over 3 hours because there were emissions to be captured by it, the charge door must have been open for more than 3 hours during the melt cycle. The commenter stated that this scenario does not represent a conventional melting operation.

The commenter presented further concerns that the Technical Support Document states that the test cycle time in the September 5, 2007, test report ''could be a mistake'' and that the testing reported on September 5, 2007, may be ''flawed.'' The commenter noted a wide variation of capture efficiencies for D/F and questioned the EPA's proposal to apply 67-percent capture efficiency across all parameters and all facilities. The commenter claimed that it is unreasonable to apply capture efficiency based on PM or HCl to area sources when area sources are regulated only for D/F.

The commenter stated that the EPA placed the test reports discussed in the RTI Technical Support Document in the docket a month after the proposed rule was published in the **Federal Register**, which reduced the time reviewers had for comment. The commenter had the following concerns about the test reports:

- There is not sufficient information to understand how the furnaces are configured or operated, including how the hood was constructed or placed, and when or for how long the door(s) were left open;
- The hood draft volumes were large compared to furnace stack gas flow volumes, and the capture measured during the tests may not be a good measure of fugitive emissions that would occur in the absence of an induced draft hood;
- The stack temperatures also appear to be low, possibly due to dilution air being drawn into the stack duct prior to the sampling point, which could mean that actual combustion gas flowing from the furnace are much lower than reported at the stack, and the ratio of hood flow volume is much higher than that calculated in the Technical Support Document;
- No production numbers are provided so it is not possible to determine if the furnaces were operating in compliance with the NESHAP requirements; and
- The EPA has provided no indication that they attempted to determine the representativeness of the tests.

One commenter stated that fugitive emissions are minor from a well operated group 1 furnace without add-on controls, as door openings and top removals are kept at a minimum to conserve energy and burners are generally kept at reduced firing rates when furnaces are opened. The commenter stated that the 67-percent capture assumption that the EPA drew does not seem reasonable based on the commenter's observations.

The commenter emphasized that emissions from round top furnaces are negligible during periods when the top is off and burners are on low fire. The commenter stated that these furnaces would be placed at a competitive disadvantage by reducing the allowable emission by 33 percent. Further, the commenter noted that new round top furnaces are not allowed the 33-percent emission limit reduction in the proposed rule, so operators installing new round top furnaces would be forced to petition on a case-by-case basis to demonstrate impracticability. The commenter recommended that if the EPA finalizes this provision, round top furnaces should be categorically exempt from any hooding requirements because it is impractical to install hoods and because the EPA should not burden state and local agencies with the need to make case-by-case determinations when they can be categorically exempt.

In a comment on the supplemental proposal, one commenter stated that the EPA offers no explanation for limiting the exemption to install ACGIH-compliant hoods for testing to existing round top furnaces only. The commenter stated that they own and operate several existing and new source round top furnaces for which the physical configuration and operation is very similar. The commenter stated that they will construct new or reconstruct existing round top furnaces in the future and that it would be impracticable to construct hoods of any type on any of these furnaces regardless of whether they are existing, new, or reconstructed sources. The commenter recommended that the EPA include new and reconstructed furnaces in its hooding exemption.

In a comment on the supplemental proposal, one commenter stated that, for a variety of design, technical, operational, and safety reasons, it is impractical to install temporary hooding on round top furnaces for performance testing and agreed with our proposed exemption from the performance test hooding requirements for existing round top furnaces. The commenter disagreed, however, with our not proposing an exemption for ''new or reconstructed'' sources (including round top furnaces), asserting that the same fundamental design factors that prohibit installation of temporary hooding on existing round top furnaces also prevent its installation on new round top furnaces. The commenter requested that the word ''existing'' be removed from the round top furnace exemption language proposed in 40 CFR 63.1512(e)(4)(iii) and that the words ''or reconstructed non-round top'' be added to (5) such that it reads

''(5) When testing a new or reconstructed, non-round top uncontrolled furnace the owner or operator must . . .''

One commenter maintained that allowing facilities to petition permitting authorities that such hoods are impractical is not an acceptable alternative to the proposed rule and suggested that the EPA allow site-specific procedures in OM&M plans for group 1 uncontrolled furnaces to minimize fugitive emissions.

One commenter asserted that the proposed ACGIH hooding requirement ignores the consideration that the EPA made for fugitive emissions in the original MACT floor determination and implements requirements for ACGIH hooding that go beyond the floor. The commenter stated that, in the 2000 Secondary [Aluminum] MACT rule, performance testing of controlled sources was conducted to define the MACT floor. Although some fugitive emissions were visible near capture hoods, the EPA did not specify a numerical capture efficiency requirement, visible emissions limit, or specific limits or criteria for capture systems. Instead, the EPA included a provision to address hooding systems to capture and collect emissions by including guidelines published in Chapters 3 and 5 of ACGIH *Industrial Ventilation: A Manual of Recommended Practice*, which is incorporated into the rule by reference. The commenter stated that owners/operators of sources with existing add-on control systems have been challenged with regard to the capture/collection system design guidelines in the ACGIH manual, and, according to the commenter, there have been instances when there has been a misuse of the ACGIH Industrial Ventilation Manual. The commenter asserted that the EPA and some permitting agencies are interpreting the manual and incorporating portions of various charts, tables and text as regulatory requirements. The commenter stated that the authors of the ACGIH Industrial Ventilation Manual did not intend, and specifically state in the Forward of the manual that ''The manual is not intended, to be used as law, but rather as a guide.''

One commenter contended that in the original MACT proposal and rulemaking, the EPA provided no supporting data to demonstrate that the MACT floor technology control systems tested for each Secondary Aluminum Production source category is actually capable of meeting the capture/collection system design requirements in the ACGIH manual. The commenter asserted that the EPA and some permit authorities during implementation of the rule, without supporting documentation, imposed specific capture/collection system design requirements on all existing add-on control systems that effectively exceed the MACT floor determinations. The commenter further asserted that the EPA did not follow the regulatory procedures for going ''above the floor'' during the rulemaking process in imposing more stringent hooding requirements.

In a comment on the supplemental proposal, one commenter stated that, if the EPA retains the requirement that uncontrolled furnaces conduct performance testing using ACGIH-compliant hooding, the current emission limits for group 1 uncontrolled furnaces should be reevaluated. The commenter stated that the supplemental proposal sets new requirements for uncontrolled furnaces that go beyond the existing MACT floor and was based upon a 33-percent reduction developed from limited data. The commenter requested that the EPA collect more emissions data from uncontrolled furnaces tested with ACGIH capture hoods and make new MACT floor determinations and set new numerical emission limits that properly account for the higher total emissions caused by the collection of fugitive emissions collected by the ACGIH-compliant hoods.

Several commenters maintained that the EPA is basing the proposed ACGIH hooding requirement on a limited, unrepresentative, and flawed dataset.

One commenter expressed concern that the dataset on which the EPA based their proposed action was made available only after publication of the proposal. The commenter stated that due to the limited information available to the industry, no additional testing has been performed to assess the impact of the proposed action, or its economic or engineering feasibility.

Two commenters observed that the EPA has erroneously based the 67-percent hooding assumption on very limited test data from two furnaces operating with forced-draft fans, a scenario that is atypical of uncontrolled furnaces, which are normally operated under natural draft. The commenter believes that the ''hooding efficiency'' measured during these tests is not representative because of the extremely high design flow rate of the capture hoods. The commenters maintained that exhaust flow at the hood was three times the stack exhaust flow rate, causing furnace emissions to be drawn out of the furnace door rather than allowing these emissions to exhaust through the stack.

One commenter cited an RTI memorandum to Rochelle Boyd, Environmental Engineer at the EPA, regarding the testing period reported for September 5, 2007, as a basis for the claim that errors were made during data collection, and that the EPA may be basing their decision and approach to regulating fugitive emissions on one dataset. The commenter emphasized that there are many furnace configurations that are used in the industry, so the EPA's one limited dataset cannot be representative of the entire industry. The commenter provided a copy of a table provided to the EPA by the commenter on December 21, 2011, outlining the inherent difference between several major furnace types.

One commenter stated that this proposal, in regard to installing hooding that meets ACGIH guidelines, is inconsistent with the requirement for existing sources that the MACT floor must equal the average emissions limitations currently achieved by the best-performing 12 percent of sources in that source category if there are 30 or more existing sources or, if there are fewer than 30 existing sources, then the MACT floor must equal the average emissions limitation achieved by the best-performing five sources in the category.

In a comment on the supplemental proposal, one commenter stated that they are concerned that the hooding and capture efficiency provisions in the 2014 supplemental proposal are unnecessary and actually reflect ''beyond the floor'' provisions for the installation of specific capture/collection systems that are not justified by the MACT floor determination calculations and evaluations.

One commenter stated that given the lack of evidence supporting these provisions, the commenter believes 40 CFR 63.1512 should be eliminated from the final rule.

Several commenters stated that ACGIH-compliant hoods are impossible to install on many group 1 uncontrolled furnaces due to the engineering limitations and considerations of many furnace installations such as size, type and location of the furnace. One commenter provided three examples of existing furnace installations that are unable to meet the requirements for fugitive emissions testing.

One commenter discussed round top furnace operations and how normal operations would not allow hooding for fugitive emissions.

One commenter stated that installation of temporary hooding on round top charge melters of the type the commenter has at its plant located in Lewisport, Kentucky, is not possible, and due to installed furnace design it is not possible to install temporary hoods on some reverberatory furnaces. The commenter included as attachments background information about the Lewisport testing.

One commenter stated that for group 1 uncontrolled furnaces, the proposed 33-percent emission reduction is a mandatory reduction for some operations, and also eliminates future operating flexibility for operations that are currently operating near the proposed 67-percent emission level. According to the commenter, the margin between operating levels and actual limits represents a margin of safety for furnaces that experience normal variations to be in continuous compliance.

The commenter maintained that the EPA proposed the 33-percent reduction in emissions without proof or justification that there are in fact fugitive emissions being released at or near these levels or for durations seen in the limited data the EPA provides. The commenter recommended that the EPA promulgate a rule that maintains a level playing field for the companies affected by the rule.

Two commenters recommended that the EPA allow the option to apply the assumed 67-percent capture efficiency for new furnaces to avoid the added cost of installing temporary hooding where a furnace can be operated in a manner that meets the 67-percent emission limit by changing the proposed requirement in 40 CFR 63.1512. The commenters argued that the proposed approach essentially forces the installation of a costly hood for new furnaces even when such hoods are not needed due to good pollution prevention practice and the resulting low HAP emission rates. The commenters opposed the HAP emission rate adjustment for new uncontrolled furnaces in instances where ACGIH hooding specifications are not possible, as the EPA proposed in 40 CFR 63.1512(e)(4)(ii), and asked that it be removed.

In a comment on the supplemental proposal, one commenter stated that in the original 40 CFR 63.1500, Applicability, and 40 CFR 63.1501, Dates, there are references to equipment that is ''new'' and equipment that is ''existing'' depending on installation date. The commenter suggested that EPA revise 40 CFR 63.1512(e)(4) to read as follows:

''When testing an existing or new uncontrolled furnace, . . .''

One commenter stated that issues addressed in 40 CFR 63.1512(e)(4)(ii), in terms of assuming a 67-percent capture efficiency for the furnace exhaust, were previously covered in the stack testing protocols that are part of the commenter's Consent Decree (included as an attachment). The commenter requested that the EPA provide clarification that those protocols are not impacted by this rule making and remain fully acceptable.

Response: As discussed in the preambles and technical support documents to the 2012 proposal and 2014 supplementary proposal, the existing performance testing requirements in Subpart RRR that apply to group 1 furnaces without add-on APCD do not include specific requirements relating to capture and collection of emissions during performance tests conducted to ensure compliance with applicable emission standards. During performance testing of these sources, emissions may escape without being accounted for (*i.e.*, captured, collected, and measured) in the emissions test. Thus, the performance tests done to ensure compliance may not provide an accurate measure of whether the furnace is, in fact, meeting the applicable emission standards.

The ACGIH guidelines (as defined in 40 CFR 63.1503) provide specifications for the proper design and installation of capture and collection systems to minimize unmeasured emissions and ensure that process emissions are being properly captured and conveyed to an air pollution control device, where one is in place, and also ensures that emissions testing results are representative of total emissions. The Subpart RRR standard as promulgated in 2000 includes a requirement that all controlled emission units include capture and collection systems designed consistent with the ACGIH guidelines. As stated in our response to comments in the 2000 Subpart RRR rule, a capture and collection system meeting ACGIH criteria is necessary for occupational safety, and for assuring compliance with the emission standards. See *Summary of Public Comments and Responses on*

Secondary Aluminum NESHAP, December 14, 1999, in the docket for this rulemaking.

The emission standards that apply to all group 1 furnaces were based on data from systems that effectively capture and contain emissions at the source (minimizing unmeasured emissions) and convey the emissions to the control device for destruction or removal. In addition, a capture and collection system meeting ACGIH guidelines with good hooding design will result in a lower volume of exhaust air to be treated, and, in many cases, a smaller, lower-cost control device. The EPA considered an ACGIH-compliant capture and collection system to be part of MACT floor technology for affected sources with add-on controls (see 64 FR 6960, February 11, 1999).

The subpart RRR rule generally applied the same emission standards to uncontrolled group 1 furnaces as it did to controlled group 1 furnaces and thereby allowed secondary aluminum facilities to continue to have uncontrolled group 1 furnaces so long as they met similar emission standards as controlled group 1 furnaces. The lack of clarity on the level of unmeasured emissions that may be emitted from an uncontrolled group 1 furnace during performance testing has led to confusion in rule implementation, as well as significant concerns about the accuracy and appropriateness of the compliance determination protocol.

Because performance tests for uncontrolled group 1 furnaces may not accurately measure whether the furnace is in compliance with the applicable emission standards, the EPA concluded that a testing protocol for uncontrolled group 1 furnaces that allows a potentially significant portion of HAP emissions to be unmeasured and unaccounted for in determining compliance with emission standards is inadequate.

A testing procedure for uncontrolled furnaces that permits an unknown degree of variance in the amount of emissions that may escape measurement during performance testing could call into question whether the rule is adequately ensures that the furnaces are meeting applicable emission standards. The commenters' suggest that a compliance demonstration that does not account for unmeasured emissions is a necessary result of the development of the Subpart RRR emission standards. The commenters are, in effect, questioning whether the existing standards for uncontrolled group 1 furnaces are consistent with the MACT floor analysis, which was primarily based on the performance of controlled furnaces. Moreover, if the level of unmeasured emissions during performance testing cannot be quantified for purposes of determining compliance with Subpart RRR emission standards, there could be an issue regarding the extent to which such emissions are subject to any MACT standard.

We note that one commenter stated that if EPA finalizes the testing requirements for uncontrolled furnaces, the EPA should reevaluate group 1 uncontrolled furnace emission limits. The commenter suggested that EPA collect emissions test data from uncontrolled furnaces using ACGIH hooding, make new MACT floor determinations, and set new numerical MACT emission limits. The EPA believes requiring additional furnace testing and conducting further MACT rulemaking is not necessary to address unmeasured emissions during performance testing of uncontrolled furnaces. The EPA believes that the actions taken in this rulemaking are sufficient to address the issue.

Further, the EPA is not mandating ACGIH hooding during performance testing in all instances, but rather providing alternative compliance options for facilities to account for unmeasured emissions from uncontrolled group 1 furnaces during performance testing. Specifically, for existing uncontrolled furnaces we are requiring either the installation of temporary ACGIH hooding or an assumption of a specified capture efficiency for furnace exhaust. Requirements for new uncontrolled furnaces are discussed below. Although we proposed using a 67-percent capture efficiency in lieu of the installation of temporary ACGIH hooding, in light of comments, we have re-examined the testing data on which the proposed 67-percent capture efficiency assumption was based, and revised the assumed capture efficiency to 80 percent. This 80-percent capture efficiency is based on the highest average capture of the three HAP tested. See *Draft Technical Support Document for the Secondary Aluminum Production Source Category, Supplemental Proposal Technical Support Document for the Secondary Aluminum Production Source Category,* and *Technical Support Document for the Secondary Aluminum Production Source Category Final Rule,* all available in this rulemaking docket. We believe this revised percent capture efficiency assumption of 80 percent provides the best estimate of the capture efficiency of uncontrolled furnaces for the several pollutants being measured, based on the limited data available. Under these provisions, if the source fails to demonstrate compliance using the 80-percent capture efficiency assumption, the source must retest using hooding that meets ACGIH guidelines or petition the appropriate authority that such hoods are impractical and propose testing procedures that will minimize unmeasured emissions. The retesting or petition must occur within 180 days. The commenters have not demonstrated that these alternatives are inappropriate or inconsistent with the 2000 MACT floor.

Applying the same emission limits to uncontrolled group 1 furnaces as controlled group 1 furnaces necessarily depends on emissions from uncontrolled group 1 furnaces being adequately captured and collected or being reasonably accounted for when a performance test is conducted. The MACT floor analysis, and the emission standards established by that analysis, for all group 1 furnaces (including controlled and uncontrolled furnaces) incorporated well-designed and maintained capture and collection systems, such as those prescribed by ACGIH guidelines. The rule revisions being promulgated in this action address this need by allowing facilities to choose from the compliance options described above.

In addition, CAA section 63.7(d)(5) of the General Provisions, which applies to this rule, requires that the owner or operator provide the facilities necessary for safe and adequate testing of a source. Adequate testing includes the responsibility to either provide a means of directing emissions to the sampling train, or to measure the capture efficiency of the equipment used to direct the emissions to the sampling train so that the overall emissions from the source can be determined. The rule changes described above assist in implementing this requirement for uncontrolled group 1 furnaces.

In response to the commenter's concerns regarding the test results cited by the EPA, the EPA obtained additional information from personnel at the facility at which the tests were performed. This information, which is available in the docket, indicates:

- Although sampling was conducted for approximately 3 hours using the canopy hoods at the two furnaces, the charging doors were only open for approximately 15 minutes on one furnace, and approximately 30 minutes on the other furnace;
- The testing times at the furnace stacks for both furnaces were equal to the entire cycle time for the furnace (so there was no flaw in the testing periods, such that the furnace stack emissions

were not measured over the entire cycle);

- There was no introduction of dilution air between the furnace and the furnace stack sampling point; and
- The furnaces were operating in compliance with the NESHAP requirements.

Therefore, although the test data are limited, we have identified no flaws in the testing procedures that render the results invalid, and we believe it is reasonable to rely on the test data to support our rule revision. In addition, it is undisputed that the test data are from a Subpart RRR-affected facility, and the commenter did not provide specific reasons to support its assertion that the tested furnaces are not ''indicative'' of the source category nor did commenters submit testing data to contradict, alter, or draw into question the EPA's conclusions. The commenter also did not explain why, or at what level, different capture efficiencies should be used based on differences in pollutants. We are certain that at least some unmeasured emissions escape from all uncontrolled group 1 furnaces during testing. Therefore, the only question is what fraction of the total emissions is directed to the furnace stack for measurement, and what fraction escapes as emissions that are not measured. Our estimate, based on the limited dataset, is that 80 percent of emissions at uncontrolled furnaces are captured and directed to the stack for measurement, while 20 percent are emitted as unmeasured emissions. The revised testing procedures for uncontrolled furnaces were proposed in February 2012, with one comment period in 2012 and a second comment period after the 2014 supplemental proposal, giving commenters ample time to collect and submit to EPA additional emissions test data, although none were submitted. In the absence of additional data, we relied on the only data available, although, upon further analysis of the data, we revised the capture efficiency from 67 percent to 80 percent.

As noted by commenters, and supported by information they provided, the tops of round top furnaces must be removed for charging by cranes operating above the furnaces. Commenters stated that for a variety of design, technical, operational, and safety reasons, it was not feasible to install temporary hooding on existing round top furnaces. Based on our review of the information submitted by the commenters, we agree that ACGIH-compliant hoods are not possible to install on existing round top furnaces because the top of the furnace must be removed by a crane operating from above the furnace. We also agree that state and local agencies should not be burdened with the need for case-by-case impracticability determinations for existing round top furnaces. Consequently, we are excluding existing round top furnaces from the requirement either to install temporary ACGIH hooding or to use an 80-percent capture efficiency assumption as well as the requirement for a petition of impracticality, but instead round top furnaces must be operated to minimize unmeasured emissions during testing.

The commenters have not provided documentation to support an exclusion for other types of furnaces, such as box reverberatory furnaces and box reverberatory furnaces with a side door. For these furnaces, issues related to hooding during performance tests may or may not arise depending on the specific site installation, including factors such as the presence of surrounding equipment and other physical obstructions, limited access and overhead cranes that may make it impractical to install hooding. Therefore, the exclusion in the final rule applies only to existing round top furnaces.

We note that, as discussed above, the final rule also provides flexibility for furnaces other than round top furnaces. Where an ACGIH-compliant hood cannot be installed on a furnace for testing and an 80-percent capture efficiency is not used, the source can petition the appropriate authority that temporary ACGIH hooding is impractical for the source and propose alternative testing procedures that will minimize unmeasured emissions. In some instances, furnace emissions can be captured and measured without ACGIH hooding. For example, the building may be operated as an enclosure, and emissions from the building can be measured (*e.g.,* by installing a temporary fan and associated ductwork or a stack, and measuring emissions in that ductwork or stack). In addition, there is an alternate performance testing methods provision available in 63.1511(d).

We disagree that new furnaces should be allowed the option to assume 80 percent of emissions are directed to the stack for measurement. We are allowing existing uncontrolled group 1 furnaces to use the 80-percent capture efficiency assumption, since the physical limitations of an existing furnace are already established. However, this is not the case for a new furnace; for a new furnace, adequate testing of the source can be achieved through the design of the furnace. This need not involve installation of a hood, since, for example, the building, or portion of the building in which the new furnace is located, could be used as an enclosure for the purpose of testing. As we stated earlier, adequate testing includes the responsibility to either provide a means of directing emissions to the sampling train, or to measure the capture efficiency of the equipment used to direct the emissions to the sampling train so that the overall emissions from the source can be determined.

As discussed above, we have different requirements for new uncontrolled furnaces, including new uncontrolled round top furnaces, than for existing uncontrolled furnaces because we have concluded that proper conditions for testing are readily achieved in the design of a new furnace. However, in the specific case of reconstructed round top furnaces, we agree that they are likely to have the same physical constraints as existing round top furnaces that make it difficult or impossible to construct the temporary hooding needed for emissions testing. Therefore, the final rule provides reconstructed round top furnaces the same exemption from the provisions requiring the installation of temporary ACGIH hooding or the assumption of 80-percent capture efficiency as allowed for existing round top furnaces.

Regarding the commenter's reference to the conditions of their Consent Decree, the decree at paragraph 122 states clearly that each company is responsible for achieving and maintaining complete compliance with all applicable federal laws and regulations, and compliance with the Consent Decree does not necessarily mean compliance with the Clean Air Act or implementing regulations. Further, the Consent Decree does not limit the EPA's authority to revise Subpart RRR. Also note that the compliance date for the rule revisions concerning testing of uncontrolled furnaces is 2 years after promulgation. While it is not necessary to review the specific protocols of the Consent Decree for purposes of this rulemaking, the commenter can follow up with their EPA Regional Office regarding any concerns.

Comment: In a comment on the supplemental proposal, one commenter stated it should not be a prerequisite that facilities or emission sources must first conduct a failed compliance test using the 67-percent capture efficiency assumption prior to petitioning permitting authorities that ACGIH equivalent hooding is impractical under the provisions of paragraph (e)(6). According to the commenter, some facilities know upfront that installing a capture hood is impractical and that they cannot comply with a stack test assuming a 67-percent capture efficiency. The commenter recommended that the final rule provide owners and operators a third option to petition permitting authorities (prior to performance testing) that installation of hooding is impractical; this alternative would avoid costs associated with multiple performance tests, labor and administrative burdens and potential enforcement liability that would be associated a failed performance test.

A commenter on the supplemental proposal stated that many of the hooding provisions are unworkable in actual practice, and the commenter therefore supports the petition process proposed for alternate capture/collection systems, coupled with testing procedures designed to minimize fugitive emissions. The commenter stated that it is inefficient and a significant waste of resources to require initial testing under the assumption of a 67-percent capture efficiency for a facility where installing an ACGIH-compliant hood is impractical and the facility knows or expects that it cannot comply using the 67-percent capture efficiency assumption. The commenter suggests it would be more efficient to allow facilities the option to submit a petition regarding the impracticality of hooding coupled with proposed testing procedures that will minimize fugitive emissions during the testing before the next required performance test occurs rather than after; this will minimize the likelihood of retesting and result in significant monetary, labor and efficiency savings.

The commenter stated they assume that, in the event of testing/retesting following the approval of a petition demonstrating the impracticability of hooding requirements, the 67-percent capture efficiency provisions would not be applicable to the results of the testing/retesting. However, because it is not specifically stated, the commenter seeks a clear statement to that effect in the final rule.

The commenter requested that the language in 40 CFR 63.1512(e)(4) be revised as follows:

''When testing an existing uncontrolled furnace, the owner or operator must comply with the requirements of either paragraphs (e)(4)(i), (ii), (iii) or (iv) of this section at or prior to the next required performance test required by 63.1511(e).

(i) Install hooding that meets ACGIH Guidelines, or

(ii) At least 180 days prior to testing, petition the permitting authority for major sources, or the Administrator for area sources, that such hoods are impractical under the provisions of paragraph (e)(6) of this section and propose testing procedures that will minimize fugitive emissions during the performance test according to the paragraph (e)(7) of this section, or

(iii) Assume a 67-percent capture efficiency for the furnace exhaust (*i.e.,* multiply emissions measured at the furnace exhaust outlet by 1.5). If the source fails to demonstrate compliance using the 67-percent capture efficiency assumption, the owner or operator must re-test with a hood that meets the ACGIH Guidelines within 180 days, or petition the permitting authority for major sources, or the Administrator for area sources, within 180 days that such hoods are impractical under the provisions of paragraph (e)(6) of this section and propose testing procedures that will minimize fugitive emissions during the performance test according to paragraph (e)(7) of this section.

(iv) The 67-percent capture efficiency assumption is not applicable in the event of testing conducted under an approved petition submitted pursuant to (ii) or (iii) above.''

The commenter stated that making these changes will also require that the existing proposed paragraph (iii) be re-designated as (v).

Response: Based on the comments received, the EPA reevaluated the proposed requirements for testing uncontrolled furnaces. Based on our analysis of available data (described in the *Technical Support Document for the Secondary Aluminum Production Source Category Final Rule,* which is available in the docket), we believe that the vast majority of furnaces will be able to comply based on the 80 percent assumption. However, we agree that there might be cases where a facility owner or operator may know in advance that they cannot comply based on the 80-percent capture efficiency assumption and that installing ACGIH hoods for testing is not practical, so to require them to conduct tests that they know in advance will fail is unreasonable and unnecessary. Therefore, the final rule provides an alternative for such cases whereby the facility owner or operator can petition their permitting authority at least 180 days in advance that ACGIH hooding is impractical and request approval of alternative testing procedures including measures they will take that will minimize unmeasured emissions during testing. The EPA has also clarified in the final rule that in testing or retesting following approval of a petition demonstrating impracticability of temporary ACGIH hooding, the 80-percent capture efficiency assumption does not apply to the results of the testing or retesting.

Comment: In a comment on the supplemental proposal, one commenter requested that instead of the requirement for uncontrolled furnaces to conduct performance testing using ACGIH hooding, the EPA should allow, as they do for round top furnaces, the use of alternative procedures for the minimization of fugitive emissions during performance testing for consistency and cost considerations. The commenter stated that allowing all uncontrolled furnaces to use the work practices for the minimization of fugitive emissions, rather than install ACGIH hooding, would achieve the same capture efficiency during the performance test as it would for round top furnaces. The commenter further stated that the installation and use of an ACGIH hood is not cost effective and would create unnecessary costs simply to comply with testing requirements. A commenter on the supplemental proposal stated that the EPA should delete the ACGIH capture hood requirements for uncontrolled furnace testing and instead specify work practice alternatives for minimizing fugitive emissions during testing.

Response: The commenters have not provided documentation to support an exclusion from ACGIH hooding and associated requirements for furnaces other than round top furnaces. Based on the limited information available to the EPA, we believe that, for these furnaces, issues related to hooding during performance tests may or may not arise depending on the specific site installation, including factors such as the presence of surrounding equipment and other physical obstructions, limited access, and overhead cranes that may make it impractical to install temporary hooding. Therefore, the exclusion in the final rule applies only to existing or reconstructed round top furnaces. As noted above, even if ACGIH-compliant hoods cannot be installed on a furnace, in some instances, furnace emissions can be captured and measured without ACGIH hooding. For example, the building may be able to be operated as an enclosure, and emissions from the building can be measured (*e.g.*, by installing a temporary fan and associated ductwork or a stack, and measuring emissions in that ductwork or stack) if there are no other furnaces or other significant sources in the building of the pollutant to be measured. In addition, an owner or operator of an existing uncontrolled group 1 furnace other than a round top furnace has the choice of assuming an

80-percent capture efficiency for the furnace exhaust, or, if the source does not wish or fails to demonstrate compliance using the 80-percent capture efficiency assumption, the owner or operator may petition the permitting authority that such temporary hoods are impractical.

Comment: Three commenters cited safety concerns regarding the feasibility of fugitive emissions testing for group 1 uncontrolled furnaces.

One commenter asserted that because of the broad spectrum of furnace designs and safe operating practices for the group 1 uncontrolled furnace category, it is impossible to fully characterize the potential impacts on operator safety from EPA's proposed action. The commenter observed that to conduct an EPA Method 5 test at a hood requires an operator to be present for the duration of the emissions test in a location that industry standard safe operating practices prohibit. The commenter asserted that this proposed requirement would violate the industry standard operation procedure of the vast majority of group 1 uncontrolled furnaces, which require the removal of the operator from unsafe locations during normal furnace operation. The commenter stated that group 1 uncontrolled furnaces fall into two broad categories, those designed for operator presence on the furnace structure and those that do not have any infrastructure for operator presence above the furnace.

One commenter stated that safe operation of furnaces that charge aluminum scrap only allows for operators to access the area above the furnace when the door is closed, and the cycle is in a steady state (*i.e.,* not immediately following scrap charging), entirely precluding the operator from entering during operation. The commenter emphasizes that the operation of the proposed testing apparatus, in accordance with EPA Methods 1 and 2, would violate industry best practices for the safe operation of remelt furnaces.

Response: We disagree that the Method 5 emissions tests must be conducted ''at a hood,'' and therefore have potential impacts on the safety of the testing equipment operators or furnace operators. The ductwork from the hood can lead to the same stack as the furnace. Therefore, fugitive emissions captured by the hood can be combined with emissions from the furnace, and testing can be conducted at the same stack location as the facility has historically tested. Furthermore, existing uncontrolled furnaces have the additional option of assuming an 80-percent capture efficiency and all uncontrolled furnaces may petition the appropriate authority that such hoods are impractical and propose testing procedures that will minimize unmeasured emissions during testing.

Comment: Three commenters asserted that design and installation costs for hooding are far higher when testing for group 1 uncontrolled furnaces than those provided by the EPA. One commenter estimated a cost of $120,000 to $500,000 per hood.

One commenter noted that because these hoods and ductwork would have to be retrofitted to existing equipment, there is little or no economy of scale.

Response: The commenters did not provide supporting calculations or a breakdown for their cost estimates. The EPA contacted the commenter that provided the higher estimated costs and requested additional information on their cost estimate. The commenter provided cost estimates for an installation of hooding that meets ACGIH guidelines on a Reverb Melter ($208,146) and a Tilting Holder ($238,012). The EPA used these cost estimates in a supplementary cost analysis to provide further information concerning the rule amendments being adopted in this final rule *Cost Estimate for Rule Changes to Secondary Aluminum NESHAP,* which is available in the docket for this action. Based on the commenter's estimates, the average capital cost for the two installations is approximately $223,000. The 2012 cost can be scaled to 2011 cost by applying the ratio of the Chemical Engineering Plant Cost Index for March 2011 (final—575.9) to March 2012 (preliminary—596.1), or a ratio of 0.966. Using this factor, the capital cost is estimated to be $215,400 per furnace. If this value is used in lieu of the original estimate (contained in supporting documentation for the proposed rule) of $76,000 for a single hood, all costs would increase by a factor of 2.83 (*i.e.,* $215,400 divided by $76,000). Assuming temporary hooding will be installed on 107 furnaces, the total capital cost using this value would therefore conservatively be estimated to be $17,300,000 (*i.e.,* $6,099,000 multiplied by 2.83). Note that the $6,099,000 cost estimate is based on an average cost per furnace of $57,000, based on the assumption that a hood for a second installation at a facility would cost half as much (*i.e.,* ($76,000 + $38,000)/2 = $57,000). Similarly, using these higher cost estimates per furnace, the total annualized cost for the source category would be conservatively estimated at $3.46 million per year, and the total annualized cost per furnace would be approximately $32,300 per year. Therefore, conservatively assuming 107 furnaces install temporary hooding, total estimated annualized costs would range from $1.2 million per year to $3.46 million per year or an average of $2.3 million per year. Total annualized cost per furnace would range from $11,000 per year to $32,300 per year, or an average of $21,650 per year. We believe that these total cost estimates are conservative (more likely to be overestimates rather than underestimates) because these costs are based on the assumption that all of the estimated uncontrolled furnaces will choose to install temporary hooding rather than use the other options provided in the rule for addressing unmeasured emissions during performance testing.

Comment: Two commenters, in response to the 2012 proposed rule, requested that the EPA revise proposed 40 CFR 63.1512(e)(4)(ii) to list example work practices that the Agency considers acceptable for minimizing furnace fugitive emissions during a performance test. The commenters stated that the list of examples would provide permitting authorities some basis for evaluating proposed work practices and approving test procedures.

In a comment on the supplemental proposal, one commenter stated that, with the approval of the applicable permitting authority, when testing an uncontrolled reverberatory furnace, they have used a test plan that includes positioning one or more fans to direct flow into a furnace when the door is opened in order to minimize fugitive emissions escaping the furnace door. The commenter recommended paragraph 63.1512(e)(7)(x) be added to read as follows:

''(x) Use of fans or other device to direct flow into a furnace when door is open.''

In a comment on the supplemental proposal, one commenter stated that most of the ''testing procedures'' presented in sections 63.1512(e)(7)(i) through (ix) of the proposed rule are reasonable suggestions for minimizing fugitive emissions. However, the commenter stated that, the installation of temporary baffles would have no practical effect on reducing fugitive emissions for the types of emission units regulated under this source category. The commenter stated that, additionally, increasing the exhaust rate will require additional fuels to be combusted and will cause an increase in dross production; both will result in particulate and HCl emission increases that would otherwise not be created. According to the commenter, the creation of additional dross will produce a cascade of collateral environmental impacts: More dross must be processed, more dross processing HAP will be created, and there will be more residuals to be handled, transported and disposed.

In a comment on the supplemental proposal, one commenter stated that the language the EPA uses to introduce the procedures that can be used to minimize fugitive emissions in the preamble is better than that used in the original proposed rule at 63.1512(e)(7). The commenter stated that the preamble introduces alternatives for minimizing fugitive emissions with the words, ''[t]hese procedures may include, if practical, one or more of the following, but are not limited to . . . .'' The commenter stated that, in contrast, the proposed rule at 40 CFR 63.1512(e)(7) simply states, ''testing procedures that will minimize fugitive emissions may include, but are not limited to . . . .'' The commenter recommended that the EPA should include the phrase ''if practical, one or more of the following'' in the language of the rule at 40 CFR 63.1512(e)(7), because this construction makes clear that not every alternative to minimize fugitive emissions may be practical and therefore not all the listed alternatives are required.

In a comment on the supplemental proposal, one commenter stated that they have conducted testing of round top melting furnaces after development of a test plan, with the EPA's approval, as part of a Consent Decree and as approved by the applicable permitting authority. The commenter stated that this procedure involves removing the top once and placing a representative but lighter charge into the furnace and replacing the top. The commenter stated that the charge includes all materials normally charged into the furnace but a charge size of approximately 25 percent to 35 percent of normal; this procedure minimizes fugitive emissions from the furnace. The commenter stated that while they believe this procedure meets the intent of paragraph 63.1512(e)(7)(v), they request that the paragraph be revised as follows:

(v) ''In order to minimize time the furnace door or top is open, it is permissible to add a smaller but representative charge into the furnace at one time and conduct the test without additional charge.''

Response: In response to the commenters' requests, we have included in the final rule a list of example procedures for minimizing unmeasured emissions during testing. These procedures may include, if practical, but are not limited to, one or more of the following:

- Installing a hood that does not meet ACGIH guidelines;
- Using the building as an enclosure, and measuring emissions exhausted from the building if there are no other furnaces or other significant sources in the building of the pollutants to be measured;
- Installing temporary baffles on the sides or top of the furnace opening, if it is practical to do so where they will not interfere with material handling or with the furnace door opening and closing;
- Minimizing the time the furnace doors are open or the top is off;
- Delaying gaseous reactive fluxing until charging doors are closed and the top is on;
- Agitating or stirring molten metal as soon as practicable after salt flux addition and closing doors as soon as possible after solid fluxing operations, including mixing and dross removal;
- Keeping building doors and other openings closed to the greatest extent possible to minimize drafts that would divert emissions from being drawn into the furnace;
- Maintain burners on low-fire or pilot operation while the doors are open or the top is off;
- Use of fans or other device to direct flow into a furnace when door is open; or
- Removing the furnace cover once in order to add a smaller but representative charge and then replacing the cover.

We disagree that baffles would be ineffective in reducing unmeasured emissions in all cases and note that they are just one of several options that can be used, as appropriate, to reduce unmeasured emissions during testing of uncontrolled furnaces. One way that baffles can reduce unmeasured emissions is to keep the smoke puff that escapes the furnace when the scrap is first put in from leaving the area around the furnace. Therefore, some of the smoke can be pulled back into the furnace after the seconds-long initial puff of smoke. Baffles also tend to produce a higher-velocity corridor leading to the furnace face, also making it more likely that the puff of smoke that escapes the furnace during charging will subsequently get pulled back into the furnace. Furthermore, their use would be temporary only for the time that the furnace doors are open to accept a charge. As proposed, the final rule includes the use of baffles as one testing procedure that can be used to minimize unmeasured emissions but does not require that they be used.

We agree with the comment that increasing exhaust rate may tend to increase dross production, with a resultant increase in PM and HCl emissions. Therefore, even though increasing exhaust rate will improve capture, we are removing the example of raising flow rate from the list of methods to minimize fugitive emissions.

We disagree with the comment that 40 CFR 63.1512(e)(7) does not adequately introduce the procedures that can be used to minimize unmeasured emissions. We believe that the wording at 40 CFR 63.1512(e)(7) clearly conveys that any one of the listed procedures, or others that are not listed, may be used to minimize unmeasured emissions during testing. The regulatory wording does not require their use. Therefore, the final rule has not been revised as requested by the commenter.

We agree that, as the commenter recommended, using a smaller but representative charge, could reduce the amount of time that furnace doors are open, and could therefore reduce the amount of emissions that are not captured and measured during testing of uncontrolled furnaces. Because emission limits for group 1 furnaces are in units of mass of pollutant per unit of mass of feed, the mass of the charge by itself does not affect the validity of test results. The final rule includes the use of smaller but representative charges as another alternative to minimizing unmeasured emissions during testing of uncontrolled group 1 furnaces. If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate and low contamination at high feed/charge rate) may be required.

Comment: Two commenters on the 2012 proposal requested that the EPA extend the timeline proposed for retesting under 40 CFR 63.1512(e)(4)(ii) to 240 days. The commenter asserted that the requirement proposed in 40 CFR 63.1512(e)(4)(ii) to ''retest with a hood that meets ACGIH Guidelines within 90 days'' is not practicable. For the proposed provision to be workable, the commenter argued, the EPA needs to allow at least 240 days for retesting with an ACGIH hood if a source fails to demonstrate compliance using the 67-percent capture efficiency assumption.

Response: The EPA agrees with commenters that the 90-day period for retesting in the 2012 proposal was insufficient. Based on further review and comments received, in the supplemental proposal, the EPA proposed a 180-day period for the retesting provisions in section 63.1512(e)(4). We received no comments on the 2014 supplemental proposal objecting to the 180-day retesting period. Therefore, instead of the initially proposed 90-day retesting period, we are adopting in the final rule a 180-day period for a source that fails to demonstrate compliance using the capture efficiency assumption either to: (1) Retest with an ACGIH-compliant hood; or (2) petition the permitting authority that such hoods are impractical for the furnace and propose testing procedures that will minimize unmeasured emissions during testing.

Comment: In a comment on the supplemental proposal regarding 40 CFR 63.1512(e)(4)(iii), one commenter stated that it is not clear if the EPA intends to exempt all round top furnaces in operation on the publication date of the proposal, or if round top furnaces that commenced construction or reconstruction after February 11, 1999, (new) are purposely being excluded. The commenter suggested the language be revised to the following:

''Existing and new round top furnaces are exempt . . . .''

Response: As proposed in the 2014 supplemental proposal, the final rule exempts existing round top furnaces from the testing requirements for uncontrolled furnaces in 40 CFR 63.1512(e)(4)(i), (ii), and (iii). In response to a comment on the supplemental proposal, we have expanded the exemption to also apply to reconstructed round top furnaces. The intent of the EPA is that existing and reconstructed round top furnaces that commenced construction or reconstruction on or before February 12, 2012, are exempt, and new round top furnaces that commence construction after February 12, 2012, are not exempt, from the testing requirements for uncontrolled furnaces in 40 CFR 63.1512(e)(4)(i), (ii), and (iii). Therefore, we are not adopting the revised language suggested by the commenter.

Comment: One commenter asked that the EPA clarify in 40 CFR 63.1512(e)(4)(ii) what constitutes ''impractical'' with respect to installing temporary capture hoods.

Response: In response to the commenter, 40 CFR 63.1512(e)(6) of the final rule clarifies in what circumstances installation of temporary capture hoods would be considered impractical.

Temporary capture hooding installation is considered impractical if:

- Building or equipment obstructions (for example, wall, ceiling, roof, structural beams, utilities, overhead crane, or other) are present such that the temporary hood cannot be located consistent with acceptable hood design and installation practices;
- Space limitations or work area constraints exist such that the temporary hood cannot be supported or located to prevent interference with normal furnace operations or avoid unsafe working conditions for the furnace operator; and/or
- Other obstructions and limitations subject to agreement of the permitting authority.

4. What is the rationale for our final approach for testing of uncontrolled group 1 furnaces?

As discussed above and in the 2012 and 2014 proposals, we are finalizing compliance alternatives addressing capture and collection of emissions for uncontrolled furnaces during performance testing. Owners and operators of uncontrolled furnaces have the options of installing temporary ACGIH-compliant hooding for testing or assuming that the capture efficiency of the furnace exhaust is 80 percent without installing hooding. Further options are provided if a source fails to comply using the 80-percent capture efficiency assumption or decides not to use the 80-percent assumption and instead petitions at least 180 days in advance that ACGIH hooding is impractical for the furnace and for approval of alternative testing procedures, including measures that will minimize unmeasured emissions during testing. The final rule exempts existing and reconstructed round top furnaces from these requirements due to the infeasibility of installing hooding. The final rule clarifies the circumstances under which the installation of temporary ACGIH hooding is considered impractical and specifies work practices that can be used to minimize unmeasured emissions during testing of uncontrolled furnaces.

D. Changing Furnace Classification

1. What did we propose regarding changing furnace classification?

In the 2012 proposal, we proposed to address an area of uncertainty under Subpart RRR by specifying in 40 CFR 63.1514 rule provisions expressly allowing changes in furnace classification, subject to procedural and testing requirements, operating requirements and recordkeeping requirements. We proposed a frequency limit of no more than one change in classification (and associated reversion) every six months, with an exception for planned control device maintenance activities requiring shutdown. We received comments on the 2012 proposal requesting additional or unlimited changes in furnace classification. Based on the information received, we reevaluated the appropriate limit on frequency of furnace classification changes. The EPA received from one commenter an inventory of the number of classification changes that occurred each year at a specific Subpart RRR furnace over a nearly 10-year period (available in the docket for this rulemaking). The highest number of furnace classification changes in one year, including both planned and unplanned changes, was nine.

Based on the comments and information received, we proposed in our 2014 supplemental proposal a revised limit on the frequency of changes in furnace classification of four in any 6-month period, with a provision allowing additional changes by petitioning the appropriate authority.

2. What changed since proposal regarding changing furnace classification?

Based on our consideration of the comments and additional information received following the 2012 proposal and the supplemental proposal, the following changes are incorporated into the final rule:

- Added a provision that if compliance has already been demonstrated for a given operating mode, performance testing is not required, provided the testing was in compliance with the provisions in 40 CFR 63.1511;
- Added clarification in §§ 63.1514(a)(2)(iii) and (4)(iii), (b)(2)(iii) (b)(4)(iii), and (c) on establishing the number of tap-to-tap cycles elapsed (or time elapsed for continuously operated units) during performance testing as a parameter to be met before changing to uncontrolled mode, and provisions for continuous operations;
- Removed the proposed requirement to complete one or more charge-to-tap cycles or 24 hours of operation prior to changing furnace operating mode in §§ 63.1514(2)(i) and (4)(i), (b)(2)(i), (b)(4)(i), (c)(2)(i), (c)(4)(i);
- Added 40 CFR 63.1514(b)(4)(iv) that requires that D/F emissions determined at performance test must not exceed 1.5 ug D/F TEQ/Mg of feed/charge to demonstrate that it qualifies as a group 2 furnace. This section was added for consistency with § 63.1514(b)(2)(iv);
- Clarified §§ 63.1514(c)(5) and (6) with respect to requirements for changing operating modes between a group 1 and a group 2 furnace; and
- Removed the proposed requirement for area sources to conduct performance

tests every 5 years in 40 CFR 63.1514(d)(2).

3. What key comments did we receive regarding changing furnace classification?

Comment: Several comments were received objecting to the proposed limits on the frequency of changing furnace classification. Four commenters on the 2012 proposal asked that the EPA allow controlled furnaces to change operating modes more frequently than once every 6 months. The commenters particularly noted the need for flexibility for unplanned baghouse maintenance and repair. Although the 2012 proposed rule allows a change of operating mode for planned maintenance of air pollution control devices, the commenters stated that a restriction to ''once every 6 months'' for unplanned maintenance is ill-advised because such a restriction may result in shutdown of the entire casting operation or encourage an owner or operator to delay baghouse shutdown and repairs that could be initiated immediately by changing to a ''cleaner'' operating mode that has already been demonstrated to comply with the applicable emission limits. One commenter stated that the proposed limit (of once every 6 months) on the frequency of changes other than for ''planned'' maintenance would severely limit facility flexibility. One of the commenters requested the EPA to revise 40 CFR 63.1514(e) to allow controlled furnaces to change operating modes (and revert to prechange operating mode) without restriction on frequency, when the air pollution control device must be shutdown for both planned and unplanned maintenance.

One commenter on the 2012 proposal noted that in the proposed 40 CFR 63.1514(e), the proposed requirements for operating in different modes include testing to demonstrate compliance under each mode, revising the OM&M plan to reflect all planned operating modes and revising labels to display compliant operating parameters for each operating mode. The commenter observed that the EPA has listed recordkeeping requirements when changing furnace classifications, but the EPA has not listed any barriers to implementation or enforcement once a stack test has been performed demonstrating compliance and an OM&M plan submitted. The commenter concludes that if tests prove compliance while operating in each mode, there is no justification for restricting the frequency of changes.

One commenter noted interactions over several years between the commenter and the EPA regarding the use of alternative operating scenarios. The commenter stated that those communications (and litigation) resulted in a February 16, 2012, Applicability Determination (which was attached to their comment). The commenter noted that the commenter had explained the need for flexibility to change operating modes in this proposed rule to EPA in a letter dated January 18, 2012, (also attached to their comment). The commenter recommended that the EPA use the approach in the February 16, 2012, Applicability Determination in Subpart RRR.

In a comment on the 2014 supplemental proposal, one commenter stated that the EPA has not adequately explained why it is proposing to allow 4 changes in furnace operating mode, or provided any reasoned explanation for why these changes are lawful and reasonable, in view of the requirement that standards apply at all times. The commenter stated that before allowing such changes to be made by a facility, the EPA must ensure that this is not equivalent to an exemption from the standards, which a facility may take advantage of under the EPA's proposal four times a year.

Response: As discussed in the preamble to the 2012 proposed rule, the EPA proposed to address an area of uncertainty under Subpart RRR by allowing changes in furnace classification, or furnace operating mode, subject to procedural and testing requirements and a limit on frequency of no more than one change (and associated reversion) every 6 months. As summarized above, the EPA received comments on the 2012 proposal requesting additional or unlimited furnace classification changes. Based on the comments received, the EPA reevaluated the limit on frequency of furnace classification changes. The EPA received from a commenter an inventory of the number of classification changes that occurred each year at a specific furnace over a nearly 10-year period (available in the docket for this rulemaking). The highest number of furnace classification changes for this furnace in one year, including both planned and unplanned changes, was nine.

In response to the comments and information received and because of the potential difficulty in distinguishing between a planned and unplanned change, in the 2014 supplemental proposal we proposed a revised frequency limit of four (including the four associated reversions) in any 6-month period, including both planned and unplanned events, with a provision allowing additional changes by petitioning the appropriate authority. The EPA explained that the revised limit balances the interest in allowing furnace classification changes while preserving the EPA's and delegated authorities' practical and effective enforcement of the emission limitations, work practice standards, and other requirements of Subpart RRR.

Based on the EPA's experience in overseeing facilities' compliance with the Subpart RRR NESHAP, the EPA believes it will be challenging in many circumstances for a regulatory compliance inspector to retroactively confirm which of two scrap inventories (*i.e.*, one clean charge and the other non-clean charge) was processed in a furnace at a given time in the past, and whether the allowed type of feed/charge was used for the furnace classification that was applicable for that time period. Similarly, it may be difficult to determine if the flux type and flux rate applied during that time period were compliant with the then-applicable furnace classification. The difficulty of verifying the inputs to the calculations used to determine SAPU emission limits, and daily and rolling average SAPU emission rates when furnace control device status and feed/charge type are frequently changed for one or more emission units within a SAPU may lead to further uncertainty in verifying compliance. On-site inspections may be difficult to conduct properly if the selected provisions of the OM&M plan applicable to furnace operation on the day and time of the inspection are subject to frequent change. For all of these reasons, increased frequency of allowed furnace classification changes places greater burdens on regulatory oversight agencies and personnel and creates the potential for impaired regulatory oversight.

In recognition of the issues raised by allowing repeated changes in furnace classification and applicable emission standards, the EPA is finalizing a limit of four on the number of times in a 6-month period a Subpart RRR facility may change classification of a furnace (*e.g.*, changing furnace classification from a controlled group 1 furnace to an uncontrolled group 2 furnace, and back). The EPA appreciates the value in providing operational flexibility for regulated sources, but believes the limit is necessary to ensure effective implementation and regulatory oversight of the rule. Facilities are allowed to change furnace classification up to four times during a 6-month period. The final rule clarifies that a change from one operating mode to another and back is considered one change in operating mode. The EPA believes allowing unlimited changes of furnace classification would be impractical, as the monitoring, recordkeeping, reporting, and labeling requirement changes associated with changing furnace classifications would be difficult for the regulated community to follow and for the regulatory agencies to determine and verify continuous compliance. Furthermore, the EPA and state agency experience has shown that some facilities have difficulty preventing excess emissions from entering the flue gas from group 1 furnaces, and, therefore, changing from a group 1 furnace to a group 2 or uncontrolled group 1 status using cleaner charge may not necessarily result in a reduction of emissions. More frequent changes in furnace classifications could result in a greater potential for excess emissions in some instances. The EPA selected the number of allowable changes in furnace classifications based on information and data received from industry on the number of changes in furnace classification over an annual period. The EPA believes that four changes per 6-month period will allow industry the flexibility it needs while maintaining confidence in the level of implementation, compliance and enforcement that can be achieved in changing from one classification to another. If a source needs additional classification changes in a 6-month period, the rule allows the source to petition the appropriate authority for approval.

Following the 2014 supplemental proposal, we received two positive comments from industry on the revised frequency limit and the option to request additional changes if needed. Only one comment was received opposing the revised frequency limit. It does not appear to the EPA that the ability to change furnace modes has been an issue for most of the secondary aluminum production industry. Furthermore, the commenter opposing the revised limit did not provide additional data to support a greater frequency or the need for an unlimited frequency. We note that in the supplemental proposal, we specifically requested ''any commenter who would like the EPA to consider a different limit on frequency to include a specific rationale and factual basis for why a different frequency would be appropriate as well as any data on historical frequencies of furnace classification changes under subpart RRR.'' 79 FR at 72902. In addition, the EPA is finalizing a rule provision to allow the industry to request approval for a greater frequency of furnace classification changes if needed for their particular operation. Based on data from industry and the comments received on the supplemental proposal, we do not believe that it is necessary to further revise the limit on the frequency of furnace changes. In this final rule, we allow four changes in furnace classification per 6-month period with the option of requesting in advance additional changes from the appropriate authority.

In response to the same commenter's suggestion that EPA ''adopt the approach'' in a 2012 EPA letter allowing changes in classification for a furnace owned by the commenter, the EPA notes the letter addressed only a single, relatively unusual ''tilt type'' reverberatory furnace ''in contrast to most reverberatory furnaces'' and was located at an area source subject only to D/F limits and not the other limits applicable to major sources under Subpart RRR. The letter also expressly provided that it did not limit the EPA's authority to revise Subpart RRR requirements through rulemaking.

We believe the February 16, 2012, applicability determination is conceptually consistent with the rule changes, particularly for the specific type of furnace at issue in that determination. The Subpart RRR rule changes build upon several elements of the February 16, 2012, determination to address concerns that switching operating modes for any furnace subject to Subpart RRR be done in a manner that is fully compliant with Subpart RRR for each operating mode, while at the same time avoiding overly burdensome requirements for industry.

In response to the commenter on the 2014 supplemental proposal who asserted that EPA has not adequately explained how it is lawful and reasonable to allow four furnace classification changes per year in view of the requirement that standards apply at all times and must ensure this is not an exemption from standards, we provided such an explanation in the 2012 proposed rule preamble, and the commenter did not submit any comments in response to the 2012 proposed rule. In the 2014 supplemental proposal, we proposed a revised limit on frequency of classification changes, but we proposed no other revision and stated we ''are not requesting comments on any other aspect of the proposed provisions for furnace classification changes.'' 79 FR at 72902. The comment refers to the revised proposed limit of four changes (per 6-month period, not per year as described by the commenter), but the substance of the comment concerns continuity of emission standards and potential exemption from standards, which are not specific to the frequency limit and were addressed previously in the 2012 proposal.

We note that the rule ensures this is not an exemption from standards. As discussed above, there was uncertainty about whether Subpart RRR allowed changes in furnace classification, but, at least in some specific circumstances and conditions, furnace classification changes were allowed under the existing rule. The EPA addressed the issue in the 2012 and 2014 proposals and is finalizing rule provisions clarifying the procedural, testing, operating, and recordkeeping requirements when changing furnace operating modes, so as to ensure continuous compliance with Subpart RRR standards. The final rule specifies how a furnace can lawfully change from one operating mode under the rule to another and does not at any time exempt a furnace from meeting applicable standards.

Comment: Several commenters objected to the EPA's addition to Subpart RRR of any provisions regulating the changing of furnace classification. A commenter on the 2012 proposal stated that the proposed rule will severely restrict flexibility, while the EPA is taking credit for saving the industry $600,000 by ''allowing'' actions that were previously unrestricted. The commenter proposes that all language pertaining to furnace change classification be removed from the proposed rule.

In a comment on the 2014 supplemental proposal, one commenter stated that any restrictions on changing furnace classification are unnecessarily burdensome and do not provide any additional environmental benefit. The commenter stated that Subpart RRR as promulgated in 2000 provides sufficient basis for facilities to change furnace classification while maintaining compliance with the emission limits and other requirements. The commenter attached a 2012 letter from Edward J. Messina, in which the EPA acknowledges that a facility ''may change operating modes consistent with Subpart RRR'' and ''can comply with Subpart RRR when it operates within one (and only one) of three proposed operating modes for the entirety of any given melt cycle.'' The commenter provided a copy of the 2012 letter as part of their submittal. The commenter stated that they revised their

Kalamazoo, Michigan, facility's Permit to Install, to include the ability to change furnace classification consistent with the EPA's 2012 letter and have successfully changed from group 1 to group 2 operation in response to unexpected baghouse system malfunctions while maintaining compliance with the applicable emission limits and other requirements of Subpart RRR.

In a comment on the supplemental proposal, the same commenter stated that the EPA attempts to justify the restrictions on changing furnace classification as necessary for practical and effective enforcement of Subpart RRR; however, the EPA does not mention any occasion in the 14 year history of the MACT rule when a facility's use of these provisions has resulted in any problem related to enforcement or compliance. The commenter stated that facilities have been using the ability to change furnace classification while maintaining compliance with all of the requirements of Subpart RRR for some time without creating any enforcement or compliance problems. The EPA has provided no rational basis for imposing this additional regulatory burden. The commenter recommended the EPA adopt the approach to changing furnace classification provided in the 2012 EPA determination (the commenter attached the 2012 letter to their comments), which does not restrict frequency of changes and does not require testing with a number of cycles of clean charge prior to unplanned changes, which is unnecessary and impracticable.

Response: The EPA disagrees that changes in furnace classification were unrestricted prior to this rulemaking. As explained in the preamble to the proposed rule, the existing Subpart RRR regulatory text did not explicitly address whether and under what conditions a furnace may change its classification from one operating mode to another. This led to uncertainty for facilities and permitting authorities when considering and evaluating compliance options. The rule provisions governing changes in furnace classification are intended to provide clarity and add flexibility for the industry when, for example, normal feed materials are temporarily unavailable and there is a desire by the facility to operate the furnace in a different mode.

We disagree with the commenter's assertion that there have been no problems related to enforcement or compliance for facilities changing furnace classification in the 14-year history of the MACT rule. Although we have very limited data on the practice of changing furnace classification in the industry, in part because we received data from only two companies following the 2012 proposal, we know that some facilities have submitted requests to authorities that they be allowed to change furnace classification and some of these requests were denied. In such cases, the absence of national regulations clearly stating whether and under what conditions the practice is allowed under Subpart RRR served to limit compliance flexibility and was potentially costly to facilities that sought to change their furnace operating mode. Therefore, the addition of these provisions provide clear instructions to regulatory agencies and the industry on the criteria and procedures necessary to change from one furnace classification to a different one.

Comment: Two commenters on the 2012 proposal disagreed with the EPA's proposal to allow secondary aluminum producers to switch furnace classification only after having one or more cycles of operation with clean charge before a control device can be turned off. The commenters stated that data from tests on two Alcoa furnaces show that there is no carryover of emissions from one charge to the next, and, by requiring operators to wait more than one cycle of operation before turning off the control device, the rule restricts a facility's ability to take timely action to repair an air pollution control device in the event of an unexpected equipment breakdown.

One of the commenters on the 2012 proposal described multiple instances of performance tests for two melting furnaces regarding emissions of batches operated with clean charge immediately after using dirty charge. The commenter provided summaries of the performance tests, and the tests show that emissions measured during the very next furnace cycle after using dirty charge were below the group 1 furnace emission limits.

In a comment on the supplemental proposal, one commenter stated that the requirement in the 2012 proposal to wait one or more operational cycles before turning off the control device when switching to clean charge in a furnace classification change is not supported by available data indicating that there is not ''carry-over'' of emissions from one batch to the next. The commenter cited furnace testing data from testing at Alcoa's Lancaster, Pennsylvania, facility.

One commenter stated that the preamble to the supplemental proposal does not state whether the EPA is proposing to remove the requirement in 40 CFR 63.1514 of the 2012 proposal to wait one or more charge-to-tap cycles using clean charge and without reactive flux addition before the performance test can be performed for a change from group 1 to group 2 operation. The commenter stated that, based on the proposed requirements, because the change of classification to a furnace without add-on control cannot be made until waiting the number of cycles operated during the performance test with clean charge (and without adding reactive flux), a classification change in this scenario could not be made in response to an unplanned event such as an unexpected baghouse malfunction. The commenter stated that facilities would be prevented from responding to unexpected baghouse system malfunctions by changing to group 2 operation. The commenter stated that similar restrictions are contained in 2012 proposed 40 CFR 63.1514 for changing from group 1 with add-on controls to group 1 without add-on controls. The commenter stated that the EPA provides no justification for requiring a facility to wait one or more charge-to-tap cycles before testing without add-on controls; therefore, the provision contained in the supplemental proposal cannot provide for reclassification during unplanned changes such as baghouse malfunction.

One commenter on the 2012 proposal asserted that if the EPA retains a flush cycle requirement in order to reclassify furnaces, each scenario should provide a time-based option for determining when the furnace can be reclassified. The commenter observed that the proposed sections 63.1514(a)(2)(i), (a)(4)(i), (c)(2)(i) and (c)(4)(i) allow either a number of charge-to-tap cycles or an operating time of 24 hours to elapse prior to furnace reclassification, and sections 63.1514(b)(2)(i) and (b)(4)(i) only provide a number of charge-to-tap cycles, and do not provide a time-based alternative. The commenter also suggested that instead of requiring ''1 or more charge to tap cycles, or 24 operating hours,'' the rule should require ''1 or more operating cycles or time period used in the performance test.'' The commenter explained that this language is more consistent with the description of ''furnace cycle'' used throughout Subpart RRR, and is more appropriate because a process cycle for some continuous operations is less than 24 hours.

One commenter on the 2012 proposal asked that the text for 40 CFR 63.1514(b)(2)(i) and 40 CFR 63.1514(b)(4)(i), ''Testing under this paragraph may be conducted at any time after the furnace has completed 1 or more charge to tap cycles with clean charge,'' be changed to ''Testing under this paragraph may be conducted at any time after the furnace has been tapped and has completed at least one (1) more additional cycle with clean charge.''

A commenter on the 2012 proposal observed that the proposed rule inconsistently uses the phrase ''additional tests,'' which appears to apply to operating modes for which the facility has already demonstrated compliance by conducting a valid performance test. The commenter noted that the February 16, 2012, Applicability Determination already specifies that testing is required to demonstrate compliance with emission limits for each operating mode, and requiring additional tests would add expense without any added environmental benefit.

Another commenter on the 2012 proposal observed that this proposed provision would require ''additional tests'' to demonstrate compliance with operating modes that already have valid performance tests. The commenter objected to the EPA requiring area sources to retest every 5 years. The commenter also objected to the EPA requiring that tilting melters at area sources in group 2 operating mode perform stack testing.

Response: In response to the comments and information provided by the commenters, the EPA agrees that it is not necessary to require one or more cycles with clean charge before a control device can be shut off under the change of classification procedures. As such, we have modified the final rule, accordingly.

The EPA has also removed the requirement that furnaces at area sources using group 2 as any alternative operating mode repeat the performance test every 5 years. Our use of the phrase ''additional performance tests'' in 40 CFR 63.1514 was not intended to apply to operating modes for which the facility has already demonstrated compliance by conducting a valid and relevant performance test. Accordingly, we have modified the final rule language in 40 CFR 63.1514 to make it clear that performance tests must be performed only if compliance for the operating mode has not already been demonstrated by a valid performance test and have clarified 40 CFR 63.1514 to indicate that ''additional tests'' are not required for operating modes for which the facility has already demonstrated compliance by conducting a valid performance test. In response to the commenter's objection to requiring a tilting melter to test when in group 2 mode, neither the proposed rule nor the final rule contains such a requirement for any tilting reverberatory furnace capable of completely removing furnace contents between batches.

4. What is the rationale for our final approach for changing furnace classification?

The final rule addresses an area of uncertainty under Subpart RRR by specifying rule provisions expressly allowing changes in furnace classification from one authorized operating mode to another, including from a controlled furnace operating mode to an uncontrolled furnace operating mode, subject to procedural and testing requirements, operating requirements and recordkeeping requirements. The final rule allows changes in furnace operating modes up to four times (including the four associated reversions) in a 6-month period. This frequency of changes in furnace operating modes is based on limited information submitted by industry on the number of furnaces changes that occur, taking into account the increased burden on the EPA and delegated states to oversee compliance for furnaces that repeatedly change their classification and associated emission standards and compliance requirements under Subpart RRR. The final rule allows sources to request additional changes in furnace operating mode by petitioning the permitting authority for major sources, or the Administrator for area sources.

E. Flow Rate Measurements and Annual Inspections of Capture/Collection Systems

1. What did we propose regarding flow rate measurements and annual inspections of capture/collection systems?

In the 2012 proposal, we proposed codifying in Subpart RRR our existing interpretation that annual hood inspections include flow rate measurements using EPA Reference Methods 1 and 2 in Appendix A to 40 CFR part 60. These flow rate measurements supplement the effectiveness of the required visual inspection for leaks, to reveal the presence of obstructions in the ductwork, confirm that fan efficiency has not declined and provide a measured value for air flow. Commenters on the 2012 proposal requested that the EPA allow flexibility in the methods used to complete the annual inspections of capture/collection systems stating that the use of volumetric flow measurement was often not necessary and Method 1 and 2 tests could be a cost burden for some facilities. Comments also indicated that routine, but less frequent, flow rate measurements could ensure that capture/collection systems are operated properly and suggested alternative methods of ensuring the efficiency of capture/collection systems.

Based on the comments received and our consideration of inspection needs, in the 2014 supplemental proposal we proposed additional options that provide more flexibility in how affected sources can verify the efficiency of their capture/collection system. Instead of annual Methods 1 and 2 testing, we proposed that sources may choose to perform flow rate measurements using EPA Methods 1 and 2 once every 5 years, provided that a flow rate indicator consisting of a pitot tube and differential pressure gauge is installed and used to record daily the differential pressure and to ensure that the differential pressure is maintained at or above 90 percent of the average pressure differential measured during the most recent Method 2 performance test series, and that the flow rate indicator is inspected annually. As another option to annual flow rate measurements using Methods 1 and 2, the EPA proposed to allow Methods 1 and 2 testing to be performed every 5 years provided that daily measurements of the revolutions per minute (RPM) of the capture and collection system's fan pr a fan motor amperage (amps) are taken, the readings are recorded daily, and the fan RPM or amps are maintained at or above 90 percent of the average RPM or amps measured during the most recent Method 2 performance test. Furthermore, we proposed that as an alternative to the flow rate measurements using Methods 1 and 2, the annual hood inspection requirements can be satisfied by conducting annual verification of a permanent total enclosure using EPA Method 204. We further proposed that as an alternative to the annual verification of a permanent total enclosure using EPA Method 204, verification can be performed once every 5 years if negative pressure in the enclosure is directly monitored by a pressure indicator and readings are recorded daily or the system is interlocked to halt material feed should the system not operate under negative pressure. We also proposed that readings outside a specified range would need to be investigated and steps taken to restore normal operation, and that pressure indicators would need to be inspected annually for damage and operability.

2. What changed since proposal regarding flow rate measurements and annual inspections of capture/collection systems?

The final rule contains modified monitoring requirements in 40 CFR 63.1510(d) to allow the use of non-pitot based flow rate measuring equipment (*i.e.*, hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate) equipped with an associated thermocouple and automated data logging software and associated hardware. These monitoring provisions provide the secondary aluminum production source category with flexibility and less costly alternatives to annual inspections using Methods 1 and 2 and Method 204 while also ensuring the proper operation of capture and collection systems.

3. What key comments did we receive regarding flow rate measurements and annual inspections of capture/collection systems?

Comment: One commenter on the 2012 proposal contended that the EPA should continue to allow affected sources flexibility in methods used to complete annual inspections of capture/collection and closed vent systems. The commenter stated that the proposed rule would add a volumetric flow measurement requirement, which is unnecessary in many cases, to demonstrate proper operation of the capture/collection and closed vent system. The commenter contended that current rule flexibility allows sources to utilize monitoring methods that are appropriate and cost effective for their operations and equipment; this choice of monitoring method is included in an approved OM&M plan certified by the owner or operator. The commenter also noted that the additional cost burden on facilities to perform a Method 1 and Method 2 measurement was not considered by the EPA in the rulemaking process. The commenter estimated that EPA Methods 1 and 2 will require the facility to hire an outside contractor and incur costs of more than $3,000 per unit. The commenter recommended that the Agency should continue to allow affected sources the ability to determine the best inspection methods to verify that capture/collection and closed vent systems meet operating requirements.

One commenter on the 2012 proposal discussed 40 CFR 63.1510(d)(2), stating that while in agreement with the need to routinely perform volumetric flow rate measurements, after negotiation with the EPA, a determination was made that a frequency of every 30 months was sufficient, as documented in a 2009 consent decree resolving a federal enforcement action against the company. The commenter asserted that volumetric flow rate measurement is a costly procedure, performed by outside contractors costing about $2,000 a day, and cost per inspection will vary by the number of systems to be checked. The commenter noted that for the commenter's facilities, approximately fifty rechecks have been performed to comply with the requirements of the consent decree or due to new stack testing. The commenter stated that all have demonstrated that each system is operating in accordance with the requirements in 40 CFR 63.1506(c). According to the commenter, this shows that there is no need to conduct this flow measurement more than once every 30 months. The commenter objected to the requirement to perform volumetric flow measurements on each hood. The commenter stated that when multiple hoods are manifolded together, it is not always possible to meet Method 1 requirements on all hoods to be measured, and at times it is necessary to measure the main trunk and arrive at the volumetric flow rate for an individual hood by calculation. According to the commenter, this method has been used repeatedly and submitted to the EPA and state agencies with stack test reports, and has been accepted. The commenter requested that the EPA clarify that the proposed language does not preclude this approach, or modify the proposed language to include such clarification.

Response: Verification of the flow rate of the exhaust stream that is directed to the control device is necessary to assure the efficiency of the control system and to ensure continuous compliance with the emission standards between performance tests. In addition, owners or operators of area source facilities are not required to conduct periodic performance tests and this requirement may help detect leaks and defects in the duct work sooner than they otherwise would be found. The EPA is adopting the requirements as proposed in the 2012 and 2014 proposals, including options that provide flexibility in how affected sources can verify their flow rates.

Instead of annual Methods 1 and 2 testing, flow rate measurements using EPA Methods 1 and 2 can be performed once every 5 years, provided that a flow rate indicator consisting of a pitot tube and differential pressure gauge is installed and used to record daily the differential pressure, that the differential pressure is maintained at or above 90 percent of the pressure differential measured during the most recent Method 2 performance test series, and that the flow rate indicator is inspected annually. As another option to annual flow rate measurements using Methods 1 and 2, the EPA is allowing Methods 1 and 2 to be performed every 5 years provided that daily measurements of the capture and collection system's fan RPM are made, that the readings are recorded daily, and that the RPM are maintained at or above 90 percent of the RPM measured during the most recent Method 2 performance test series. Other options for annual flow rate measurements using Methods 1 and 2 that we are allowing are annual measurements of the face velocity of booth-type hoods, or installation of static pressure measurement in the duct at the hood exit, provided that the values obtained for these measurements are at or above 90 percent of the values measured during the most recent Method 2 performance test series. Further, we are allowing that as an alternative to the flow rate measurements using Methods 1 and 2, the annual hood inspection requirements can be satisfied by conducting annual verification of a permanent total enclosure using EPA Method 204.

We are further allowing that, as an alternative to the annual verification of a permanent total enclosure using EPA Method 204, verification can be performed once every 5 years if negative pressure in the enclosure is directly monitored by a pressure indicator and readings are recorded daily or the system is interlocked to halt material feed should the system not operate under negative pressure. We are also requiring that readings outside a specified range be investigated and steps taken to restore normal operation, and that pressure indicators would need to be inspected annually for damage and operability. We are also allowing non-pitot based flow rate measuring equipment (*i.e.*, hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate) equipped with an associated thermocouple and automated data logging software and associated hardware as a sufficient monitoring system for compliance with this rule.

The 2009 Consent Decree at paragraph 122 states clearly that each company is responsible for achieving and maintaining complete compliance with all applicable federal laws and regulations, and compliance with the Consent Decree does not necessarily mean compliance with the Clean Air Act or implementing regulations. Further, the Consent Decree does not limit the EPA's authority to revise subpart RRR.

The commenters assert that annual measurements of flow rates will result in additional costs to conduct EPA Methods 1 and 2 testing. Because in EPA's view the existing requirements prior to this rulemaking required annual testing, we disagree that these costs represent a new burden. See Memorandum, Michael Alushin, EPA Office of Compliance Enforcement Assurance, to EPA Regional Air Directors, ''Compliance with ACGIH Ventilation Manual,'' August 16, 2006, which is in this rulemaking docket.

Comment: In a comment on the supplemental proposal, one commenter stated that in the supplemental proposal, the EPA would allow several alternatives to an annual Methods 1 and 2 flow rate measurement including the option to verify a permanent total enclosure every five years and directly monitor negative pressure, which they support. The commenter stated that there appears to be an inconsistency in proposed sections 63.1506(c) and 63.1510(d). The commenter stated that 40 CFR 63.1506(c)(1) requires capture and collection systems to meet ''engineering standards for minimum exhaust rates'' from the ACGIH Manuals, but the supplemental proposal allows an operator to ensure compliance with 40 CFR 63.1506(c) by verifying a permanent total enclosure by Method 204, which verifies the facial velocity and that an inward flow is maintained at all openings, but does not include a measurement of exhaust rates. The commenter stated that the ACGIH Manuals do not provide minimum exhaust rates for all types of capture and collection systems used by the secondary aluminum industry; for example, some capture and collection systems are not typical ventilation hoods and are more appropriately described in the ACGIH Manuals as ''Moderate Control Total Enclosures'' and, for these systems, the manual does not provide minimum exhaust rates, but rather describes appropriate velocities to maintain through openings in the enclosure. The commenter stated that to the extent the manuals are referenced in the final rule, the EPA should revise 40 CFR 63.1506 to remove the reference to ''minimum exhaust rates'' and require the system to be designed and monitored to meet ''applicable engineering standards'' as follows:

''Design and install a system for the capture and collection of emissions to meet the applicable engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in *Industrial Ventilation: A Manual of Recommended Practice* 23rd or 27th edition (ACGIH Guidelines) (incorporated by reference in § 63.1502 of this subpart).''

Response: Because the ACGIH guidelines also contain inlet velocities as pointed out by the commenter, 40 CFR 63.1506(c)(1) of the final rule now reads ''Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or inlet facial velocities as contained in the ACGIH Guidelines.''

Comment: In a comment on the supplemental proposal, one commenter stated that they concur with the flexibility that the EPA provides in 40 CFR 63.1510(d)(2)(ii) and (iii) to allow 5-year flow rate testing measurements to supplant the annual testing requirement, if a pitot tube and differential pressure gauge are installed and monitored in the hooding (ii), or if fan RPM's are tracked and recorded (iii). The commenter stated that, however, based on real world experience with the flow verification of permanently installed hooding devices, there are other options that should also be included that would provide the same level of protectiveness; two options are:

Option 1. Install a pressure tap in the duct just above the hood exit point, and monitor pressure similar to the pitot tube. The commenter stated that this is simpler than a pitot tube installation, less prone to clogging, and has been effectively used at an existing location. According to the commenter, the signal will equal pressure loss in the hood entrance plus velocity pressure in the duct, and generally be proportional to the velocity in the duct squared. The commenter stated that at 3,000 ft/min duct velocity it will be similar to the pitot tube at approximately 0.70 inches water gauge, that calibration of differential pressure readings can be done by EPA Methods 1 and 2 flow testing, and that it is easier to install in a duct since no straight run is required.

Option 2. If the hood has a straight face (*i.e.*, booth type), face velocity measurements could be made over the face of the hood and averaged to determine velocity. Measured face velocity could be compared to calculated data vs. EPA Methods 1 and 2 on a 5-year frequency. The commenter provided the following comments on this option:

- No negative flow points should be observed, since this will allow smoke to escape the hood.
- This will not work for canopy or irregularly shaped hoods.
- Low velocities require an appropriate measurement device.
- Cannot be done while material is being loaded into hood.

The commenter requested that new paragraphs (iv) and (v) be added to 40 CFR 63.1510(d)(2) for the inclusion of options 1 and 2 above.

In a comment on the supplemental proposal, one commenter objected to the EPA's supplemental proposal to the extent that it only provides two methods to measure flow to avoid annual inspection for permanently installed capture, collection, and transport systems (*i.e.*, hoods). The commenter stated that Table 3 of the supplemental proposal allows a source to delay annual inspections for capture devices to once every 5 years, if the source monitors flow through daily pressure differential measurements or fan RPM measurements. The commenter stated that they support the recommendations and rationale of the Aluminum Association (TAA) to include additional flow monitoring alternatives to avoid annual inspections, including installation of a pressure tube above hood exit points, face velocity measurements (for straight face (booth type) hoods) and by direct observation of smoke in the hood by a method 22 or similar test. The commenter stated that by including additional flow-monitoring alternatives, the EPA would allow sources the option to pick the most reliable and least burdensome flow monitoring method that fits the type of hood used to capture emissions at the source.

In a comment on the supplemental proposal, one commenter stated that the alternative to the annual capture/collection and closed vent system inspection requirements at 40 CFR 63.1510(d)(2)(ii) is unreasonably restrictive and should not be limited to using conventional pitot tube and a differential pressure gauge equipment to qualify for the once in 5 year alternative. The commenter recommended that the EPA further amend 63.1510(d)(2) to permit the use of non-pitot based flow measuring equipment and to permit volumetric flow measurements to be automated using available software and hardware.

Response: The proposed alternatives of annual measurements of face velocity for straight face (booth-type) hoods using a hot-wire anemometer, or installation of a pressure tap in the duct just downstream of the hood exit point, and monitoring pressure, as suggested by the commenters, are acceptable. We also agree that non-pitot based flow rate measuring equipment (*i.e.*, hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate) equipped with an associated thermocouple and automated data logging software and associated hardware is a sufficient monitoring system for compliance with this rule. We are modifying the rule language to accommodate these monitoring options.

4. What is the rationale for our final approach for flow rate measurements and annual inspections of capture/collection systems?

Based on the rationale presented in the preamble to the 2012 proposed rule, the final rule codifies in subpart RRR our interpretation that annual inspections of capture and collection systems include flow rate measurements using EPA Reference Methods 1 and 2 in Appendix A to 40 CFR part 60. However, based on the public comments regarding additional flow measurement technologies and our responses to those comments presented in the previous section of this preamble, the final rule also includes additional options that provide more flexibility in how affected sources can verify the efficiency of their capture/collection system.

F. Compliance Dates

1. What compliance dates did we propose?

In the 2012 proposal, the EPA proposed that owners or operators of existing affected sources comply with the proposed amendments within 90 days of the publication of the final rule in the **Federal Register**. Commenters stated that the proposed 90-day compliance deadline was insufficient for sources to comply with certain provisions. They maintained that the rule changes would require operational planning, maintenance planning, reprogramming of data acquisition systems, design and installation of hooding equipment and/or negotiations with permitting authorities to gain performance test plan approvals (with provisions to minimize fugitive emissions during testing in place of capture hoods). They pointed out that facilities that choose to design and install capture hoods for performance testing will need time to design and complete these installations, conduct initial performance testing and modify their operations, charge materials and/or products to ensure compliance. Some rule changes, furnace classification changes, HF testing and testing uncontrolled furnaces for example, would require revisions to OM&M plans as well as to permits to include newly established operating parameters in cases where changes to furnace classifications are made. Commenters stated that compliance with HF emission standards that may affect choice of flux materials, daily calculation of HF emissions and compliance with SAPU limit that will require reprogramming of data systems to include HF and/or fluoride containing flux composition data would also require time to be researched, selected, purchased, financed and installed. Commenters suggested compliance deadlines ranging from 2 to 3 years.

In the 2014 supplemental proposal, the EPA agreed with commenters that the proposed 90-day compliance deadline was insufficient for sources to comply with certain proposed provisions and proposed extended compliance periods. The EPA proposed a 180-day compliance period for the revisions listed in 40 CFR 63.1501(d). For the amendments to include HF emissions (in 40 CFR 63.1505(i)(4) and (k)(2)), the testing of existing uncontrolled furnaces (§§ 63.1512(e)(4), (e)(5), (e)(6) and (e)(7)), and changing furnace classification (40 CFR 63.1514), the EPA proposed a compliance date of 2 years after promulgation.

2. What compliance dates changed since proposal?

As noted above, we adjusted some compliance dates in our supplemental proposal. We received no comments or information following the supplemental proposal that warranted any changes to the compliance dates proposed in the supplemental proposal. As proposed, compliance with the provisions listed in 40 CFR 63.1501(d) is required 180 days following publication of the final rule while compliance with the provisions listed in 40 CFR 63.1501(e) is required 2 years following publication of the final rule.

3. What key comments did we receive related to compliance dates?

Comment: One commenter on the 2012 proposal agreed with the 180 day time period for startup for new sources' initial performance tests. However, the commenter stated that due to the integration of modern facilities, running a regulated unit at full capacity may be affected or constrained by downstream equipment, market constraints or other technical issues beyond the control of the facility. The commenter stated that the current provisions provide relief only through the administrative order process, which is costly and arduous. The commenter requested that the EPA include a provision to petition for an extension of the deadline if a test is not feasible within the allowed time period to allow time for the facility to reach full capacity.

Response: As proposed in the supplemental proposal, the final amendments increase the time period for initial compliance testing for a new source from 90 days to 180 days. The commenter did not provide data or other specific documentation to support a conclusion that an affected source cannot reach full capacity within 180 days of startup.

Comment: Two commenters on the 2012 proposal asked the EPA to clarify in the rule that the new HF requirements are not effective until ''the next scheduled performance test after the effective date of the final rule.'' The commenters observed that in the proposal preamble the HF testing requirement, and presumably the HF limit, was said to become effective ''at the next scheduled performance test after the effective date of the final rule.'' The commenters noted that the regulatory language does not make this clear, as 40 CFR 63.1501 states that owners or operators must comply with the HF limit and the HF testing requirement within 90 days after promulgation.

In comments on the supplemental proposal, two commenters requested that the EPA clarify that the intent of the proposed language is to not require testing for HF on existing major source uncontrolled group 1 furnaces within 2 years of the final rule publication date but at the next scheduled 5 year required stack test following publication of the final rule.

One commenter on the 2014 supplemental proposal stated that they interpret the proposed language of 40 CFR 63.1501(e) to indicate that the effective date of the new HF standard and the new requirements for testing existing uncontrolled group 1 furnaces is 2 years from final rule promulgation and that they further understand that testing to demonstrate compliance with the newly effective provisions can be done on a timeline consistent with the existing 5-year performance testing cycle established using the existing 40 CFR 63.1511(e) provision such that the compliance demonstration is made at the next scheduled performance test after the effective date of the final rule. The commenter stated that this is true even if the next scheduled performance test on the normal 5-year testing cycle is outside the 2-year compliance window. The commenter provided an example to illustrate their interpretation of the compliance date requirements.

Two commenters suggested the following revision to 40 CFR 63.1512(e)(4):

''When testing an existing uncontrolled furnace, the owner or operator must comply with the requirements of either paragraph (e)(4)(i) or paragraph (ii) of this section at the next performance test required by 40 CFR 63.1511(e).''

The commenters also requested clarification of when HF emissions must be included in SAPU calculations. According to the commenters, furnaces at some facilities are on different testing schedules, which mean that some furnaces will become subject to the HF limit and HF SAPU calculation before others. The commenters assumed each furnace would be added to the HF SAPU calculation when tested, but the commenters requested that the EPA clarify this in the final rule.

Response: Although the final rule is effective upon promulgation pursuant to CAA section 112(d)(10), the commenters are correct that the final rule requires HF testing at the next scheduled performance test if the test occurs 2 years or more after the final rule is published in the **Federal Register**. We clarified in the final rule that the HF requirements apply to the next scheduled performance test if the next scheduled performance test occurs 2 years or more after the final rule is published in the **Federal Register**. The final rule also clearly provides that each furnace will be added to the HF SAPU calculation following the initial performance test for HF for the furnace, or for a representative furnace tested, to determine HF emissions from the furnace.

Comment: Several commenters on the 2012 proposal disagreed with the proposed ninety-day compliance date. Two commenters stated that requiring compliance only 90 days after promulgation is unnecessary and does not provide sufficient time. One commenter suggested that due to engineering and management constraints, the period be extended to 180 days, which would allow the industry to make necessary changes. The commenter noted potential component lead-times and permitting procedures outside of the control of operators. Another commenter recommended 2 to 3 years for compliance, assuming the EPA promulgates corrections and clarifications that require a compliance window.

Two commenters on the 2012 proposal maintained the rule changes will require operational planning, maintenance planning, reprogramming of data acquisition systems, design and installation of hooding equipment and/or negotiations with permitting authorities to gain performance test plan approvals (with provisions to minimize fugitive emissions during testing in place of capture hoods). One commenter stated that facilities that choose to design and install capture hoods for performance testing will need time to design and complete these installations, conduct initial performance testing and modify their operations, charge materials and/or products to ensure compliance.

One commenter on the 2012 proposal stated that some facilities will also need to prepare and submit revised OM&M plans that incorporate changes related to bag leak detector maintenance, lime feeder calibrations, metal liquid depth monitoring and/or procedures for changing furnace classifications. The commenter noted that under the proposed rule, these revised OM&M plans could not be implemented until 60 days after submittal to the permitting authority, meaning that companies would effectively have only 30 days to define their compliance approach and submit revised OM&M plans. The commenter concluded that this 90-day compliance timeline is neither practicable nor reasonable.

One commenter on the 2012 proposal recommended a minimum of one year to implement the controls and reporting requirements. The commenter stated that any new technology requirements or installation of new or modification of existing emission controls would impose added costs, and 90 days did not provide an adequate opportunity for additions to be researched, selected, purchased, financed, and installed. The commenter also stated that the Subpart ZZZZZZ rule allowed two years and that would be preferable, but a period of no less than twelve months would be fair and acceptable. The commenter also suggested the same delay should apply to the development and filing of a written OM&M plan.

One commenter on the 2012 proposal stated that the following provisions cannot be met within 90 days due to the possible need for ductwork revisions and further stack testing: §§ 63.1505(a), 63.1505(i)(4), 63.1505(k), 63.1510(b), 63.1510(d)(2), 63.1510(o)(l)(ii), 63.1512(e)(l), 63.1512(e)(2), and 63.1512(e)(4). The commenter stated it is not reasonable to begin work on these provisions immediately since they will be subject to further comment and hopefully significant revision in the final rule.

Two commenters on the 2012 proposal requested a 3-year compliance timeline for the provisions that result in changes in operations and/or operation practices, or impact control technology and monitoring requirements at existing sources. One commenter stated that a 3-year compliance date would allow smaller producers opportunity to budget for large capital and resource costs. The commenters suggested a 3-year compliance date for the following provisions:

- § 63.1505(a)(1), emission limits applicable to SSM periods;
- § 63.1505(i)(4), compliance with HF emission standards that may affect choice of flux materials;
- § 63.1505(k)(2), daily calculation of HF emissions and compliance with SAPU limit that will require reprogramming of data systems to include HF and/or fluoride containing flux composition data;
- § 63.1510(b)(5), procedures in OM&M plan for process and control device parameters that require addition of lime injection rates that may require new or modified equipment to determine rates or calibrate lime mass feed rate and will require lime injection rate to be established during next scheduled performance test; 63.1510(b)(5), requirements and scope for capture/collection system inspections on controlled emission units;
- § 63.1510(i)(4), monthly lime injection rate verification that may require new or modified equipment to allow verification of lime mass feed rate;
- § 63.1510(j)(4), recordkeeping (and associated training of operating personnel) for solid flux added intermittently;
- § 63.1510(n)(1), monitoring molten metal level of sidewell furnaces that will require selection, purchase, installation, testing and maintenance procedures for new equipment;
- § 63.1512(e)(1) and (e)(4), deletes ''furnace exhaust outlet'' as compliance basis and imposes new compliance demonstration requirements for uncontrolled furnaces based on temporary capture hoods, reduced emission limit equal to 67 percent of the existing standard or procedures to minimize fugitive emissions during testing negotiated with permitting authority;
- § 63.1512(p)(2), record lime injection rates during the three test runs that will require lime injection rate to be established during next scheduled performance test; some existing systems do not have a viable means for weighing

mass rate of lime being injected and new or modified equipment will be required;

- § 63.1513(e)(1), (e)(2), and (e)(3), co-controlled units added to SAPU calculation that may require revision of OM&M plan and reprogramming of data systems used to track and record SAPU calculations; and
- § 63.1514, requirements for changing furnace classifications which differ from those in current Title V permits, and will need revision after owners and operators establish compliance conditions and gather performance data.

One commenter on the 2012 proposal suggested that the effective date for the revised 40 CFR 63.1511(b)(1) language would need to be ''at the next required performance test.'' The commenter asserted that the proposed provision changes the required test conditions for some operations and could not be met by the proposed effective date of 90 days.

One commenter on the 2012 proposal asserted that the EPA is not required to impose the 90-day compliance period on area sources because promulgation of section 112(f) standards is not required based on the EPA's findings that the MIR for secondary aluminum area sources, based on actual emissions, was 0.4-in-1 million. The commenter stated that the EPA may grant up to a 3-year compliance deadline for area sources. The commenter contended that, as a practical matter, the EPA should provide a compliance period for area sources commensurate with the several new administrative requirements for which more than 90 days are required to achieve implementation. The commenter stated that, due to the revisions required for facility operations and the time constraints for revision and approval of an OM&M plan, the EPA should grant at least a 1-year compliance period. The commenter described potential time constraints.

In a comment on the 2014 supplemental proposal, one commenter stated that compliance deadlines for new standards developed under the section 112 program must be set for a date that is as expeditious as practicable, but no later than 3 years after rule implementation. The commenter stated that the EPA is not required to impose the 180-day compliance period on area sources because promulgation of section 112(f) standards is not required when the residual cancer risk under the existing MACT standards are not equal to or greater than 1-in-1 million. The commenter stated that because of the low MIR from area sources (0.6-in-1 million), the EPA was not required to promulgate standards under 112(f); accordingly, the EPA may grant up to a three-year compliance deadline for area sources. The commenter stated that the EPA should provide a compliance period for area sources that is commensurate with the several new administrative and monitoring requirements for which more than 180 days are required to achieve full implementation. The commenter provided the following example to illustrate the need for a longer compliance period: Additional monitoring requirements for capture and collection systems proposed in 40 CFR 63.1510(d)(2) may require installation of flow rate or pressure monitoring equipment; these changes, and others proposed in the 2012 proposal, may require submittal of a revised OM&M plan to the permitting authority; among the revisions to the OM&M plan under the 2012 proposal are new requirements for the inspection of capture and collection systems and additional performance testing requirements; the owner or operator may not begin operating under this revised OM&M plan until approval is received from the permitting authority, or 60 days, whichever is sooner. The commenter stated that, even to the extent that the 2012 proposal provides for default approval of OM&M plans after 60 days, this only leaves the source with 120 days to install monitoring equipment and implement the plan; this time frame is inappropriate. The commenter stated that, due to the revisions required for facility operations and the time restraints for revision and approval of an OM&M plan, the EPA should grant at least a 1-year compliance period.

Response: As discussed in the 2014 supplemental proposal, the EPA agrees with the commenters on the 2012 proposal that the proposed 90-day compliance deadline is insufficient for sources to comply with certain provisions of the final rule and is finalizing extended compliance periods. The final compliance dates are the same as those proposed in the 2014 supplemental proposal, on which we received only one comment. As these amendments clarify existing requirements, and based on the lack of supporting information for the commenter's conclusory assertion that 2 years is insufficient, we do not agree that any of the revisions warrant an extension beyond 2 years to a 3-year compliance period. Regarding the commenter's concern that small producers would need 2 to 3 years to budget for large capital and resource costs, we determined in our economic and small business analysis (see section VI.C of this action) that 28 entities will incur costs associated with this rule and, of the 28 entities, nine of them are small based on the definition of the Small Business Administration. Of these nine small businesses, all are estimated to experience a negative cost (*i.e.*, a cost savings) as a result of the final rule. Therefore, we do not agree that more than a 2-year compliance period is necessary.

As a result of comments on the 2012 proposal, the final rule does not contain the 60-day approval period for OM&M plans. Therefore, the industry will have the full 180 days for compliance rather than a 120-day compliance period as was a concern of one commenter. The final rule retains the 2-year compliance period for those requirements listed in 40 CFR 63.1501(e). The final rule does not change the requirement that existing major sources conduct performance tests every 5 years.

The EPA disagrees that additional time is needed to comply with the changes related to SSM. The Court issued a decision on December 19, 2008, to vacate SSM provisions in the General Provisions. *Sierra Club* v. *EPA*, 551 F.3d 1019 (D.C. Cir. 2008). The EPA issued a letter on July 22, 2009, addressing the impact of the decision. The court mandate implementing the *Sierra Club* decision was issued on October 16, 2009, at which time the SSM provisions were clearly no longer in effect. As explained in the July 2009 memo, SSM provisions in specific subparts, such as those in Subpart RRR, were directly affected by the court decision. In addition, amendments to Subpart RRR were proposed on February 14, 2012, at which time secondary aluminum facilities were put on notice of the specific amendments to Subpart RRR in response to the Court's vacatur of the SSM provisions. Thus, facilities have had ample notice that the EPA would make the SSM rule changes. As a result, the SSM-related rule changes are effective upon promulgation of the final rule. See also discussion in section III.C of this preamble.

Comment: Two commenters on the 2012 proposal requested changes to the new hooding requirement in 40 CFR 63.1512(e)(4), requiring compliance ''at the next required performance test'' even if the test must be performed ''90 days from promulgation of the final rule'' [§ 63.1501(d)]. The commenters explained that this compliance deadline may be acceptable for facilities that are not required to conduct performance testing in the first few years following promulgation of the final rule, but other facilities are on a testing cycle that would require testing soon after promulgation and these facilities may not have time to install hoods and/or modify operating practices within the allotted 90 days. The commenters stated that according to the NESHAP General Provisions, test protocols must be submitted 60 days before a compliance test, so facilities required to test early in 2013 would have as little as 30 days after the final rule to address the new hooding requirements and other requirements of the final rule before submitting a test plan. The commenters did not believe that this timeline is practicable or reasonable. The commenters requested the EPA to revise the compliance date for capture hoods on uncontrolled furnaces (in § 63.1512 (e)(4)) to say: ''three years after the final promulgation date or at the next required performance test, whichever date is later.''

Response: The EPA agrees with the commenters that the time available for owners or operators of facilities with performance testing required under 40 CFR 63.1512(e)(4) and occurring near the proposed 90-day compliance deadline would be insufficient. As described above, in the final rule the requirement to account for unmeasured emissions during uncontrolled group 1 furnace performance testing applies to testing beginning 2 years after publication of the final rule in the **Federal Register**. Therefore, a source with their next required performance test of an uncontrolled group 1 furnace occurring at least 2 years after promulgation would have to comply with the testing provisions in 40 CFR 63.1512(e)(4). A source with their next required performance test of an uncontrolled group 1 furnace occurring 1 year (or any period less than 2 years) after promulgation would not be required to do so until the subsequent performance test. As these amendments clarify existing requirements, and based on the lack of supporting information for the commenter's conclusory assertion that 2 years is insufficient, we do not agree that any of the revisions warrant an extension beyond 2 years to a 3-year compliance period.

4. What is the rationale for our final approach related to compliance dates?

The rationale for the compliance dates is provided in the preamble to the supplemental proposal and is re-iterated in the responses to comments in the previous section of this preamble. The final rule specifies the compliance dates for the new requirements. Compliance with the provisions listed in 40 CFR 63.1501(d) is required 180 days following publication of the final rule. Rule changes specified in § 63.1501(e)—furnace classification changes, HF testing and testing uncontrolled furnaces—require more time, and the final rule provides 2 years following publication of the final rule for compliance.

V. Summary of Cost, Environmental and Economic Impacts and Additional Analyses Conducted

A. What are the affected sources?

We estimate that there are 161 secondary aluminum production facilities that will be affected by this final rule. We performed risk modeling for 155 of these sources (52 of the 53 major sources and 103 of the 108 area sources). Six facilities that are subject to the Secondary Aluminum NESHAP were not included in the risk assessment input modeling files. The facilities that were not included in the risk assessment input files included one major HAP source and five area HAP sources. The major HAP source was not included because the secondary aluminum equipment at the source consists of group 2 furnaces, for which the EPA did not have HAP emissions estimates. The five area sources were not included because they had no equipment subject to D/F emission standards, which are the only standards in the NESHAP applicable to area sources. We estimate that nine secondary aluminum facilities have co-located primary aluminum operations. The affected sources at secondary aluminum production facilities include new and existing scrap shredders, thermal chip dryers, scrap dryer/delacquering kiln/decoating kilns, group 2 furnaces, sweat furnaces, dross-only furnaces, rotary dross cooler and secondary aluminum processing units containing group 1 furnaces and in-line fluxers.

B. What are the air quality impacts?

The RTR analysis conducted for this rule does not support increasing the stringency of the numerical emissions limits. This final rule clarifies how uncontrolled furnaces are to conduct emissions testing, revises the monitoring requirements for annual inspection of capture/collection systems and makes other changes that correct and clarify rule requirements and provisions. These final amendments are not expected to achieve appreciable reductions in emissions, although the final requirements for testing uncontrolled furnaces could result in some unquantifiable emission reduction. Therefore, no quantifiable air quality impacts are expected. However, these final amendments will help to improve compliance, monitoring and implementation of the rule.

C. What are the cost impacts?

The total cost of the final amendments are the same as we described in the supplemental proposal. We conservatively estimate the total cost of the final amendments to be $1,711,000 per year (in 2011 dollars). However, depending on assumptions used for the costs for installing temporary hooding for uncontrolled furnaces, the estimate of total annualized costs could range from $611,000 to $2,871,000 per year. Our estimate for the source category includes an annualized cost of $1,200,000 to $3,460,000 for installing hooding that meets ACGIH guidelines for testing uncontrolled furnaces, assuming that 107 furnaces choose that option (rather than assuming an 80-percent capture efficiency for their existing furnace exhaust system). We believe that a number of these 107 furnaces will choose to apply the 80-percent assumption rather than install temporary hooding. Our estimates do not include deductions for the exclusion of existing round top furnaces as provided in the final rule. Therefore, these total cost estimates are considered conservative (more likely to be overestimates rather than underestimates) of the total costs to the industry. Our estimates of total costs also include an annualized cost of $11,000 for testing for HF on uncontrolled furnaces that are already testing for HCl. Finally, we estimate cost savings of $600,000 per year for furnaces that change furnace operating modes and turn off their control devices. Our estimate of savings is based on 50 furnaces turning off their controls for approximately 6 months every year. This savings reflects the cost of testing (to demonstrate these furnaces remain in compliance with emission limits) minus the savings realized from operating with the control devices turned off.

We estimate that 57 facilities will be affected and that the cost per facility ranges from negative $36,000 (a cost savings) per year for a facility changing furnace operating modes to $216,500 per year for a facility installing hooding for testing.

The estimated costs are explained further in the document titled, *Cost Estimate for Rule Changes to Secondary Aluminum NESHAP,* which is available in the docket for this action.

D. What are the economic impacts?

We performed an economic impact analysis for the amendments in this final rule. This analysis estimates impacts based on using annualized cost-to-sales ratios for affected firms. For the 28 parent firms affected by this final rule, the cost-to-sales estimate for each parent firm is less than 0.1 percent. For more information, please refer to the document titled, *Economic Impact Analysis for the Secondary Aluminum Supplemental Proposal,* which is available in the docket.

E. What are the benefits?

We do not anticipate any significant reductions in HAP emissions as a result of these final amendments. However, we think that they will help to improve the clarity of the rule, which can improve compliance and minimize emissions. Certain provisions also provide operational flexibility with no increase in HAP emissions.

F. What analysis of environmental justice did we conduct?

We did not conduct an assessment of risks to individual demographic groups for this rulemaking. However, we did conduct a proximity analysis for both area and major sources, which identifies any overrepresentation of minority, low income or indigenous populations near facilities in the source category. The results of the proximity analyses suggested there are a higher percentage of minorities, people with low income, and people without a high school diploma living near these facilities (*i.e.,* within 3 miles) compared to the national averages for these subpopulations. However, the risks due to HAP emissions from this source category are low for all populations (*e.g.,* inhalation cancer risks are less than 1-in-1 million for all populations and non-cancer HIs are less than 1). We note that we do not expect this final rule to achieve reductions in HAP emissions. We conclude that this rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. However, the final rule will provide additional benefits to these and all demographic groups by improving the compliance, monitoring and implementation of the NESHAP.

G. What analysis of children's environmental health did we conduct?

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. The risk assessment report, *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule,* which is available in the docket, estimated that no one is exposed to an inhalation cancer risk at or above 1-in-1 million or a chronic noncancer TOSHI greater than one due to emissions from the source category. The *2015 Environmental Justice Screening Report for Secondary Aluminum Major Sources and the 2015 Environmental Justice Screening Report for Secondary Aluminum Area Sources,* also available in the docket, indicate the percentages for all demographic groups exposed to various risk levels, including children, are similar to their respective nationwide percentages. All groups are exposed to cancer risks below 1-in-1 million and HIs less than 1 due to inhalation exposure to HAP emissions from this source category.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection requirements in this rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them.

We are establishing new paperwork requirements for the Secondary Aluminum Production source category to improve enforcement of and compliance with 40 CFR part 63, subpart RRR. The new requirements are in the form of recordkeeping and reporting for furnace classification changes and recordkeeping with regard to verification of lime injection rates. New monitoring requirements include testing for HF, and testing related to furnace classification changes. The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which generally apply to all operators subject to Part 63 national emissions standards. These recordkeeping and reporting requirements are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to agency policies set forth in 40 CFR part 2, subpart B.

We estimate 161 regulated entities are currently subject to Subpart RRR. The annual monitoring, reporting and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the rule) for these amendments to Subpart RRR is estimated to be $2,990,000 per year. This includes 1,694 labor hours per year at a total labor cost of $162,000 per year, and total non-labor capital and operation and maintenance (O&M) costs of $2,828,000 per year. The total burden for the federal government (averaged over the first 3 years after the effective date of the rule) is estimated to be 271 labor hours per year at an annual cost of $12,231. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are small businesses. We determined in the economic and small business analysis that, using the results from the cost memorandum, 28 entities will incur costs associated with the final rule. Of these 28 entities, nine of them are small. Of these nine, all of them are estimated to experience a negative cost (i.e., a cost savings) as a result of the final rule according to our analysis. For more information, please refer to the *Economic Impact Analysis for the Secondary Aluminum Supplemental*

Proposal, which is available in the docket.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. There are no secondary aluminum production facilities owned or operated by tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the *Residual Risk Assessment for the Secondary Aluminum Production Source Category in Support of the 2015 Risk and Technology Review Final Rule,* which is available in the docket for this action, and are discussed in section V.G of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This final action involves technical standards. The EPA decided to allow the use of ASTM D7520–13, Standard Test Method for Determining the Opacity of a Plume in an Outdoor Ambient Atmosphere, approved December 1, 2013, as an acceptable alternative to EPA Method 9 to meet opacity measurement requirements and is incorporated by reference. The alternative ASTM method determines the opacity of a plume using digital imagery and associated hardware and software. The standard is available from the American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959 or at their Web site, *http://www.astm.org.*

Under the original 2000 subpart RRR, the EPA already allows the use of EPA Methods 1, 2, 3, 4, 5, 9, 23, 25A and 26A of 40 CFR part 60, Appendix A. As a result of comments received on the 2012 proposal, EPA Method 26 was identified as a reasonable alternative to EPA Method 26A and EPA Method 204 was identified as a reasonable alternative method for EPA Methods 1 and 2. Method 26A is applicable for determining emissions of hydrogen halides and halogens from stationary sources. This method collects the emission sample isokinetically and is therefore particularly suited for sampling at sources, such as those controlled by wet scrubbers, emitting acid particulate matter. Method 204 is used to determine whether a permanent or temporary enclosure meets the criteria for a total enclosure. In this method, an enclosure is evaluated against a set of criteria, which, if met and all the exhaust gases from the enclosure are ducted to a control device, the capture efficiency is assumed to be 100 percent. The EPA agrees that EPA Methods 26 and 204 are acceptable alternatives for use in this rule. These methods are existing EPA test methods and are not voluntary consensus standards under NTTAA.

EPA–625/3–89–016, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989, U.S. Environmental Protection Agency, is a procedure for assessing the risks associated with exposures to complex mixtures of chlorinated dibenzo-p-dioxins and dibenzofurnas and relates the toxicity of the 210 structurally related chemical pollutants and is based on a limited data base of *in vivo* and *in vitro* toxicity testing. This method is incorporated by reference. The method is available from the National Technical Information Service, 5301 Shawnee Road, Alexandria, VA 22312, or at their Web site, *http://www.ntis.gov.*

For the design and installation of capture and collection systems, the EPA decided to allow the use of American Conference of Governmental Industrial Hygienists (ACGIH) *Industrial Ventilation: A Manual of Recommended Practice for Design,* 27th Edition, 2010 as an alternative to *Industrial Ventilation: A Manual of Recommended Practice,* 23rd Edition, 1998, Chapter 3, ''Local Exhaust Hoods'' and Chapter 5, ''Exhaust System Design Procedure.'' The manuals present information on design, maintenance and evaluation of industrial exhaust ventilation systems. The manuals are available from ACGIH, Customer Service Department, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240, telephone number (513) 742–2020.

Under 40 CFR 63.7(f) and 40 CFR 63.8(f) of subpart A of the General Provisions, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in this final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low income, or indigenous populations because it does not affect the level of protection provided to human health or the environment. This final rule will not relax the emission limits on regulated sources and will not result in emissions increases. The results of this evaluation are contained in sections III.A, IV.A and V.F and V.G of this preamble.

Because our residual risk assessment determined that there was minimal residual risk associated with the emissions from facilities in this source category, a demographic risk analysis was not necessary for this category. However, the EPA did conduct a proximity analysis for both area and major sources. The results of these analyses are summarized in section IV.A of this preamble and in more detail in the *EJ Screening Report for Area Sources* and the *EJ Screening Report for Major Sources,* which are available in the docket for this rulemaking.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United

States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: August 14, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency is amending title 40, chapter I, part 63 of the Code of Federal Regulations (CFR) as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A—General Provisions

■ 2. Section 63.14 is amended by:
■ a. Redesignating paragraphs (b) through (r) as (c) through (s);
■ b. Adding new paragraph (b);
■ c. Revising newly redesignated paragraph (h)(87);
■ d. Redesignating newly redesignated paragraphs (m)(3) through (m)(20) as (m)(4) through (m)(21); and
■ e. Adding new paragraph (m)(3).

The additions and revisions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) American Conference of Governmental Industrial Hygienists (ACGIH), Customer Service Department, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240, telephone number (513) 742–2020.

(1) Industrial Ventilation: A Manual of Recommended Practice, 23rd Edition, 1998, Chapter 3, ''Local Exhaust Hoods'' and Chapter 5, ''Exhaust System Design Procedure.'' IBR approved for §§ 63.1503, 63.1506(c), 63.1512(e), Table 2 to Subpart RRR, Table 3 to Subpart RRR, and Appendix A to Subpart RRR.

(2) Industrial Ventilation: A Manual of Recommended Practice for Design, 27th Edition, 2010. IBR approved for §§ 63.1503, 63.1506(c), 63.1512(e), Table 2 to Subpart RRR, Table 3 to Subpart RRR, and Appendix A to Subpart RRR.

* * * * *

(h) * * *

(87) ASTM D7520–13, Standard Test Method for Determining the Opacity of a Plume in an Outdoor Ambient Atmosphere, approved December 1, 2013. IBR approved for §§ 63.1510(f), 63.1511(d), 63.1512(a), 63.1517(b) and 63.1625(b).

* * * * *

(m) * * *

(3) EPA–625/3–89–016, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and –Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989. IBR approved for § 63.1513(d).

* * * * *

Subpart RRR—National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production

■ 3. Revise § 63.1501 to read as follows:

§ 63.1501 Dates.

(a) An affected source constructed before February 11, 1999, must comply with the requirements of this subpart by March 24, 2003, except as provided in paragraphs (b) and (c).

(b) The owner or operator of an affected source constructed before February 14, 2012, must comply with the following requirements of this subpart by March 16, 2016: § 63.1505(k) introductory text, (k)(1) through (k)(5), other than the emission standards for HF in (k)(2); § 63.1506 (a)(1), (c)(1), (g)(5), (k)(3), (m)(4), (m)(7), (n)(1); § 63.1510 (b)(5), (b)(9), (d)(2), (d)(3),(f)(1)(ii), (i)(4), (j)(4), (n)(1), (o)(1), (o)(1)(ii), (s)(2)(iv), (t) introductory text, (t)(2)(i), (t)(2)(ii), (t)(4), (t)(5); § 63.1511(a) introductory text, (b) introductory text, (b)(1), (b)(3), (b)(6), (c)(9), (g)(5); § 63.1512(e)(1), (e)(2), (e)(3), (h)(2), (j), (j)(1)(i), (j)(2)(i), (o) introductory text, (o)(1), (o)(3), (p)(2); § 63.1513 (b)(1), (e)(1), (e)(2), (e)(3), (f); § 63.1516 (b) introductory text, (b)(2)(vii), (b)(3)(i); § 63.1517(b)(1)(iii), (b)(4)(ii), (b)(14), (b)(19).

(c) The owner or operator of an affected source constructed before February 14, 2012, must comply with the following requirements of this subpart by September 18, 2017: § 63.1505(i)(4) and (k)(2) emission standards for HF; § 63.1512(e)(4) through (7) requirements for testing existing uncontrolled group 1 furnaces (that is, group 1 furnaces without add-on air pollution control devices); and § 63.1514 requirements for change of furnace classification.

(d) An affected source that commenced construction or reconstruction after February 11, 1999 but before February 14, 2012 must comply with the requirements of this subpart by March 24, 2000 or upon startup, whichever is later, except as provided in paragraphs (b), (c), (e), and (f) of this section.

(e) The owner or operator of an affected source that commences construction or reconstruction after February 14, 2012, must comply with all the requirements of this subpart by September 18, 2015 or upon startup, whichever is later.

(f) The owner or operator of any affected source which is constructed or reconstructed after February 11, 1999, but before February 14, 2012 at any existing aluminum die casting facility, aluminum foundry, or aluminum extrusion facility which otherwise meets the applicability criteria set forth in § 63.1500 must comply with the requirements of this subpart by March 24, 2003 or upon startup, whichever is later, except as provided in paragraphs (b) and (c) of this section. The owner or operator of any affected source which is constructed or reconstructed after February 14, 2012, at any existing aluminum die casting facility, aluminum foundry, or aluminum extrusion facility which otherwise meets the applicability criteria set forth in § 63.1500 must comply with the requirements by September 18, 2015 or upon startup, whichever is later.

§ 63.1502 [Removed and Reserved]

■ 4. Remove and reserve § 63.1502.

■ 5. Section 63.1503 is amended by:
■ a. Adding in alphabetical order a definition of ''ACGIH Guidelines'';
■ b. Revising the definition of ''aluminum scrap shredder'';
■ c. Adding in alphabetical order definitions of ''bale breaker'' and ''capture and collection system'';
■ d. Revising the definitions of ''clean charge,'' ''cover flux,'' ''Group 2 furnace,'' and ''HCl'';
■ e. Adding in alphabetical order a definition of ''HF'';
■ f. Revising the definition of ''residence time'';
■ g. Adding in alphabetical order a definition of ''round top furnace'';
■ h. Revising the definitions of ''scrap dryer/delacquering kiln/decoating kiln'' and ''secondary aluminum processing unit (SAPU)''; and
■ i. Adding in alphabetical order definitions of ''shutdown,'' ''startup,'' ''tap,'' and ''total reactive fluorine flux injection rate''.

The additions and revisions read as follows:

§ 63.1503 Definitions.

* * * * *

ACGIH Guidelines means chapters 3 and 5 of *Industrial Ventilation: A Manual of Recommended Practice* 23rd edition or appropriate chapters of *Industrial Ventilation: A Manual of Recommended Practice for Design* 27th edition (incorporated by reference, see § 63.14).

* * * * *

Aluminum scrap shredder means a high speed or low speed unit that crushes, grinds, granulates, shears or breaks aluminum scrap into a more uniform size prior to processing or charging to a *scrap dryer/delacquering kiln/decoating kiln,* or furnace. A *bale breaker* is not an *aluminum scrap shredder.* Shearing and cutting operations performed at rolling mills and aluminum finishing operations (such as slitters) are not aluminum scrap shredders.

* * * * *

Bale breaker means a device used to break apart a bale of aluminum scrap for further processing. Bale breakers are not used to crush, grind, granulate, shear or break aluminum scrap into more uniform size pieces.

* * * * *

Capture and collection system means the system, including duct systems and fans, and, in some cases, hoods, used to collect a contaminant at or near its source, and for affected sources equipped with an air pollution control device, transport the contaminated air to the air cleaning device.

* * * * *

Clean charge means furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher; and runaround scrap. Anodized aluminum that contains dyes or sealants containing organic compounds is not clean charge.

Cover flux means salt added to the surface of molten aluminum in a *group 1* or *group 2 furnace,* without surface agitation of the molten aluminum, for the purpose of preventing oxidation. Any flux added to a rotary furnace is not a cover flux.

* * * * *

Group 2 furnace means a furnace of any design that melts, holds, or processes only *clean charge* and that performs no *fluxing* or performs *fluxing* using only nonreactive, non-HAP-containing/non-HAP-generating gases or agents. Unheated pots, to which no flux is added and that are used to transport metal, are not furnaces.

HCl means hydrogen chloride.

HF means hydrogen fluoride.

* * * * *

Residence time means, for an *afterburner,* the duration of time required for gases to pass through the *afterburner* combustion zone. *Residence time* is calculated by dividing the *afterburner* combustion zone volume in cubic feet by the volumetric flow rate of the gas stream in actual cubic feet per second. The combustion zone volume includes the reaction chamber of the afterburner in which the waste gas stream is exposed to the direct combustion flame and the complete refractory lined portion of the furnace stack up to the measurement thermocouple.

* * * * *

Round top furnace means a cylindrically-shaped reverberatory furnace that has a top that is removed for charging and other furnace operations.

* * * * *

Scrap dryer/delacquering kiln/decoating kiln means a unit used primarily to remove various organic contaminants such as oil, paint, lacquer, ink, plastic, and/or rubber from *aluminum scrap* (including used beverage containers) prior to melting, or that separates aluminum foil from paper and plastic in scrap.

Secondary aluminum processing unit (SAPU). An existing SAPU means all existing group 1 furnaces and all existing in-line fluxers within a secondary aluminum production facility. Each existing group 1 furnace or existing in-line fluxer is considered an emission unit within a secondary aluminum processing unit. A new SAPU means any combination of individual group 1 furnaces and in-line fluxers within a secondary aluminum processing facility which either were constructed or reconstructed after February 11, 1999, or have been permanently redesignated as new emission units pursuant to § 63.1505(k)(6). Each of the group 1 furnaces or in-line fluxers within a new SAPU is considered an emission unit within that secondary aluminum processing unit. A secondary aluminum production facility may have more than one new SAPU.

* * * * *

Shutdown means the period of operation for thermal chip dryers, scrap dryers/delacquering kilns, decoating kilns, dross-only furnaces, group 1 furnaces, in-line fluxers, sweat furnaces and group 2 furnaces that begins when the introduction of feed/charge is intentionally halted, the source of heat to the emissions unit is turned off, and product has been removed from the emission unit to the greatest extent practicable (*e.g.*, by tapping a furnace). Shutdown ends when the emission unit is near ambient temperature.

* * * * *

Startup means the period of operation for thermal chip dryers, scrap dryers/delacquering kilns, decoating kilns, dross-only furnaces, group 1 furnaces, in-line fluxers, sweat furnaces and group 2 furnaces that begins with equipment warming from a shutdown, that is, the equipment is at or near ambient temperature. Startup ends at the point that flux or feed/charge is introduced.

* * * * *

Tap means the end of an operating cycle of any individual furnace when processed molten aluminum is poured from that furnace.

* * * * *

Total reactive fluorine flux injection rate means the sum of the total weight of fluorine in the gaseous or liquid reactive flux added to an uncontrolled group 1 furnace, and the total weight of fluorine in the solid reactive flux added to an uncontrolled group 1 furnace, divided by the total weight of feed/charge, as determined by the procedure in § 63.1512(o).

■ 6. Section 63.1505 is amended by revising paragraphs (a), (i)(4), (k) introductory text, (k)(1) through (3), and (k)(6) to read as follows:

§ 63.1505 Emission standards for affected sources and emission units.

(a) *Summary*. The owner or operator of a new or existing affected source must comply at all times with each applicable limit in this section, including periods of startup and shutdown. Table 1 to this subpart summarizes the emission standards for each type of source.

* * * * *

(i) * * *

(4) 0.20 kg of HF per Mg (0.40 lb of HF per ton) of feed/charge from an uncontrolled group 1 furnace and 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or, if the furnace is equipped with an add-on air pollution control device, 10 percent of the uncontrolled HCl emissions, by weight, for a group 1 furnace at a secondary aluminum production facility that is a major source.

* * * * *

(k) *Secondary aluminum processing unit*. The owner or operator must comply with the emission limits calculated using the equations for PM, HCl and HF in paragraphs (k)(1) and (2) of this section for each secondary aluminum processing unit at a secondary aluminum production facility that is a major source. The owner or operator must comply with the emission limit calculated using the equation for D/F in paragraph (k)(3) of this section for each secondary aluminum processing unit at a secondary aluminum production facility that is a major or area source.

(1) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of PM in excess of:

$$L_{c_{PM}} = \frac{\sum_{i=1}^{n}\left(L_{ti_{PM}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 1)}$$

Where:

L_{tiPM} = The PM emission limit for individual emission unit i in paragraph (i)(1) and (2) of this section for a group 1 furnace or in paragraph (j)(2) of this section for an in-line fluxer;

T_{ti} = The mass of feed/charge for 24 hours for individual emission unit i; and

L_{cPM} = The daily PM emission limit for the secondary aluminum processing unit which is used to calculate the 3-day, 24-hour PM emission limit applicable to the SAPU.

Note: In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the PM limit.

(2) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of HCl or HF in excess of:

$$L_{c_{HCl/HF}} = \frac{\sum_{i=1}^{n}\left(L_{ti_{HCl/HF}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 2)}$$

Where:

$L_{tiHCl/HF}$ = The HCl emission limit for individual emission unit i in paragraph (i)(4) of this section for a group 1 furnace or in paragraph (j)(1) of this section for an in-line fluxer; or the HF emission limit for individual emission unit i in paragraph (i)(4) of this section for an uncontrolled group 1 furnace; and

$L_{cHCl/HF}$ = The daily HCl or HF emission limit for the secondary aluminum processing unit which is used to calculate the 3-day, 24-hour HCl or HF emission limit applicable to the SAPU.

Note: Only uncontrolled group 1 furnaces are included in this HF limit calculation. In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the HCl or HF limit.

(3) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of D/F in excess of:

$$L_{c_{D/F}} = \frac{\sum_{i=1}^{n}\left(L_{ti_{D/F}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 3)}$$

Where:

$L_{tiD/F}$ = The D/F emission limit for individual emission unit i in paragraph (i)(3) of this section for a group 1 furnace; and

$L_{cD/F}$ = The daily D/F emission limit for the secondary aluminum processing unit which is used to calculate the 3-day, 24-hour D/F emission limit applicable to the SAPU.

Note: Clean charge furnaces cannot be included in this calculation since they are not subject to the D/F limit.

* * * * *

(6) With the prior approval of the permitting authority for major sources, or the Administrator for area sources, an owner or operator may redesignate any existing group 1 furnace or in-line fluxer at a secondary aluminum production facility as a new emission unit. Any emission unit so redesignated may thereafter be included in a new SAPU at that facility. Any such redesignation will be solely for the purpose of this NESHAP and will be irreversible.

■ 7. Section 63.1506 is amended by:
■ a. Revising paragraph (a)(1);
■ b. Adding paragraph (a)(5);
■ c. Revising paragraph (c)(1);
■ d. Adding paragraph (c)(4);
■ e. Revising paragraphs (g)(5), (k)(3), and (m)(4);
■ f. Adding paragraph (m)(7); and
■ g. Revising paragraph (n)(1).

The additions and revisions read as follows:

§ 63.1506 Operating requirements.

(a) *Summary.* (1) The owner or operator must operate all new and existing affected sources and control equipment according to the requirements in this section. The affected sources, and their associated control equipment, listed in § 63.1500(c)(1) through (4) of this subpart that are located at a secondary aluminum production facility that is an area source are subject to the operating requirements of paragraphs (b), (c), (d), (f), (g), (h), (m), (n), and (p) of this section.

* * * * *

(5) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

* * * * *

(c) * * *

(1) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, see § 63.14);

* * * * *

(4) In lieu of paragraph (c)(1) of this section, the owner or operator of a sweat furnace may design, install and operate each sweat furnace in accordance with paragraphs (c)(4)(i) through (iii) of this section.

(i) As demonstrated by an annual negative air flow test conducted in accordance with § 63.1510(d)(3), air flow must be into the sweat furnace or towards the plane of the sweat furnace opening.

(ii) The owner or operator must maintain and operate the sweat furnace in a manner consistent with the good practices requirements for minimizing emissions, including unmeasured emissions, in paragraph (a)(5) of this section. Procedures that will minimize unmeasured emissions may include, but are not limited to the following:

(A) Increasing the exhaust rate from the furnace with draft fans, so as to capture emissions that might otherwise escape from the sweat furnace opening;

(B) Minimizing the time the sweat furnace doors are open;

(C) Keeping building doors and other openings closed to the greatest extent possible to minimize drafts that would divert emissions from being drawn into the sweat furnace;

(D) Maintaining burners on low-fire or pilot operation while the doors are open;

(E) Conducting periodic inspections and maintenance of sweat furnace components to ensure their proper operation and performance including but not limited to, door assemblies, seals, combustion chamber refractory material, afterburner and stack refractory, blowers, fans, dampers, burner tubes, door raise cables, pilot light assemblies, baffles, sweat furnace and afterburner shells and other internal structures.

(iii) The owner or operator must document in their operation, maintenance, and monitoring (OM&M) plan the procedures to be used to minimize emissions, including unmeasured emissions, in addition to the procedures to ensure the proper operation and maintenance of the sweat furnace.

* * * * *

(g) * * *

(5) For a continuous injection device, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at or above the level established during the performance test.

* * * * *

(k) * * *

(3) For a continuous injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at or above the level established during the performance test.

* * * * *

(m) * * *

(4) For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at or above the level established during the performance test.

* * * * *

(7) The operation of capture/collection systems and control devices associated with natural gas-fired, propane-fired or electrically heated group 1 furnaces that will be idled for at least 24 hours after the furnace cycle has been completed may be temporarily stopped. Operation of these capture/collection systems and control devices must be restarted before feed/charge, flux or alloying materials are added to the furnace.

(n) * * *

(1) Maintain the total reactive chlorine flux injection rate and fluorine flux injection rate for each operating cycle or time period used in the performance test, at or below the average rate established during the performance test.

* * * * *

■ 8. Section 63.1510 is amended by:

■ a. Revising paragraphs (a), (b) introductory text, and (b)(5);

■ b. Adding paragraph (b)(9);

■ c. Revising paragraph (d)(2) introductory text;

■ d. Adding paragraphs (d)(2)(i) through (iv) and (d)(3);

■ e. Revising paragraphs (e) and (f)(1)(ii);

■ f. Adding paragraph (f)(4);

■ g. Revising paragraph (i)(3);

■ h. Adding paragraph (i)(4);

■ i. Revising paragraphs (j)(1)(ii), (j)(4), (n)(1) and (2), (o)(1), (s)(2)(iv), (s)(3), and (t) introductory text;

■ j. Adding paragraphs (t)(2)(i) through (iii); and

■ k. Revising paragraphs (t)(4) and (5).

The additions and revisions read as follows:

§ 63.1510 Monitoring requirements.

(a) *Summary.* The owner or operator of a new or existing affected source or emission unit must monitor all control equipment and processes according to the requirements in this section. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to this subpart. Area sources are subject to monitoring requirements for those affected sources listed in § 63.1500(c)(1) through (4) of this subpart, and associated control equipment as required by paragraphs (b) through (k), (n) through (q), and (s) through (w) of this section, including but not limited to:

(1) The OM&M plan required in paragraph (b) of this section pertaining to each affected source listed in § 63.1500(c)(1) through (4) of this subpart,

(2) The labeling requirements described in paragraph (c) of this section pertaining to group 1 furnaces processing other than clean charge, and scrap dryer/delacquering kiln/decoating kilns,

(3) The requirements for capture and collection described in paragraph (d) of this section for each controlled affected source (*i.e.*, affected sources with an add-on air pollution control device), listed in § 63.1500(c)(1) through (4) of this subpart,

(4) The feed/charge weight monitoring requirements described in paragraph (e) of this section applicable to group 1 furnaces processing other than clean charge, scrap dryer/delacquering kiln/decoating kilns and thermal chip dryers,

(5) The bag leak detection system requirements described in paragraph (f) of this section applicable to all bag leak detection systems installed on fabric filters and lime injected fabric filters used to control each affected source listed in § 63.1500(c)(1)–(4) of this subpart,

(6) The requirements for afterburners described in paragraph (g) of this

section applicable to sweat furnaces, thermal chip dryers, and scrap dryer/delacquering kiln/decoating kilns,

(7) The requirements for monitoring fabric filter inlet temperature described in paragraph (h) of this section for all lime injected fabric filters used to control group 1 furnaces processing other than clean charge, sweat furnaces and scrap dryer/delacquering kiln/decoating kilns,

(8) The requirements for monitoring lime injection described in paragraph (i) of this section applicable to all lime injected fabric filters used to control emissions from group 1 furnaces processing other than clean charge, thermal chip dryers, sweat furnaces and scrap dryer/delacquering kiln/decoating kilns,

(9) The requirements for monitoring total reactive flux injection described in paragraph (j) of this section for all group 1 furnaces processing other than clean charge,

(10) The requirements described in paragraph (k) of this section for thermal chip dryers,

(11) The requirements described in paragraph (n) of this section for controlled group 1 sidewell furnaces processing other than clean charge,

(12) The requirements described in paragraph (o) of this section for uncontrolled group 1 sidewell furnaces processing other than clean charge,

(13) The requirements described in paragraph (p) of this section for scrap inspection programs for uncontrolled group 1 furnaces,

(14) The requirements described in paragraph (q) of this section for monitoring scrap contamination level for uncontrolled group 1 furnaces,

(15) The requirements described in paragraph (s) of this section for secondary aluminum processing units, limited to compliance with limits for emissions of D/F from group 1 furnaces processing other than clean charge,

(16) The requirements described in paragraph (t) of this section for secondary aluminum processing units limited to compliance with limits for emissions of D/F from group 1 furnaces processing other than clean charge,

(17) The requirements described in paragraph (u) of this section for secondary aluminum processing units limited to compliance with limits for emissions of D/F from group 1 furnaces processing other than clean charge,

(18) The requirements described in paragraph (v) of this section for alternative lime addition monitoring methods applicable to lime-injected fabric filters used to control emissions from group 1 furnaces processing other than clean charge, thermal chip dryers, sweat furnaces and scrap dryer/delacquering kiln/decoating kilns, and

(19) The requirements described in paragraph (w) of this section for approval of alternate methods for monitoring group 1 furnaces processing other than clean charge, thermal chip dryers, scrap dryer/delacquering kiln/decoating kilns and sweat furnaces and associated control devices for the control of D/F emissions.

(b) *Operation, maintenance, and monitoring (OM&M) plan.* The owner or operator must prepare and implement for each new or existing affected source and emission unit, a written OM&M plan. The owner or operator of an existing affected source must submit the OM&M plan to the permitting authority for major sources, or the Administrator for area sources no later than the compliance date established by § 63.1501(a). The owner or operator of any new affected source must submit the OM&M plan to the permitting authority for major sources, or the Administrator for area sources within 90 days after a successful initial performance test under § 63.1511(b), or within 90 days after the compliance date established by § 63.1501(b) if no initial performance test is required. The plan must be accompanied by a written certification by the owner or operator that the OM&M plan satisfies all requirements of this section and is otherwise consistent with the requirements of this subpart. The owner or operator must comply with all of the provisions of the OM&M plan as submitted to the permitting authority for major sources, or the Administrator for area sources, unless and until the plan is revised in accordance with the following procedures. If the permitting authority for major sources, or the Administrator for area sources determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of this section or this subpart, the owner or operator must promptly make all necessary revisions and resubmit the revised plan. If the owner or operator determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the owner or operator submits a description of the changes and a revised plan incorporating them to the permitting authority for major sources, or the Administrator for area sources. Each plan must contain the following information:

* * * * *

(5) Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.

* * * * *

(9) Procedures to be followed when changing furnace classifications under the provisions of § 63.1514.

* * * * *

(d) * * *

(2) Inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in § 63.1506(c) and record the results of each inspection. This inspection shall include a volumetric flow rate measurement taken at a location in the ductwork downstream of the hoods that is representative of the actual volumetric flow rate without interference due to leaks, ambient air added for cooling or ducts from other hoods. The flow rate measurement must be performed in accordance with paragraphs (d)(2)(i), (ii), or (iii) of this section. As an alternative to the flow rate measurement specified in this paragraph, the inspection may satisfy the requirements of this paragraph, including the operating requirements in § 63.1506(c), by including permanent total enclosure verification in accordance with paragraph (d)(2)(i) or (iv) of this section. Inspections that fail to successfully demonstrate that the requirements of § 63.1506(c) are met, must be followed by repair or adjustment to the system operating conditions and a follow up inspection within 45 days to demonstrate that § 63.1506(c) requirements are fully met.

(i) Conduct annual flow rate measurements using EPA Methods 1 and 2 in Appendix A to 40 CFR part 60, or conduct annual verification of a permanent total enclosure using EPA Method 204; or you may follow one of the three alternate procedures described in paragraphs (ii), (iii), or (iv) of this section to maintain system operations in accordance with an operating limit established during the performance test. The operating limit is determined as the average reading of a parametric monitoring instrument (Magnehelic®, manometer, anemometer, or other parametric monitoring instrument) and technique as described in paragraphs (d)(2)(ii), (iii), and (iv) of this section. A deviation, as defined in paragraphs (ii), (iii), and (iv) of this section, from the parametric monitoring operating limit requires the owner or operator to make repairs or adjustments to restore normal operation within 45 days.

(ii) As an alternative to annual flow rate measurements using EPA Methods 1 and 2, measurement with EPA Methods 1 and 2 can be performed once every 5 years, provided that:

(A) A flow rate indicator consisting of a pitot tube and differential pressure gauge (Magnehelic®, manometer or other differential pressure gauge) is installed with the pitot tube tip located at a representative point of the duct proximate to the location of the Methods 1 and 2 measurement site; and

(B) The flow rate indicator is installed and operated in accordance with the manufacturer's specifications; and

(C) The differential pressure is recorded during the Method 2 performance test series; and

(D) Daily differential pressure readings are made by taking three measurements with at least 5 minutes between each measurement and averaging the three measurements; and readings are recorded daily and maintained at or above 90 percent of the average pressure differential indicated by the flow rate indicator during the most recent Method 2 performance test series; and

(E) An inspection of the pitot tube and associated lines for damage, plugging, leakage and operational integrity is conducted at least once per year; or

(iii) As an alternative to annual flow rate measurements using EPA Methods 1 and 2, measurement with EPA Methods 1 and 2 can be performed once every 5 years, provided that:

(A) Daily measurements of the capture and collection system's fan revolutions per minute (RPM) or fan motor amperage (amps) are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at or above 90 percent of the average RPM or amps measured during the most recent Method 2 performance test series; or

(B) A static pressure measurement device is installed in the duct immediately downstream of the hood exit, and daily pressure readings are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or better of the average vacuum recorded during the most recent Method 2 performance test series; or

(C) A hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple and automated data logging software and associated hardware is installed; and daily readings are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or greater of the average readings during the most recent Method 2 performance test series; or

(D) For booth-type hoods, hotwire anemometer measurements of hood face velocity are performed simultaneously with EPA Method 1 and 2 measurements, and the annual hood face velocity measurements confirm that the enclosure draft is maintained at 90 percent or greater of the average readings during the most recent Method 2 performance test series. Daily readings are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or greater of the average readings during the most recent Method 1 and 2 performance test series.

(iv) As an alternative to the annual verification of a permanent total enclosure using EPA Method 204, verification can be performed once every 5 years, provided that:

(A) Negative pressure in the enclosure is directly monitored by a pressure indicator installed at a representative location;

(B) Pressure readings are recorded daily or the system is interlocked to halt material feed should the system not operate under negative pressure;

(C) An inspection of the pressure indicator for damage and operational integrity is conducted at least once per calendar year.

(3) For sweat furnaces, in lieu of paragraph (d)(2) of this section, the owner or operator of a sweat furnace may inspect each sweat furnace at least once each calendar year to ensure that they are being operated in accordance with the negative air flow requirements in § 63.1506(c)(4). The owner or operator of a sweat furnace must demonstrate negative air flow into the sweat furnace in accordance with paragraphs (d)(3)(i) through (iii) of this section.

(i) Perform an annual visual smoke test to demonstrate airflow into the sweat furnace or towards the plane of the sweat furnace opening;

(ii) Perform the smoke test using a smoke source, such as a smoke tube, smoke stick, smoke cartridge, smoke candle or other smoke source that produces a persistent and neutral buoyancy aerosol; and

(iii) Perform the visual smoke test at a safe distance from and near the center of the sweat furnace opening.

(e) *Feed/charge weight.* The owner or operator of an affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the owner or operator may use a procedure acceptable to the permitting authority for major sources, or the Administrator for area sources to determine the total weight of feed/charge or aluminum production to the affected source or emission unit.

* * * * *

(f) * * *

(1) * * *

(ii) Each bag leak detection system must be installed, calibrated, operated, and maintained according to the manufacturer's operating instructions.

* * * * *

(4) As an alternative to the requirements of paragraph (f)(3) of this section, the owner or operator of a new or existing aluminum scrap shredder may measure the opacity of the emissions discharged through a stack or stacks using ASTM Method D7520–13 (incorporated by reference, see § 63.14) subject to the requirements of paragraphs § 63.1510(f)(4)(i) through (iv) of this section. Each test must consist of five 6-minute observations in a 30-minute period.

(i) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520–13, the owner or operator or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

(ii) The owner or operator must also have standard operating procedures in place including daily or other frequency quality checks to ensure that equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520–13.

(iii) The owner or operator must follow the recordkeeping procedures outlined in § 63.10(b)(1) for DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination.

(iv) The owner or operator or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity on any one reading and the average error must not exceed 7.5 percent opacity.

* * * * *

(i) * * *

(3) An owner or operator who intermittently adds lime to a lime-injected fabric filter must obtain approval from the permitting authority for major sources, or the Administrator for area sources for a lime addition monitoring procedure. The permitting authority for major sources, or the Administrator for area sources will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis.

(4) At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during your most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the owner or operator must repair or adjust the lime injection system to restore normal operation within 45 days. The owner or operator may request from the permitting authority for major sources, or the Administrator for area sources, an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The owner or operator may request from the permitting authority for major sources, or the Administrator for area sources, an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of § 63.1517.

(j) * * *

(1) * * *

(ii) The accuracy of the weight measurement device must be ±1 percent of the weight of the reactive component of the flux being measured. The owner or operator may apply to the permitting authority for major sources, or the Administrator for area sources for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standards.

* * * * *

(4) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in § 63.1512(o). For solid flux that is added intermittently, record the amount added for each operating cycle or time period used in the performance test using the procedures in § 63.1512(o).

* * * * *

(n) * * *

(1) Record in an operating log for each tap of a sidewell furnace whether the level of molten metal was above the top of the passage between the sidewell and hearth during reactive flux injection, unless the furnace hearth was also equipped with an add-on control device. If visual inspection of the molten metal level is not possible, the molten metal level must be determined using physical measurement methods.

(2) Submit a certification of compliance with the operational standards in § 63.1506(m)(6) for each 6-month reporting period. Each certification must contain the information in § 63.1516(b)(2)(iii).

(o) * * *

(1) The owner or operator must develop, in consultation with the permitting authority for major sources, or the Administrator for area sources, a written site-specific monitoring plan. The site-specific monitoring plan must be submitted to the permitting authority for major sources, or the Administrator for area sources as part of the OM&M plan. The site-specific monitoring plan must contain sufficient procedures to ensure continuing compliance with all applicable emission limits and must demonstrate, based on documented test results, the relationship between emissions of PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces), and the proposed monitoring parameters for each pollutant. Test data must establish the highest level of PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces) that will be emitted from the furnace in accordance with § 63.1511(b)(1). If the permitting authority for major sources, or the Administrator for area sources determines that any revisions of the site-specific monitoring plan are necessary to meet the requirements of this section or this subpart, the owner or operator must promptly make all necessary revisions and resubmit the revised plan.

(i) The owner or operator of an existing affected source must submit the site-specific monitoring plan to the permitting authority for major sources, or the Administrator for area sources for review at least 6 months prior to the compliance date.

(ii) The permitting authority for major sources, or the Administrator for area sources will review and approve or disapprove a proposed plan, or request changes to a plan, based on whether the plan contains sufficient provisions to ensure continuing compliance with applicable emission limits and demonstrates, based on documented test results, the relationship between emissions of PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces) and the proposed monitoring parameters for each pollutant. Test data must establish the highest level of PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces) that will be emitted from the furnace. Subject to approval of the OM&M plan, the highest levels may be determined by conducting performance tests and monitoring operating parameters in accordance with § 63.1511(b)(1).

* * * * *

(s) * * *

(2) * * *

(iv) The inclusion of any periods of startup or shutdown in emission calculations.

(3) To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the owner or operator must submit a request to the permitting authority for major sources, or the Administrator for area sources containing the information required by paragraph (s)(1) of this section and obtain approval of the permitting authority for major sources, or the Administrator for area sources prior to implementing any revisions.

(t) *Secondary aluminum processing unit*. Except as provided in paragraph (u) of this section, the owner or operator must calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces) for each secondary aluminum processing unit on a daily basis. To calculate the 3-day, 24-hour rolling average, the owner or operator must:

* * * * *

(2) * * *

(i) Where no performance test has been conducted, for a particular emission unit, because the owner of operator has, with the approval of the permitting authority for major sources, or the Administrator for area sources, chosen to determine the emission rate of an emission unit by testing a representative unit, in accordance with § 63.1511(f), the owner or operator shall use the emission rate determined from the representative unit in the SAPU emission rate calculation required in § 63.1510(t)(4).

(ii) Except as provided in paragraph (t)(2)(iii) of this section, if the owner or operator has not conducted performance tests for HCl (and HF for an uncontrolled group 1 furnace) or for HCl for an in-line fluxer, in accordance with the provisions of § 63.1512(d)(3), (e)(3), or (h)(2), the calculation required in § 63.1510(t)(4) to determine SAPU-wide HCl and HF emissions shall be made under the assumption that all chlorine contained in reactive flux added to the emission unit is emitted as HCl and all fluorine contained in reactive flux added to the emission unit is emitted as HF.

(iii) Prior to the date by which the initial performance test for HF emissions from uncontrolled group 1 furnaces is conducted, or is required to be conducted, the calculation required in § 63.1505(k) to determine the SAPU-wide HF emission limit and the calculation required in § 63.1510(t)(4) to determine the SAPU-wide HF emission rate must exclude HF emissions from untested uncontrolled group 1 furnaces and feed/charge processed in untested uncontrolled group 1 furnaces.

* * * * *

(4) Compute the 24-hour daily emission rate using Equation 4:

$$E_{day} = \frac{\sum_{i=1}^{n} (T_i \times ER_i)}{\sum_{i=1}^{n} T_i} \qquad \text{(Eq. 4)}$$

Where:

E_{day} = The daily PM, HCl, and D/F (and HF for uncontrolled group 1 furnaces) emission rate for the secondary aluminum processing unit for the 24-hour period;

T_i = The total amount of feed, or aluminum produced, for emission unit i for the 24-hour period (tons or Mg);

ER_i = The measured emission rate for emission unit i as determined in the performance test (lb/ton or µg/Mg of feed/charge); and

n = The number of emission units in the secondary aluminum processing unit.

(5) Calculate and record the 3-day, 24-hour rolling average for each pollutant each day by summing the daily emission rates for each pollutant over the 3 most recent consecutive days and dividing by 3. The SAPU is in compliance with an applicable emission limit if the 3-day, 24-hour rolling average for each pollutant is no greater than the applicable SAPU emission limit determined in accordance with § 63.1505(k)(1)–(3).

* * * * *

■ 9. Section 63.1511 is amended by:

■ a. Revising paragraphs (a), (b) introductory text, and (b)(1) and (3);

■ b. Adding paragraphs (b)(6) and (7);

■ c. Revising paragraphs (c)(9), (d), and (f) introductory text;

■ d. Adding paragraph (f)(6);

■ e. Revising paragraph (g) introductory text;

■ f. Adding paragraph (g)(5); and

■ g. Revising paragraph (i) introductory text.

The additions and revisions read as follows:

§ 63.1511 Performance test/compliance demonstration general requirements.

(a) *Site-specific test plan.* Prior to conducting any performance test required by this subpart, the owner or operator must prepare a site-specific test plan which satisfies all of the rule requirements, and must obtain approval of the plan pursuant to the procedures set forth in § 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(b) *Initial performance test.* Following approval of the site-specific test plan, the owner or operator must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in § 63.1515(b). The owner or operator of any affected source constructed before February 14, 2012, for which an initial performance test is required to demonstrate compliance must conduct this initial performance test no later than the date for compliance established by § 63.1501(a), (b), or (c). The owner or operator of any affected source constructed after February 14, 2012, for which an initial performance test is required must conduct this initial performance test within 180 days after the date for compliance established by § 63.1501(e) or (f). Except for the date by which the performance test must be conducted, the owner or operator must conduct each performance test in accordance with the requirements and procedures set forth in § 63.7(c). Owners or operators of affected sources located at facilities which are area sources are subject only to those performance testing requirements pertaining to D/F. Owners or operators of sweat furnaces meeting the specifications of § 63.1505(f)(1) are not required to conduct a performance test.

(1) The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the permitting authority for major sources, or the Administrator for area sources. These new parametric settings shall be

used to demonstrate compliance for the period being tested.

* * * * *

(3) Each performance test for a batch process must consist of three separate runs; pollutant sampling for each run must be conducted over the entire process operating cycle. Additionally, for batch processes where the length of the process operating cycle is not known in advance, and where isokinetic sampling must be conducted based on the procedures in Method 5 in appendix A to part 60, use the following procedure to ensure that sampling is conducted over the entire process operating cycle:

(i) Choose a minimum operating cycle length and begin sampling assuming this minimum length will be the run time (*e.g.*, if the process operating cycle is known to last from four to six hours, then assume a sampling time of four hours and divide the sampling time evenly between the required number of traverse points);

(ii) After each traverse point has been sampled once, begin sampling each point again for the same time per point, in the reverse order, until the operating cycle is complete. All traverse points as required by Method 1 of appendix A to part 60, must be sampled at least once during each test run;

(iii) In order to distribute the sampling time most evenly over all the traverse points, do not perform all runs using the same sampling point order (*e.g.*, if there are four ports and sampling for run 1 began in port 1, then sampling for run 2 could begin in port 4 and continue in reverse order.)

* * * * *

(6) Apply paragraphs (b)(1) through (5) of this section for each pollutant separately if a different production rate, charge material or, if applicable, reactive fluxing rate would apply and thereby result in a higher expected emissions rate for that pollutant.

(7) The owner or operator may not conduct performance tests during periods of malfunction.

(c) * * *

(9) Method 26A for the concentration of HCl and HF. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the owner or operator must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system.

(d) *Alternative methods.* The owner or operator may use alternative test methods as provided in paragraphs (d)(1) through (3) of this section.

(1) The owner or operator may use test method ASTM D7520–13 as an alternative to EPA Method 9 subject to conditions described in § 63.1510(f)(4).

(2) In lieu of conducting the annual flow rate measurements using Methods 1 and 2, the owner or operator may use Method 204 in Appendix M to 40 CFR part 51 to conduct annual verification of a permanent total enclosure for the affected source/emission unit.

(3) The owner or operator may use an alternative test method approved by the Administrator.

* * * * *

(f) *Testing of representative emission units.* With the prior approval of the permitting authority for major sources, or the Administrator for area sources, an owner or operator may utilize emission rates obtained by testing a particular type of group 1 furnace that does not have an add-on air pollution control device, or by testing an in-line flux box that does not have an add-on air pollution control device, to determine the emission rate for other units of the same type at the same facility. Such emission test results may only be considered to be representative of other units if all of the following criteria are satisfied:

* * * * *

(6) All 3 separate runs of a performance test must be conducted on the same emission unit.

(g) *Establishment of monitoring and operating parameter values.* The owner or operator of new or existing affected sources and emission units must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by § 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the owner or operator must use the appropriate procedures in this section and submit the information required by § 63.1515(b)(4) in the notification of compliance status report. The owner or operator may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the permitting authority for major sources, or the Administrator for area sources:

* * * * *

(5) If the owner or operator wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with paragraph (a) of this section. In addition, if an owner or operator wants to use existing data in addition to the results of the new performance test to establish operating parameter values, they must meet the requirements in paragraphs (g)(1) through (4) of this section.

* * * * *

(i) Testing of commonly-ducted units not within a secondary aluminum processing unit. With the prior approval of the permitting authority for major sources, or the Administrator for area sources, an owner or operator may do combined performance testing of two or more individual affected sources or emission units which are not included in a single existing SAPU or new SAPU, but whose emissions are manifolded to a single control device. Any such performance testing of commonly-ducted units must satisfy the following basic requirements:

* * * * *

■ 10. Section 63.1512 is amended by:

■ a. Revising paragraphs (a), (e)(1) through (3);

■ b. Adding paragraphs (e)(4) through (7); and

■ c. Revising paragrpahs (h)(2), (j) introductory text, (j)(1)(i), (j)(2)(i), (o) introductory text, (o)(1), (o)(3) through (5), and (p)(2).

The additions and revisions read as follows:

§ 63.1512 Performance test/compliance demonstration requirements and procedures.

(a) *Aluminum scrap shredder.* The owner or operator must conduct performance tests to measure PM emissions at the outlet of the control system. If visible emission observation is the selected monitoring option, the owner or operator must record visible emission observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test according to the requirements of Method 9 in appendix A to 40 CFR part 60. If emissions observations by ASTM Method D7520–13 (incorporated by reference, see § 63.14) is the selected monitoring option, the owner or operator must record opacity observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test.

* * * * *

(e) * * *

(1) If the group 1 furnace processes other than clean charge material, the owner or operator must conduct emission tests to measure emissions of PM, HCl, HF, and D/F at the furnace exhaust outlet.

(2) If the group 1 furnace processes only clean charge, the owner or operator must conduct emission tests to simultaneously measure emissions of PM, HCl and HF. A D/F test is not required. Each test must be conducted while the group 1 furnace (including a melting/holding furnace) processes only clean charge.

(3) The owner or operator may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all chlorine and fluorine contained in reactive flux added to the group 1 furnace is emitted as HCl and HF. Under these circumstances, the owner or operator is not required to conduct an emission test for HCl or HF.

(4) When testing an existing uncontrolled furnace, the owner or operator must comply with the requirements of either paragraphs (e)(4)(i), (ii) or (iii) of this section at the next required performance test required by § 63.1511(e).

(i) Install hooding that meets ACGIH Guidelines (incorporated by reference, see § 63.14), or

(ii) At least 180 days prior to testing petition the permitting authority for major sources, or the Administrator for area sources, that such hoods are impractical under the provisions of paragraph (e)(6) of this section and propose testing procedures that will minimize unmeasured emissions during the performance test according to the paragraph (e)(7) of this section, or

(iii) Assume an 80-percent capture efficiency for the furnace exhaust (i.e., multiply emissions measured at the furnace exhaust outlet by 1.25). If the source fails to demonstrate compliance using the 80-percent capture efficiency assumption, the owner or operator must re-test with a hood that meets the ACGIH Guidelines within 180 days, or petition the permitting authority for major sources, or the Administrator for area sources, within 180 days that such hoods are impractical under the provisions of paragraph (e)(6) of this section and propose testing procedures that will minimize unmeasured emissions during the performance test according to paragraph (e)(7) of this section.

(iv) The 80-percent capture efficiency assumption is not applicable in the event of testing conducted under an approved petition submitted pursuant to paragraphs (e)(4)(ii) or (iii) of this section.

(v) Round top furnaces constructed before February 14, 2012, and reconstructed round top furnaces are exempt from the requirements of paragraphs (e)(4)(i) and (ii) of this section. Round top furnaces must be operated to minimize unmeasured emissions according to paragraph (e)(7) of this section.

(5) When testing a new uncontrolled furnace constructed after February 14, 2012, the owner or operator must install hooding that meets ACGIH Guidelines (incorporated by reference, see § 63.14) or petition the permitting authority for major sources, or the Administrator for area sources, that such hoods are impracticable under the provisions of paragraph (e)(6) of this section and propose testing procedures that will minimize unmeasured emissions during the performance test according to the provisions of paragraph (e)(7).

(6) The installation of hooding that meets ACGIH Guidelines (incorporated by reference, see § 63.14) is considered impractical if any of the following conditions exist:

(i) Building or equipment obstructions (for example, wall, ceiling, roof, structural beams, utilities, overhead crane or other obstructions) are present such that the temporary hood cannot be located consistent with acceptable hood design and installation practices;

(ii) Space limitations or work area constraints exist such that the temporary hood cannot be supported or located to prevent interference with normal furnace operations or avoid unsafe working conditions for the furnace operator; or

(iii) Other obstructions and limitations subject to agreement of the permitting authority for major sources, or the Administrator for area sources.

(7) Testing procedures that will minimize unmeasured emissions may include, but are not limited to the following:

(i) Installing a hood that does not entirely meet ACGIH guidelines;

(ii) Using the building as an enclosure, and measuring emissions exhausted from the building if there are no other furnaces or other significant sources in the building of the pollutants to be measured;

(iii) Installing temporary baffles on those sides or top of furnace opening if it is practical to do so where they will not interfere with material handling or with the furnace door opening and closing;

(iv) Minimizing the time the furnace doors are open or the top is off;

(v) Delaying gaseous reactive fluxing until charging doors are closed and, for round top furnaces, until the top is on;

(vi) Agitating or stirring molten metal as soon as practicable after salt flux addition and closing doors as soon as possible after solid fluxing operations, including mixing and dross removal;

(vii) Keeping building doors and other openings closed to the greatest extent possible to minimize drafts that would divert emissions from being drawn into the furnace;

(viii) Maintaining burners on low-fire or pilot operation while the doors are open or the top is off;

(ix) Use of fans or other device to direct flow into a furnace when door is open; or

(x) Removing the furnace cover one time in order to add a smaller but representative charge and then replacing the cover.

* * * * *

(h) * * *

(2) The owner or operator may choose to limit the rate at which reactive flux is added to an in-line fluxer and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all chlorine in the reactive flux added to the in-line fluxer is emitted as HCl. Under these circumstances, the owner or operator is not required to conduct an emission test for HCl. If the owner or operator of any in-line flux box that has no ventilation ductwork manifolded to any outlet or emission control device chooses to demonstrate compliance with the emission limits for HCl by limiting use of reactive flux and assuming that all chlorine in the flux is emitted as HCl, compliance with the HCl limit shall also constitute compliance with the emission limit for PM and no separate emission test for PM is required. In this case, the owner or operator of the unvented in-line flux box must use the maximum permissible PM emission rate for the in-line flux boxes when determining the total emissions for any SAPU which includes the flux box.

* * * * *

(j) *Secondary aluminum processing unit*. The owner or operator must conduct performance tests as described in paragraphs (j)(1) through (3) of this section. The results of the performance tests are used to establish emission rates in lb/ton of feed/charge for PM, HCl and HF and μg TEQ/Mg of feed/charge for D/F emissions from each emission unit. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in § 63.1510(t). A performance test is required for:

(1) * * *

(i) Emissions of HF and HCl (for determining the emission limit); or

* * * * *

(2) * * *

(i) Emissions of HF and HCl (for determining the emission limit); or

* * * * *

(o) *Flux injection rate*. The owner or operator must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate and, for uncontrolled furnaces, the total reactive fluorine flux injection rate.

(1) Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl, HF and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs;

* * * * *

(3) Determine the total reactive chlorine flux injection rate and, for uncontrolled furnaces, the total reactive fluorine flux injection rate by adding the recorded measurement of the total weight of chlorine and, for uncontrolled furnaces, fluorine in the gaseous or liquid reactive flux injected and the total weight of chlorine and, for uncontrolled furnaces, fluorine in the solid reactive flux using Equation 5:

$$W_t = F_1 W_1 + F_2 W_2 \qquad \text{(Eq. 5)}$$

Where:

W_t = Total chlorine or fluorine usage, by weight;

F_1 = Fraction of gaseous or liquid flux that is chlorine or fluorine;

W_1 = Weight of reactive flux gas injected;

F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.*, F = 0.75 for magnesium chloride) or fraction of solid reactive fluoride flux that is fluorine (*e.g.*, F = 0.33 for potassium fluoride); and

W_2 = Weight of solid reactive flux;

(4) Divide the weight of total chlorine or fluorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and

(5) If a solid reactive flux other than magnesium chloride or potassium fluoride is used, the owner or operator must derive the appropriate proportion factor subject to approval by the permitting authority for major sources, or the Administrator for area sources.

* * * * *

(p) * * *

(2) Record the feeder setting and lime injection rate for the 3 test runs. If the feed rate setting and lime injection rates vary between the runs, determine and record the average feed rate and lime injection rate from the 3 runs.

* * * * *

■ 11. Section 63.1513 is amended by revising the paragraph (b) heading and paragraphs (b)(1), (d), and (e)(1) through (3), and adding paragraph (f) to read as follows:

§ 63.1513 Equations for determining compliance.

* * * * *

(b) *PM, HCl, HF and D/F emission limits*. (1) Use Equation 7 of this section to determine compliance with an emission limit for PM, HCl or HF:

$$E = \frac{C \times Q \times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:

E = Emission rate of PM, HCl or HF, in kg/Mg (lb/ton) of feed;

C = Concentration of PM, HCl or HF, in g/dscm (gr/dscf);

Q = Volumetric flow rate of exhaust gases, in dscm/hr (dscf/hr);

K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and

P = Production rate, in Mg/hr (ton/hr).

* * * * *

(d) *Conversion of D/F measurements to TEQ units*. To convert D/F measurements to TEQ units, the owner or operator must use the procedures and equations in *Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update*, incorporated by reference see § 63.14.

(e) * * *

(1) Use Equation 9 to compute the mass-weighted PM emissions for a secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (E_{cPM}) is less than or equal to the emission limit for the secondary aluminum processing unit (L_{cPM}) calculated using Equation 1 in § 63.1505(k).

$$E_{C_{PM}} = \frac{\sum_{i=1}^{n} \left(E_{ti_{PM}} \times T_{ti} \right)}{\sum_{i=1}^{n} \left(T_{ti} \right)} \qquad \text{(Eq. 9)}$$

Where:

E_{cPM} = The mass-weighted PM emissions for the secondary aluminum processing unit;

E_{tiPM} = Measured PM emissions for individual emission unit, or group of co-controlled emission units, i;

T_{ti} = The average feed rate for individual emission unit i during the operating cycle or performance test period, or the sum of the average feed rates for all emission units in the group of co-controlled emission units i; and

n = The number of emission units, and groups of co-controlled emission units in the secondary aluminum processing unit.

(2) Use Equation 10 to compute the aluminum mass-weighted HCl or HF emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit ($E_{cHCl/HF}$) is less than or equal to the emission limit for the secondary aluminum processing unit ($L_{cHCl/HF}$) calculated using Equation 2 in § 63.1505(k).

$$E_{C_{HCl/HF}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{HCl/HF}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \quad \text{(Eq. 10)}$$

Where:

$E_{cHCl/HF}$ = The mass-weighted HCl or HF emissions for the secondary aluminum processing unit; and

$E_{tiHCl/HF}$ = Measured HCl or HF emissions for individual emission unit, or group of co-controlled emission units i.

(3) Use Equation 11 to compute the aluminum mass-weighted D/F emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit is less than or equal to the emission limit for the secondary aluminum processing unit ($L_{cD/F}$) calculated using Equation 3 in § 63.1505(k).

$$E_{C_{D/F}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{D/F}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \quad \text{(Eq. 11)}$$

Where:

$E_{cD/F}$ = The mass-weighted D/F emissions for the secondary aluminum processing unit; and

$E_{tiD/F}$ = Measured D/F emissions for individual emission unit, or group of co-controlled emission units i.

* * * * *

(f) *Periods of startup and shutdown.* For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in paragraphs § 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance with paragraph (f)(1) of this section or determine your emissions per unit of feed/charge during periods of startup and shutdown in accordance with paragraph (f)(2) of this section. Startup and shutdown emissions for group 1 furnaces and in-line fluxers must be calculated individually, and not on the basis of a SAPU. Periods of startup and shutdown are excluded from the calculation of SAPU emission limits in § 63.1505(k), the SAPU monitoring requirements in § 63.1510(t) and the SAPU emissions calculations in § 63.1513(e).

(1) For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or

(2) For periods of startup and shutdown, divide your measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from your most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available.

■ 12. Section 63.1514 is added to read as follows:

§ 63.1514 Change of Furnace Classification.

The requirements of this section are in addition to the other requirements of this subpart that apply to group 1 and group 2 furnaces.

(a) *Changing from a group 1 controlled furnace processing other than clean charge to group 1 uncontrolled furnace processing other than clean charge.* An owner or operator wishing to change operating modes must conduct performance tests in accordance with §§ 63.1511 and 63.1512 to demonstrate to the permitting authority for major sources, or the Administrator for area sources that compliance can be achieved under both modes. Operating parameters relevant to each mode of operation must be established during the performance test.

(1) Operators of major sources must conduct performance tests for PM, HCl and D/F, according to the procedures in § 63.1512(d) with the capture system and control device operating normally if compliance has not been previously demonstrated in this operating mode. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in the controlled mode.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(2) Operators of major sources must conduct performance tests for PM, HCl, HF and D/F, according to the procedures in § 63.1512(e) without operating a control device if compliance has not been previously demonstrated for this operating mode. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in the uncontrolled mode.

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Operating parameters representing uncontrolled operation must be established during these tests, as required by § 63.1511(g). For furnaces in batch (cyclic) operation, the number of tap-to-tap cycles (including zero, if none) elapsed using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode. For furnaces in continuous (non-cyclic) operation, the time period elapsed (including no time, if none) using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode.

(iv) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(3) Operators of area sources must conduct performance tests for D/F, according to the procedures in § 63.1512(d) with the capture system and control device operating normally, if compliance has not been previously demonstrated for this operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in the controlled mode.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The D/F emission factor for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(4) Operators of area sources must conduct performance tests for D/F, according to the procedures in § 63.1512(e) without operating a control device, if compliance has not been previously demonstrated for this operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1).

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Operating parameters representing uncontrolled operation must be established during these tests, as required by § 63.1511(g). For furnaces in batch (cyclic) operation, the number of tap-to-tap cycles (including zero, if none) elapsed using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode. For furnaces in continuous (non-cyclic) operation, the time period elapsed (including no time, if none) using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode.

(iv) The D/F emission factor for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(5) To change modes of operation from uncontrolled to controlled, the owner or operator must perform the following, before charging scrap to the furnace that exceeds the contaminant level established for uncontrolled mode:

(i) Change the label on the furnace to reflect controlled operation;

(ii) Direct the furnace emissions to the control device;

(iii) Turn on the control device and begin lime addition to the control device at the rate established for controlled mode; and

(iv) Ensure the control device is operating properly.

(6) To change modes of operation from controlled to uncontrolled, the owner or operator must perform the following, before turning off or bypassing the control device:

(i) Change the label on the furnace to reflect uncontrolled operation;

(ii) Charge scrap with a level of contamination no greater than that used in the performance test for uncontrolled furnaces for the number of tap-to-tap cycles that elapsed (or, for continuously operated furnaces, the time elapsed) before the uncontrolled mode performance test was conducted; and

(iii) Decrease the flux addition rate to no higher than the flux addition rate used in the uncontrolled mode performance test.

(7) In addition to the recordkeeping requirements of § 63.1517, the owner or operator must maintain records of the nature of each mode change (controlled to uncontrolled, or uncontrolled to controlled), the time the change is initiated, and the time the exhaust gas is diverted from control device to bypass or bypass to control device.

(b) *Changing from a group 1 controlled furnace processing other than clean charge to a group 1 uncontrolled furnace processing clean charge.* An owner or operator wishing to change operating modes must conduct performance tests in accordance with §§ 63.1511 and 63.1512 to demonstrate to the permitting authority for major sources, or the Administrator for area sources that compliance can be achieved in both modes. Operating parameters relevant to each mode of operation must be established during the performance test.

(1) Operators of major sources must conduct performance tests for PM, HCl and D/F, according to the procedures in § 63.1512(d) with the capture system and control device operating normally if compliance has not been previously demonstrated in this operating mode. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in the controlled mode.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(2) Operators of major sources must conduct performance tests for PM, HCl, HF and D/F, according to the procedures in § 63.1512(e) without operating a control device if compliance has not been previously demonstrated for this operating mode. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph may be conducted at any time after operation with clean charge has commenced.

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Operating parameters representing uncontrolled operation must be established during these tests, as required by § 63.1511(g). For furnaces in batch (cyclic) operation, the number of tap-to-tap cycles (including zero, if none) elapsed using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode. For furnaces in continuous (non-cyclic) operation, the time period elapsed (including no time if none) using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode.

(iv) Emissions of D/F during this test must not exceed 1.5 μg TEQ/Mg of feed/charge.

(v) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k), must be determined.

(3) Operators of area sources must conduct performance tests for D/F, according to the procedures in § 63.1512(d) with the capture system and control device operating normally, if compliance has not been previously demonstrated for this operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1).

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The D/F emission factor for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(4) Operators of area sources must conduct performance tests for D/F, according to the procedures in § 63.1512(e) without operating a control device if compliance has not been previously demonstrated for this operating mode.

(i) Testing under this paragraph must be conducted at any time after operation with clean charge has commenced and must be conducted in accordance with § 63.1511(b)(1) and under representative conditions expected to produce the highest level of D/F in the uncontrolled mode.

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Operating parameters representing uncontrolled operation must be established during these tests, as required by § 63.1511(g). For furnaces in batch (cyclic) operation, the number of tap-to-tap cycles elapsed (including zero, if none) using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode. For furnaces in continuous (non-cyclic) operation, the time period elapsed (including no time, if none) using the feed/charge type, feed/charge rate and flux rate must be established as a parameter to be met before changing to uncontrolled mode.

(iv) Emissions of D/F during this test must not exceed 1.5 µg TEQ/Mg of feed/charge.

(5) To change modes of operation from uncontrolled to controlled, the owner or operator must perform the following, before charging scrap to the furnace that exceeds the contaminant level established for uncontrolled mode:

(i) Change the label on the furnace to reflect controlled operation;

(ii) Direct the furnace emissions to the control device;

(iii) Turn on the control device and begin lime addition to the control device at the rate established for controlled mode; and

(iv) Ensure the control device is operating properly.

(6) To change modes of operation from controlled to uncontrolled, the owner or operator must perform the following, before turning off or bypassing the control device:

(i) Change the label on the furnace to reflect uncontrolled operation;

(ii) Charge clean charge for the number of tap-to-tap cycles that elapsed (or, for continuously operated furnaces, the time elapsed) before the uncontrolled mode performance test was conducted; and

(iii) Decrease the flux addition rate to no higher than the flux addition rate used in the uncontrolled mode performance test.

(7) In addition to the recordkeeping requirements of § 63.1517, the owner or operator must maintain records of the nature of each mode change (controlled to uncontrolled, or uncontrolled to controlled), the time the furnace operating mode change is initiated, and the time the exhaust gas is diverted from control device to bypass or from bypass to control device.

(c) *Changing from a group 1 controlled or uncontrolled furnace to a group 2 furnace.* An owner or operator wishing to change operating modes must conduct performance tests in accordance with §§ 63.1511 and 63.1512 to demonstrate to the permitting authority for major sources, or the Administrator for area sources that compliance can be achieved under both modes and establish the number of cycles (or time) of operation with clean charge and no reactive flux addition necessary before changing to group 2 mode. Operating parameters relevant to group 1 operation must be established during the performance test.

(1) Operators of major sources must conduct performance tests for PM, HCl and D/F (and HF for uncontrolled group 1 furnaces) according to the procedures in § 63.1512 if compliance has not been previously demonstrated for the operating mode. Controlled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(d) with the capture system and control device operating normally. Uncontrolled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(e) without operating a control device. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in both modes.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(2) While in compliance with the operating requirements of § 63.1506(o) for group 2 furnaces, operators of major sources must conduct performance tests for PM, HCl, HF and D/F, according to the procedures in § 63.1512(e) without operating a control device if compliance has not been previously demonstrated for this operating mode. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph may be conducted at any time after the furnace has commenced operation with clean charge and without reactive flux addition.

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Owners or operators must demonstrate that emissions are no greater than:

(A) 1.5 µg D/F (TEQ) per Mg of feed/charge;

(B) 0.040 lb HCl or HF per ton of feed/charge; and

(C) 0.040 lb PM per ton of feed/charge.

(iv) The number of tap-to-tap cycles, or time elapsed between starting operation with clean charge and no reactive flux addition and the group 2 furnace performance test must be established as an operating parameter to be met before changing to group 2 mode.

(3) Operators of area sources must conduct a performance tests for D/F, according to the procedures in § 63.1512 if compliance has not been previously demonstrated for the operating mode. Controlled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(d) with the capture system and control device operating normally. Uncontrolled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(e) without operating a control device.

(i) The performance tests must be conducted in accordance with § 63.1511(b)(1) under representative conditions expected to produce the highest expected level of D/F in the group 1 mode.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The D/F emission factor for this mode of operation, for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(4) While in compliance with the operating requirements of § 63.1506(o) for group 2 furnaces, operators of area sources must conduct performance tests for D/F, according to the procedures in § 63.1512(e) without operating a control device if compliance has not been previously demonstrated for this operating mode.

(i) Testing under this paragraph may be conducted at any time after the furnace has commenced operation with clean charge, and without reactive flux addition.

(ii) Testing under this paragraph must be conducted with furnace emissions captured in accordance with the provisions of § 63.1506(c) and directed to the stack or vent tested.

(iii) Owners or operators must demonstrate that emissions are no greater than 1.5 µg D/F (TEQ) per Mg of feed/charge.

(iv) The number of tap-to-tap cycles, or time elapsed between starting operation with clean charge and no reactive flux and the group 2 furnace performance tests must be established as an operating parameter to be met before changing to group 2 mode.

(5) To change modes of operation from a group 2 furnace to a group 1 furnace, the owner or operator must perform the following before adding other than clean charge and before adding reactive flux to the furnace:

(i) Change the label on the furnace to reflect group 1 operation;

(ii) Direct the furnace emissions to the control device, if it is equipped with a control device;

(iii) If the furnace is equipped with a control device, turn on the control device and begin lime addition to the control device at the rate established for group 1 mode; and

(iv) Ensure the control device is operating properly.

(6) To change mode of operation from a group 1 furnace to group 2 furnace, the owner or operator must perform the following, before turning off or bypassing the control device:

(i) Change the label on the furnace to reflect group 2 operation;

(ii) Charge clean charge for the number of tap-to-tap cycles that elapsed (or, for continuously operated furnaces, the time elapsed) before the group 2 performance test was conducted; and,

(iii) Use no reactive flux.

(7) In addition to the recordkeeping requirements of § 63.1517, the owner or operator must maintain records of the nature of each mode change (controlled or uncontrolled to group 2), the time the change is initiated, and the time the exhaust gas is diverted from control device to bypass or from bypass to control device.

(d) *Changing from a group 1 controlled or uncontrolled furnace to group 2 furnace, for tilting reverberatory furnaces capable of completely removing furnace contents between batches.* An owner or operator of a tilting reverberatory furnace capable of completely removing furnace contents between batches who wishes to change operating modes must conduct performance tests in accordance with §§ 63.1511 and 63.1512 to demonstrate to the permitting authority for major sources, or the Administrator for area sources that compliance can be achieved under group 1 modes. Operating parameters relevant to group 1 operation must be established during the performance test.

(1) Operators of major sources must conduct performance tests for PM, HCl, and D/F (and HF for uncontrolled furnaces) according to the procedures in § 63.1512 if compliance has not been previously demonstrated for this operating mode. Controlled group 1 furnaces must conduct performance tests with the capture system and control device operating normally if compliance has not been previously demonstrated for the operating mode. Controlled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(d) with the capture system and control device operating normally. Uncontrolled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(e) without operating a control device. Performance tests must be repeated at least once every 5 years to demonstrate compliance for each operating mode.

(i) Testing under this paragraph must be conducted in accordance with § 63.1511(b)(1) in both modes.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The emission factors for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k), must be determined.

(2) Operators of area sources must conduct performance tests for D/F according to the procedures in § 63.1512 if compliance has not been previously demonstrated for this operating mode. Controlled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(d) with the capture system and control device operating normally. Uncontrolled group 1 furnaces must conduct performance tests according to the procedures in § 63.1512(e) without operating a control device.

(i) The performance test must be conducted in accordance with § 63.1511(b)(1) under representative conditions expected to produce the highest expected level of D/F in the group 1 mode.

(ii) Operating parameters must be established during these tests, as required by § 63.1511(g).

(iii) The D/F emission factor for this mode of operation for use in the demonstration of compliance with the emission limits for SAPUs specified in § 63.1505(k) must be determined.

(3) To change modes of operation from a group 1 furnace to a group 2 furnace, the owner or operator must perform the following before turning off or bypassing the control device:

(i) Completely remove all aluminum from the furnace;

(ii) Change the label on the furnace to reflect group 2 operation;

(iii) Use only clean charge; and

(iv) Use no reactive flux.

(4) To change modes of operation from a group 2 furnace to a group 1 furnace, the owner or operator must perform the following before adding other than clean charge and before adding reactive flux to the furnace:

(i) Change the label on the furnace to reflect group 1 operation;

(ii) Direct the furnace emissions to the control device, if it is equipped with a control device;,

(iii) If the furnace is equipped with a control device, turn on the control device and begin lime addition to the control device at the rate established for group 1 mode; and

(iv) Ensure the control device is operating properly.

(5) In addition to the recordkeeping requirements of § 63.1517, the owner or operator must maintain records of the nature of each mode change (group 1 to group 2, or group 2 to group 1), the time the furnace operating mode change is initiated, and, if the furnace is equipped with a control device, the time the exhaust gas is diverted from control device to bypass or from bypass to control device.

(e) *Limit on Frequency of changing furnace operating mode.* (1) Changing furnace operating mode including reversion to the previous mode, as provided in paragraphs (a) through (d) of this section, may not be done more frequently than 4 times in any 6-month period unless you receive approval from the permitting authority or Administrator for additional changes pursuant to paragraph (e)(2).

(2) If additional changes are needed, the owner or operator must apply in advance to the permitting authority, for major sources, or the Administrator, for area sources, for approval of the additional changes in operating mode.

■ 13. Section 63.1515 is amended by:

■ a. Revising paragraphs (a) introductory text, and (b)(4); and

■ b. Removing paragraph (b)(10).

The revisions read as follows:

§ 63.1515 Notifications.

(a) *Initial notifications.* The owner or operator must submit initial notifications to the permitting authority for major sources, or the Administrator for area sources as described in paragraphs (a)(1) through (7) of this section.

* * * * *

(b) * * *

(4) The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value (e.g., lime injection rate, total reactive chlorine flux injection rate, total reactive fluorine flux injection rate for uncontrolled group 1 furnaces, afterburner operating temperature, fabric filter inlet temperature), including the operating cycle or time period used in the performance test.

* * * * *

■ 14. Section 63.1516 is amended by:
■ a. Removing and reserving paragraph (a);
■ b. Revising paragraph (b) introductory text;
■ c. Removing and reserving paragraph and (b)(1)(v);
■ d. Adding paragraphs (b)(2)(vii) and (b)(3)(i);
■ e. Revising paragraph (c) introductory text; and
■ f. Adding paragraphs (d) and (e).

The additions and revisions read as follows:

§ 63.1516 Reports.

* * * * *

(b) Excess emissions/summary report. The owner or operator of a major or area source must submit semiannual reports according to the requirements in § 63.10(e)(3). Except, the owner or operator must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in § 63.10(e)(3)(v). When no deviations of parameters have occurred, the owner or operator must submit a report stating that no excess emissions occurred during the reporting period.

* * * * *

(2) * * *

(vii) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with § 63.1513(f)(1): ''During each startup and shutdown, no flux and no feed/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated.''

* * * * *

(3) * * *

(i) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (b)(3)(i)(A) or (B) of this section.

(A) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(B) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

* * * * *

(c) *Annual compliance certifications.* For the purpose of annual certifications of compliance required by 40 CFR part 70 or 71, the owner or operator of a major source subject to this subpart must certify continuing compliance based upon, but not limited to, the following conditions:

* * * * *

(d) If there was a malfunction during the reporting period, the owner or operator must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §§ 63.1506(a)(5) and 63.1520(a)(8).

(e) All reports required by this subpart not subject to the requirements in paragraph (b) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (b) of this section in paper format.

■ 15. Section 63.1517 is amended by:
■ a. By revising paragraphs (b)(1)(iii), (b)(4)(ii), (b)(14);
■ b. By removing and reserving paragraph (b)(16)(i); and
■ c. By adding paragraphs (b)(18) through (20).

The additions and revisions read as follows:

§ 63.1517 Records.

* * * * *

(b) * * *

(1) * * *

(iii) If an aluminum scrap shredder is subject to visible emission observation requirements, records of all Method 9 observations, including records of any visible emissions during a 30-minute daily test or records of all ASTM D7520–13 observations (incorporated by reference, see § 63.14), including data sheets and all raw unaltered JPEGs used for opacity determination, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken.

* * * * *

(4) * * *

(ii) If lime feeder setting is monitored, records of daily and monthly inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request.

* * * * *

(14) Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate.

* * * * *

(18) For any failure to meet an applicable standard, the owner or operator must maintain the following records;

(i) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken.

(ii) Records of actions taken during periods of malfunction to minimize emissions in accordance with §§ 63.1506(a)(5) and 63.1520(a)(8), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(19) For each period of startup or shutdown for which the owner or operator chooses to demonstrate compliance for an affected source, the owner or operator must comply with (b)(19)(i) or (ii) of this section.

(i) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the owner or operator must submit a semiannual report in accordance with § 63.1516(b)(2)(vii) or maintain the following records:

(A) The date and time of each startup and shutdown;

(B) The quantities of feed/charge and flux introduced during each startup and shutdown; and

(C) The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or

(ii) To demonstrate compliance based on performance tests, the owner or operator must maintain the following records:

(A) The date and time of each startup and shutdown;

(B) The measured emissions in lb/hr or µg/hr or ng/hr;

(C) The measured feed/charge rate in tons/hr or Mg/hr from your most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and

(D) An explanation to support that such conditions are considered representative startup and shutdown operations.

(20) For owners or operators that choose to change furnace operating modes, the following records must be maintained:

(i) The date and time of each change in furnace operating mode, and

(ii)The nature of the change in operating mode (for example, group 1 controlled furnace processing other than clean charge to group 2).

* * * * *

16. Table 1 to Subpart RRR of part 63 is revised to read as follows:

Table 1 to Subpart RRR of Part 63—Emission Standards for New and Existing Affected Sources

Affected source/ Emission unit	Polltuant	Limit	Units
All new and existing affected sources and emission units that are controlled with a PM add-on control device and that choose to monitor with a continuous opacity monitor (COM); and all new and existing aluminum scrap shredders that choose to monitor with a COM or to monitor visible emissions	Opacity	10	percent
New and existing aluminum scrap shredder	PM	0.01	gr/dscf
New and existing thermal chip dryer	THC D/F[a]	0.80 2.50	lb/ton of feed µg TEQ/Mg of feed
New and existing scrap dryer/delacquering kiln/decoating kiln	PM HCl THC D/F[a]	0.08 0.80 0.06 0.25	lb/ton of feed lb/ton of feed lb/ton of feed µg TEQ/Mg of feed
Or			
Alternative limits if afterburner has a design residence time of at least 1 second and operates at a temperature of at least 1400°F	PM HCl THC D/F[a]	0.30 1.50 0.20 5.0	lb/ton of feed lb/ton of feed lb/ton of feed µg TEQ/Mg of feed
New and existing sweat furnace	D/F[a]	0.80	ng TEQ/dscm 11% O_2[b]
New and existing dross-only furnace	PM	0.30	lb/ton of feed
New and existing in-line fluxer[c]	HCl PM	0.04 0.01	lb/ton of feed lb/ton of feed
New and existing in-line fluxer with no reactive fluxing		No Limit	Work practice: no reactive fluxing
New and existing rotary dross cooler	PM	0.04	gr/dscf
New and existing clean furnace (Group 2)		No Limit	Work practices: clean charge only and no reactive fluxing
New and existing group 1 melting/holding furnace (processing only clean charge)[c]	PM HF[h] HCl	0.80 0.40 0.40 or 10	lb/ton of feed lb/ton of feed lb/ton of feed percent of the HCl upstream of the add-on control device
New and existing group 1 furnace[c]	PM HF[h] HCl D/F[a]	0.40 0.40 0.40 or 10 15.0	lb/ton of feed lb/ton of feed lb/ton of feed percent of the HCl upstream of the add-on control device µg TEQ/Mg of feed

Affected source/ Emission unit	Polltuant	Limit	Units
New and existing group 1 furnace with clean charge only[c]	PM HCl HF[h] D/F[a]	0.40 0.40 0.40 or 10 No Limit	lb/ton of feed lb/ton of feed lb/ton of feed percent of the HCl upstream of an add-on control device Clean charge only
New and existing secondary aluminum processing unit[a,d] (consists of all existing group 1 furnaces and existing in-line flux boxes at the facility, or any combination of new group 1 furnaces and new in-line fluxers)	PM[e]	$L_{t_{PM}} = \frac{\sum_{i=1}^{n}\left(L_{i_{PM}} \times T_i\right)}{\sum_{i=1}^{n}\left(T_i\right)}$ (Eq. 1)	
	HCl and HF[f, h]	$L_{t_{HCl/HF}} = \frac{\sum_{i=1}^{n}\left(L_{i_{HCl/HF}} \times T_i\right)}{\sum_{i=1}^{n}\left(T_i\right)}$ (Eq.2)	
	D/F[g]	$L_{t_{D/F}} = \frac{\sum_{i=1}^{n}\left(L_{i_{D/F}} \times T_i\right)}{\sum_{i=1}^{n}\left(T_i\right)}$ (Eq. 3)	

[a] D/F limit applies to a unit at a major or area source.

[b] Sweat furnaces equipped with afterburners meeting the specifications of § 63.1505(f)(1) are not required to conduct a performance test.

[c] These limits are also used to calculate the limits applicable to secondary aluminum processing units.

[d] Equation definitions: L_{iPM} = the PM emission limit for individual emission unit i in the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]; T_i = the feed rate for individual emission unit i in the secondary aluminum processing unit; L_{tPM} = the overall PM emission limit for the secondary aluminum processing unit [kg/Mg (lb-ton) of feed]; $L_{iHCl/HF}$ = the HCl or HF emission limit for individual emission unit i in the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]; $L_{tHCl/HF}$ = the overall HCl or HF emission limit for the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]; $L_{iD/F}$ = the D/F emission limit for individual emission unit i [µg (TEQ)/Mg (gr TEQ/ton) of feed]; $L_{tD/F}$ = the overall D/F emission limit for the secondary aluminum processing unit [µg TEQ/Mg (gr TEQ/ton) of feed]; n = the number of units in the secondary aluminum processing unit.

[e] In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the PM limit.

[f] In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the HCl and HF limit. Controlled group 1 furnaces cannot be included in the HF emissions calculation because they are not subject to HF limits.

[g] Clean charge furnaces cannot be included in this calculation since they are not subject to the D/F limit.

[h] HF limits apply only to uncontrolled group 1 furnaces.

■ 17. Table 2 to Subpart RRR of part 63 is amended by:

■ a. Revising the entry ''All affected sources and emission units with an add-on air pollution control device;''

■ b. Revising the entry ''Scrap dryer/delacquering kiln/decoating kiln with afterburner and lime-injected fabric filter;''

■ c. Revising the entry ''In-line fluxer with lime-injected fabric filter (including those that are part of a secondary aluminum processing unit);''

■ d. Revising entry ''Group 1 furnace with lime-injected fabric filter (including those that are part of a secondary of aluminum processing unit);''

■ e. Revising the entry Group 1 furnace without add-on air pollution controls (including those that are part of a secondary aluminum processing unit);

■ f. Revising footnote c to Table 2; and

■ g. Adding footnotes d and e to Table 2.

The revisions and additions read as follows:

TABLE 2 TO SUBPART RRR OF PART 63—SUMMARY OF OPERATING REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES AND EMISSION UNITS

Affected source/emission unit	Monitor type/operation/process	Operating requirements
All affected sources and emission units with an add-on air pollution control device.	Emission capture and collection system.	Design and install in accordance with ACGIH Guidelines;[e] operate in accordance with OM&M plan (sweat furnaces may be operated according to 63.1506(c)(4)).[b]
* *	* *	* * *
Scrap dryer/delacquering kiln/decoating kiln with afterburner and lime-injected fabric filter.	Afterburner operating temperature	Maintain average temperature for each 3-hr period at or above average operating temperature during the performance test.
	Afterburner operation	Operate in accordance with OM&M plan.[b]
	Bag leak detector or	Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan;[b] operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan.[b]
	Fabric filter inlet temperature	Maintain average fabric filter inlet temperature for each 3-hr period at or below average temperature during the performance test +14 °C (+25 °F).
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at or above the level established during the performance test for continuous injection systems.
* *	* *	* * *
In-line fluxer with lime-injected fabric filter (including those that are part of a secondary aluminum processing unit).	Bag leak detector or	Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan;[b] operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan.[b]
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at or above the level established during performance test for continuous injection systems.
	Reactive flux injection rate	Maintain reactive flux injection rate at or below rate used during the performance test for each operating cycle or time period used in the performance test.
* *	* *	* * *
Group 1 furnace with lime-injected fabric filter (including those that are part of a secondary of aluminum processing unit).	Bag leak detector or	Initiate corrective action within 1-hr of alarm; operate such that alarm does not sound more than 5% of operating time in 6-month period; complete corrective action in accordance with the OM&M plan.[b]
	COM	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more; complete corrective action in accordance with the OM&M plan.[b]
	Fabric filter inlet temperature	Maintain average fabric filter inlet temperature for each 3-hour period at or below average temperature during the performance test +14° C (+25° F).
	Natural gas-fired, propane-fired or electrically heated group 1 furnaces that will be idled for at least 24 hours.	Operation of associated capture/collection systems and APCD[b] may be temporarily stopped. Operation of these capture/collection systems and control devices must be restarted before feed/charge, flux or alloying materials are added to the furnace.
	Reactive flux injection rate	Maintain reactive flux injection rate (kg/Mg) (lb/ton) at or below rate used during the performance test for each furnace cycle.

TABLE 2 TO SUBPART RRR OF PART 63—SUMMARY OF OPERATING REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES AND EMISSION UNITS—Continued

Affected source/emission unit	Monitor type/operation/process	Operating requirements
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at or above the level established at performance test for continuous injection systems.
	Maintain molten aluminum level	Operate sidewell furnaces such that the level of molten metal is above the top of the passage between sidewell and hearth during reactive flux injection, unless the hearth is also controlled.
	Fluxing in sidewell furnace hearth	Add reactive flux only to the sidewell of the furnace unless the hearth is also controlled.
Group 1 furnace without add-on air pollution controls (including those that are part of a secondary aluminum processing unit).	Reactive flux injection rate	Maintain the total reactive chlorine flux injection rate and total reactive fluorine injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test.
	Site-specific monitoring plan.[c]	Operate each furnace in accordance with the work practice/pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan.
	Feed material(melting/holding furnace).	Use only clean charge.

* * * * * * *

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[c] Site-specific monitoring plan. Owner/operators of group 1 furnaces without add-on APCD must include a section in their OM&M plan that documents work practice and pollution prevention measures, including procedures for scrap inspection, by which compliance is achieved with emission limits and process or feed parameter-based operating requirements. This plan and the testing to demonstrate adequacy of the monitoring plan must be developed in coordination with and approved by the permitting authority for major sources, or the Administrator for area sources.

[d] APCD—Air pollution control device.

[e] Incorporated by reference, see § 63.14.

■ 18. Table 3 to Subpart RRR of part 63 is amended by:

■ a. Revising the entry ''All affected sources and emission units with an add-on air pollution control device;''

■ b. Revising the entry ''All affected sources and emission units subject to production-based (lb/ton of feed/charge) emission limits;''

■ c. Revising the entry ''Aluminum scrap shredder with fabric filter;''

■ d. Revising the entry ''Scrap dryer/delacquering kiln/decoating kiln with afterburner and lime-injected fabric filter;''

■ e. Revising entry ''Dross-only furnace with fabric filter;''

■ f. Revising the entry ''Rotary dross cooler with fabric filter;''

■ g. Revising the entry ''In-line fluxer with lime-injected fabric filter;''

■ h. Revising the entry ''Group 1 furnace with lime-injected fabric filter;''

■ i. Revise entry ''Group 1 furnace without add-on controls;''

■ j. Revise footnote c to Table 3;

■ k. Revising footnote d to Table 3; and

■ l. Adding footnote e to Table 3.

The revisions and additions read as follows:

TABLE 3 TO SUBPART RRR OF PART 63—SUMMARY OF MONITORING REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES AND EMISSION UNITS

Affected source/ emission unit	Monitor type/ operation/process	Monitoring requirements
All affected sources and emission units with an add-on air pollution control device.	Emission capture and collection system.	Annual inspection of all emission capture, collection, and transport systems to ensure that systems continue to operate in accordance with ACGIH Guidelines.[e] Inspection includes volumetric flow rate measurements or verification of a permanent total enclosure using EPA Method 204.[d]
All affected sources and emission units subject to production-based (lb/ton or gr/ton of feed/charge) emission limits.[a].	Feed/charge weight	Record weight of each feed/charge, weight measurement device or other procedure accuracy of ± 1%;[b] calibrate according to manufacturer's specifications, or at least once every 6 months.
* *	* *	* * *
Aluminum scrap shredder with fabric filter.	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM or	Design and install in accordance with PS–1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	VE	Conduct and record results of 30-minute daily test in accordance with Method 9 or ASTM D7520–13.[e]

TABLE 3 TO SUBPART RRR OF PART 63—SUMMARY OF MONITORING REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES AND EMISSION UNITS—Continued

Affected source/ emission unit	Monitor type/ operation/process	Monitoring requirements
* *	* *	* * *
Scrap dryer/delacquering kiln/ decoating kiln with afterburner and lime-injected fabric filter.	Afterburner operating temperature	Continuous measurement device to meet specifications in § 63.1510(g)(1); record temperature for each 15-minute block; determine and record 3-hr block averages.
	Afterburner operation	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M plan.
	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM	Design and Install in accordance with PS–1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Lime injection rate	For continuous injection systems, inspect each feed hopper or silo every 8 hours to verify that lime is free flowing; record results of each inspection. If blockage occurs, inspect every 4 hours for 3 days; return to 8-hour inspections if corrective action results in no further blockage during 3-day period, record feeder setting daily. Verify monthly that lime injection rate is no less than 90 percent of the rate used during the compliance demonstration test.
	Fabric filter inlet temperature	Continuous measurement device to meet specifications in § 63.1510(h)(2); record temperatures in 15-minute block averages; determine and record 3-hr block averages.
* *	* *	* * *
Dross-only furnace with fabric filter	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM	Design and install in accordance with PS–1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Feed/charge material	Record identity of each feed/charge; certify charge materials every 6 months.
Rotary dross cooler with fabric filter.	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM	Design and install in accordance with PS–1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
In-line fluxer with lime-injected fabric filter.	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM	Design and install in accordance with PS–1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Reactive flux injection rate	Weight measurement device accuracy of ±1%; [b] calibrate according to manufacturer's specifications or at least once every 6 months; record time, weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive chlorine flux injection rate and the total reactive fluorine flux injection rate flux injection rate for each operating cycle or time period used in performance test; or Alternative flux injection rate determination procedure per § 63.1510(j)(5). For solid flux added intermittently, record the amount added for each operating cycle or time period used in the performance test.
	Lime injection rate	For continuous injection systems, record feeder setting daily and inspect each feed hopper or silo every 8 hrs to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hrs for 3 days; return to 8-hour inspections if corrective action results in no further blockage during 3-day period.[c] Verify monthly that the lime injection rate is no less than 90 percent of the rate used during the compliance demonstration test.
* *	* *	* * *
Group 1 furnace with lime-injected fabric filter.	Bag leak detector or	Install and operate in accordance with manufacturer's operating instructions.
	COM	Design and install in accordance with PS–1; collect data in accordance with subpart A of 40 part CFR 63; determine and record 6-minute block averages.

TABLE 3 TO SUBPART RRR OF PART 63—SUMMARY OF MONITORING REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES AND EMISSION UNITS—Continued

Affected source/ emission unit	Monitor type/ operation/process	Monitoring requirements
	Lime injection rate	For continuous injection systems, record feeder setting daily and inspect each feed hopper or silo every 8 hours to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hours for 3 days; return to 8-hour inspections if corrective action results in no further blockage during 3-day period.[c] Verify monthly that the lime injection rate is no less than 90 percent of the rate used during the compliance demonstration test.
	Reactive flux injection rate	Weight measurement device accuracy of ±1%;[b] calibrate every 3 months; record weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive chlorine flux injection rate and the total reactive fluorine flux injection rate flux injection rate for each operating cycle or time period used in performance test; or Alternative flux injection rate determination procedure per § 63.1510(j)(5). For solid flux added intermittently, record the amount added for each operating cycle or time period used in the performance test.
	Fabric filter inlet temperature	Continuous measurement device to meet specifications in § 63.1510(h)(2); record temperatures in 15-minute block averages; determine and record 3-hour block averages.
	Maintain molten aluminum level in sidewell furnace.	Maintain aluminum level operating log; certify every 6 months. If visual inspection of molten metal level is not possible, use physical measurement methods.
	Fluxing in sidewell furnace hearth	Maintain flux addition operating log; certify every 6 months.
Group 1 furnace without add-on controls.	Reactive flux injection rate	Weight measurement device accuracy of +1%;[b] calibrate according to manufacturer's specifications or at least once every six months; record weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test. For solid flux added intermittently, record the amount added for each operating cycle or time period used in the performance test.
	OM&M plan (approved by permitting agency).	Demonstration of site-specific monitoring procedures to provide data and show correlation of emissions across the range of charge and flux materials and furnace operating parameters.
	Feed material (melting/holding furnace).	Record type of permissible feed/charge material; certify charge materials every 6 months.

* * * * * * *

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[c] Permitting authority for major sources, or the Administrator for area sources may approve other alternatives including load cells for lime hopper weight, sensors for carrier gas pressure, or HCl monitoring devices at fabric filter outlet.

[d] The frequency of volumetric flow rate measurements may be decreased to once every 5 years if daily differential pressure measures, daily fan RPM, or daily fan motor amp measurements are made in accordance with § 63.1510(d)(2)(ii–iii). The frequency of annual verification of a permanent total enclosure may be decreased to once every 5 years if negative pressure measurements in the enclosure are made daily in accordance with § 63.1510(d)(2)(iv). In lieu of volumetric flow rate measurements or verification of permanent total enclosure, sweat furnaces may demonstrate annually negative air flow into the sweat furnace opening in accordance with § 63.1510(d)(3).

[e] Incorporated by reference, see § 63.14.

■ 19. Appendix A to Subpart RRR of part 63 is amended by:
■ a. Revising entry §§ 63.1(a)6)–(8);
■ b. Revising entry § 63.1 (a)(9);
■ c. Revising entry § 63.1(a)(10)–(14);
■ d. Revising entry § 63.1(c)(3);
■ e. Revising entry § 63.1(c)(4)–(5);
■ f. Revising entry § 63.4(a)(1)–(3);
■ g. Revising entry § 63.4(a)(4);
■ h. Removing entry § 63.4(a)(5);
■ i. Revising entry § 63.5(b)(3)–(6);
■ j. Adding entry § 63.5(b)(5);
■ k. Adding entry § 63.5(b)(6);
■ l. Revising entry § 63.6(b)(1)–(5);
■ m. Removing entry § 63.6(e)(1)–(2);
■ n. Adding entry § 63.6(e)(1)(i);
■ o. Adding entry § 63.6(e)(1)ii)
■ p. Adding entry § 63.6(e)(2);
■ q. Revising entry § 63.6(e)(3);
■ r. Removing entry § 63.6(f);
■ s. Adding entry § 63.6(f)(1);
■ t. Adding entries § 63.6(f)(2);
■ u. Removing entries § 63.6(h);
■ v. Adding entries § 63.6(h)(1), § 63.6(h)(2) and § 63.6(h)(3);
■ w. Adding entry § 63.6(h)(4)–(9);
■ x. Revising entry § 63.7(a)–(h);
■ y. Adding entries § 63.7(b), § 63.7(c) and § 63.7(d);
■ z. Removing entry § 63.7((e);
■ aa. Adding entries § 63.7(e)(1) and § 63.7(e)(2);
■ bb. Revising entry § 63.7(g);
■ cc. Revising entry § 63.7(h);
■ dd. Removing entry § 63.8((c)(1)–(3);
■ ee. Adding entries § 63.8(c)(1)(i), § 63.8(c)(1)(ii) and § 63.8(c)(1)(iii);
■ ff. Revising entry § 63.8 (c)(4)–(8);
■ gg. Revising entry § 63.8(d);
■ hh. Adding entry § 63.8(d)(3);
■ ii. Revising entry § 63.9(b);
■ jj. Removing entry § 63.10(b);
■ kk. Adding entry § 63.10(b)(1);
■ ll. Adding entry § 63.10(b)(2)(i),(ii), (iv), (v);
■ mm. Adding entry § 63.10(b)(2)(iii), (vi) to (xiv);
■ nn. Adding entry § 63.10(b)(3);
■ oo. Adding entry § 63.10(c)(15);
■ pp. Revising entry § 63.10(d)(4)–(5);
■ qq. Revising entry § 63.11(a)–(b);

- rr. Revising entry § 63.14; and
- ss. Adding entry § 63.16.

The revisions and additions read as follows:

APPENDIX A TO SUBPART RRR OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART RRR

Citation	Applies to RRR	Comment
* *	* * *	* *
§ 63.1(a)(6)	Yes.	
§ 63.1(a)(7)–(9)	No	[Reserved].
§ 63.1(a)(10)–(12)	Yes.	
* *	* * *	* *
* *	* * *	* *
§ 63.1(c)(3)–(4)	No	[Reserved].
§ 63.1(c)(5)	Yes.	
* *	* * *	* *
§ 63.4(a)(1)–(2)	Yes.	
§ 63.4(a)(3)–(5)	No	[Reserved].
* *	* * *	* *
§ 63.5(b)(3)–(4)	Yes.	
§ 63.5(b)(5)	No	[Reserved].
§ 63.5(b)(6)	Yes.	
* *	* * *	* *
§ 63.6(b)(1)–(5)	Yes	§ 63.1501 specifies dates.
* *	* * *	* *
§ 63.6(e)(1)(i)	No	See § 63.1506(a)(5) for general duty requirement. Any other cross reference to § 63.6(3)(1)(i) in any other general provision referenced shall be treated as a cross reference to § 63.1506(a)(5).
§ 63.6(e)(1)–(ii)	No.	
§ 63.6(e)(2)	No	[Reserved].
§ 63.6(e)(3)	No.	
§ 63.6(f)(1)	No.	
§ 63.6(f)(2)	Yes.	
* *	* * *	* *
§ 63.6(h)(1)	No.	
§ 63.6(h)(2)	Yes.	
§ 63.6(h)(3)	No	[Reserved].
§ 63.6(h)(4)–(9)	Yes.	
* *	* * *	* *
§ 63.7(a)	Yes	Except § 63.1511 establishes dates for initial performance tests.
* *	* * *	* *
§ 63.7(e)(1)	No.	
§ 63.7(e)(2)	Yes.	
* *	* * *	* *
§ 63.7(g)(1)–(3)	Yes	Except for § 63.7(g)(2), which is reserved.
§ 63.7(h)(1)–(5)	Yes.	
* *	* * *	* *
§ 63.8(c)(1)(i)	No	See § 63.1506(a)(5) for general duty requirement.
§ 63.8(c)(1)(ii)	Yes.	
§ 63.8(c)(1)(iii)	No.	
§ 63.8(c)(2)–(8)	Yes.	
§ 63.8(d)(1)–(2)	Yes.	
§ 63.8(d)(3)	Yes, except for last sentence, which refers to an SSM plan. SSM plans are not required.	
* *	* * *	* *
§ 63.9(b)(1)–(5)	Yes	Except § 63.9(b)(3) is reserved.
* *	* * *	* *
§ 63.10(b)(1)	Yes.	
§ 63.10(b)(2)(i), (ii), (iv), (v)	No.	

APPENDIX A TO SUBPART RRR OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART RRR—Continued

Citation	Applies to RRR	Comment
§ 63.10(b)(2)(iii), (vi)–(xiv)	Yes	§ 63.1517 includes additional requirements.
§ 63.10(b)(3)	Yes.	
* * *	* *	* *
§ 63.10(c)(15)	No.	
* * *	* *	* *
§ 63.10(d)(4)–(5)	No	See § 63.1516(d).
* * *	* *	* *
§ 63.11(a)–(d)	No	Flares not applicable.
* * *	* *	* *
§ 63.14	Yes.	
* * *	* *	* *
§ 63.16	No.	

[FR Doc. 2015–21031 Filed 9–17–15; 8:45 am]

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Part IV

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2011–0797; FRL–9934–16–OAR]

RIN 2060–AQ92

National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review (RTR) conducted for the Primary Aluminum Production source category regulated under national emission standards for hazardous air pollutants (NESHAP). In addition, we are taking final action regarding new and revised emission standards for various hazardous air pollutants (HAP) emitted by this source category based on the RTR, newly obtained emissions test data, and comments we received in response to the 2011 proposal and 2014 supplemental proposal.

These final amendments include technology-based standards and work practice standards reflecting performance of maximum achievable control technology (MACT), and related monitoring, reporting, and testing requirements, for several previously unregulated HAP from various emissions sources. Furthermore, based on our risk review, we are finalizing new and revised emission standards for certain HAP emissions from potlines using the Soderberg technology to address risk. We are also adding a requirement for electronic reporting of compliance data, eliminating the exemptions for periods of startup, shutdown, and malfunctions (SSM), and not adopting the affirmative defense provisions proposed in 2011, consistent with a recent court decision vacating the affirmative defense provisions. This action will provide improved environmental protection regarding potential emissions of HAP emissions from primary aluminum reduction facilities.

DATES: This final action is effective on October 15, 2015. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of October 15, 2015.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2011–0797. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Mr. David Putney, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–2016; fax number: (919) 541–3207; and email address: *putney.david@epa.gov*. For specific information regarding the risk modeling methodology, contact Mr. Jim Hirtz, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0881; fax number: (919) 541–0840; and email address: *hirtz.james@epa.gov*. For information about the applicability of the NESHAP to a particular entity, contact Mr. Patrick Yellin, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC South Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564–2970; and email address: *yellin.patrick@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

AERMET	AERMOD Meteorological Preprocessor
AERMOD	American Meteorological Society and EPA Regulatory Model
As	arsenic
BLDS	bag leak detection systems
BLP	Buoyant Line and Point source model
CAA	Clean Air Act
CBI	confidential business information
CDX	Central Data Exchange
CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations
CRA	Congressional Review Act
CWPB1	center-worked prebake one
CWPB2	center-worked prebake two
CWPB3	center-worked prebake three
D/F	dioxins and furans
dscm	dry standard cubic meter
ERT	Electronic Reporting Tool
FR	Federal Register
HAP	hazardous air pollutant(s)
HEM3	Human Exposure Model version 3
Hg	mercury
HQ	hazard quotient
IBR	incorporation by reference
ICR	information collection request
lb	pound(s)
lb/ton	pound(s) per ton
lb/yr	pound(s) per year
MACT	maximum achievable control technology
MIR	maximum individual risk
NESHAP	National Emission Standards for Hazardous Air Pollutants
Ni	nickel
NTTAA	National Technology Transfer and Advancement Act
PCB	polychlorinated biphenyls
PM	particulate matter
$PM_{2.5}$	p.m. with diameter of 2.5 microns and less
POM	polycyclic organic matter
PRA	Paperwork Reduction Act
RDL	representative detection limit
REL	reference exposure level
RFA	Regulatory Flexibility Act
RIA	Regulatory Impact Analysis
RIN	Regulatory Information Number
RTR	Residual Risk and Technology Review
SSM	startup, shutdown, and malfunction
SWPB	side-worked prebake
TEQ	toxicity equivalence
TOSHI	target organ-specific hazard index
TTN	Technology Transfer Network
μg	microgram(s)
μg/dscm	microgram(s) per dry standard cubic meter
UMRA	Unfunded Mandates Reform Act
UPL	upper prediction limit
VE	visible emissions
VSS2	vertical stud Soderberg two

Background Information. On December 6, 2011, and December 8, 2014, the EPA proposed revisions to the Primary Aluminum Reduction Plants NESHAP based on our RTR and MACT review. After considering public comments, in this action, we are finalizing decisions and revisions for the rule. We summarize some of the more significant comments we timely received regarding the 2011 and 2014 proposed rules and provide our responses in this preamble. A summary of all other public comments on the proposals and the EPA's responses to those comments is available in the *National Emission Standards for*

Hazardous Air Pollutants: Primary Aluminum Reduction Plants Summary of Public Comments and Responses document, which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797). A ''track changes'' version of the regulatory language that incorporates the changes in this action is also available in the docket for this action.

Organization of this Document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS [a] code
Primary Aluminum Reduction Plants	331312

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at *http://www.epa.gov/ttn/atw/alum/alumpg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, links to project Web sites for the RTR source categories and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by December 14, 2015. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC North Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of HAP from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as MACT standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems, or techniques, including, but not limited to, those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, see 76 FR 76259 and 79 FR 72914.

Today's amendments involve rule changes pursuant to these authorities. Specifically, pursuant to CAA sections 112(d)(2) and (3), and 112(h), the EPA is amending the NESHAP to add standards for HAP not previously addressed. In addition, pursuant to CAA section 112(f), the EPA is amending certain MACT standards already promulgated to address risk. The EPA also conducted a technology review and determined that no further changes to the rule are necessary (within the meaning of CAA section 112(d)(6)) to reflect developments in practices, processes, and control technologies other than the work practices for anode bake furnaces and paste plants during startup periods, and work practices for potlines during normal operations (to help minimize POM, TF, and PM emissions), described in the 2011 and 2014 proposals.

B. What is the Primary Aluminum Production source category and how does the NESHAP regulate HAP emissions from the source category?

The EPA promulgated the Primary Aluminum Reduction Plants NESHAP, which apply to the Primary Aluminum Production source category, on October 7, 1997 (62 FR 52407). The rule was amended on November 2, 2005 (70 FR 66280). The associated standards are codified at 40 CFR part 63, subpart LL.

The Primary Aluminum Production source category consists of facilities that produce aluminum from refined bauxite ore (also known as alumina), using an electrolytic reduction process in a series of cells called a ''potline.'' The two main potline types are prebake (a newer, higher-efficiency, lower-emitting technology) and Soderberg (an older, lower-efficiency, higher-emitting technology). The raw materials include alumina, petroleum coke, pitch, and fluoride salts. According to information available on the Web site of The Aluminum Association, Inc. (*http://www.aluminum.org*), approximately 40 percent of the aluminum produced in the U.S. comes from primary aluminum facilities. The other 60 percent either comes from Secondary Aluminum Production facilities or is imported.

Primary aluminum reduction facilities emit HAP from four basic processes: Pitch storage tanks, paste production plants, anode bake furnaces, and potlines. Operators form anode paste in the paste production plant from a mixture of petroleum coke and pitch. In a prebake facility, this anode paste is then formed into anodes and baked in an anode bake furnace. Operators subsequently place these ''prebaked'' anodes into a prebake potline where they are consumed via the electrolytic reduction process. Soderberg facilities do not have anode bake furnaces. Instead, the anode paste is fed directly into the Soderberg potlines and baked in place to form anodes, which again are consumed via the electrolytic reduction process.

There are currently 11 facilities located in the United States that are subject to the requirements of this NESHAP: 10 primary aluminum reduction plants and one carbon-only prebake anode production facility. These 10 primary aluminum reduction

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[1] The U.S. Court of Appeals has affirmed this approach of implementing CAA section 112(f)(2)(A). See *NRDC* v. *EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

plants have approximately 35 potlines that produce aluminum. Each of the 10 primary aluminum reduction plants has a paste production plant and at least one anode bake furnace (for a total of about 22 existing anode bake furnaces). However, not all existing paste production plants and anode bake furnaces are currently operating, as some facilities obtain their prebaked anodes from the carbon-only prebake anode production facility. All currently operating primary aluminum facilities use prebake potlines.

At the time of the 2011 proposal, there were two facilities in the U.S. that used Soderberg potlines. One of those facilities (Massena East) was operating at that time, and the other (Columbia Falls) was idle. However, in 2014, before publication of the supplemental proposal, the Massena East facility was permanently shut down. Therefore, at the time we published the supplemental proposal, there was only one Soderberg facility (Columbia Falls) in the U.S., which was idle. After publication of the 2014 supplemental proposal, we learned that the one remaining idle Soderberg facility located in Columbia Falls was permanently shut down. We also learned that one prebake facility (run by Ormet Primary Aluminum Corporation) was shut down. Therefore, currently there are 10 existing facilities with potlines (all prebake facilities) in the source category plus the one facility without potlines that only produces anodes.

The major HAP emitted by these facilities are carbonyl sulfide (COS), hydrogen fluoride (HF), particulate HAP metals and polycyclic organic matter (POM), specifically polycyclic aromatic hydrocarbons (PAH).

The current Primary Aluminum Reduction Plants NESHAP (as they existed before today's final action) included MACT standards (promulgated in 1997 and 2005) for emissions of total fluorides (TF) (as a surrogate for HF) from anode bake furnaces and potlines and for emissions of POM from paste production plants, anode bake furnaces, Soderberg potlines, and new pitch storage tanks.

C. What changes did we propose for the Primary Aluminum Production source category in our December 6, 2011, proposal and our December 8, 2014, proposal?

On December 6, 2011, and December 8, 2014, the EPA published proposed rules in the **Federal Register** for the Primary Aluminum Reduction Plants NESHAP, 40 CFR part 63, subpart LL, that took into consideration the RTR analyses and other reviews of the rule. In the proposed rules, we proposed several minor clarifications and corrections, and the items summarized in Table 2, below.

TABLE 2—SUMMARY OF CHANGES PROPOSED PURSUANT TO ANALYSES ASSOCIATED WITH THIS ACTION

Action	Proposal	As a result of which analysis
2011 proposal (76 FR 76259)	COS emission limits for new and existing potlines	CAA section 112(d)(2) and (3).
	POM emission limits for new and existing prebake potlines and existing pitch storage tanks.	
	Work practices for anode bake furnaces during startup periods	CAA section 112(d)(6) Technology review.
	Work practices for potlines during startup periods	CAA section 112(h).
	Revised POM emission limits for Soderberg potlines	CAA section 112(f) Risk Review.
2014 proposal (79 FR 72914)	Revised POM emission limits for new and existing prebake potlines	CAA section 112(d)(2) and (3).
	Emission limits for particulate matter (PM) for new and existing potlines, anode bake furnaces and paste production plants.	
	Revised work practice standards for potlines.	
	Reduced testing frequencies for potlines	CAA section 112(d)(2) and (3).
	Work practices for paste production plants during startup periods	CAA section 112(d)(6) Technology Review.
	Nickel (Ni), arsenic (As) and revised POM emission limits for Soderberg potlines.	CAA section 112(f) Risk Review.

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Primary Aluminum Production source category, finalizes our reviews of other aspects of the rule, and amends the Primary Aluminum Reduction Plants NESHAP based on those determinations and reviews. The changes being finalized in this action include the following: The promulgation of MACT floor-based limits for previously unregulated HAP (*e.g.,* COS and PM); emissions limits for POM, As, and Ni from Soderberg potlines to address risk; the addition of work practice standards for paste production plants, potlines and anode bake furnaces; and the removal of SSM exemptions. This final action includes several changes to the proposed requirements in the December 2011 and December 2014 proposals based on consideration of comments and information received during the public comment periods as described in section IV of this preamble.

A. What are the final rule amendments based on the risk review for the Primary Aluminum Production source category?

This section provides a summary of the final amendments to the Primary Aluminum Reduction Plants NESHAP being promulgated in this action pursuant to CAA section 112(f).

To address risk, we are promulgating emission limits for POM, As, and Ni from existing vertical stud Soderberg two (VSS2) potlines at the following levels: 1.9 pounds (lb) POM/ton of aluminum produced, 0.006 lb As/ton of aluminum produced, and 0.07 lb Ni/ton of aluminum produced.

To address risk, we are promulgating As and Ni emission limits for new Soderberg potlines at the following levels: 0.006 lb As/ton of aluminum produced and 0.07 lb Ni/ton of aluminum produced. New or reconstructed Soderberg potlines would also be subject to the POM limit of 0.77 lb per ton of aluminum produced that we are promulgating for all new potlines. These emission limits for POM, Ni, and As for new and existing Soderberg plants being promulgated in this rule are the same as the limits proposed in the 2014 supplemental proposal. Additional information regarding the limits addressing risk is available in the *Development of Emissions Standards to Address Risks for the Primary Aluminum Production Source Category Pursuant to Section 112(f) of the Clean Air Act,* which is available in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797). As noted earlier, the last remaining Soderberg primary aluminum facility in the U.S. announced the permanent closure of that facility after publication of the supplemental proposal in 2014. Notwithstanding our well-supported expectation that this facility will not reopen and that no new Soderberg facilities will be constructed due to the less efficient and higher emitting nature of the Soderberg technology, we are finalizing, as proposed, the standards for POM, As, and Ni associated with Soderberg facilities in the final rule to address the risk from existing potlines at the Columbia Falls facility that have not yet been demolished and to ensure that risks would be acceptable and to provide an ample margin of safety in the very unlikely event that a new Soderberg facility is ever built.

B. What are the final rule amendments based on the technology review for the Primary Aluminum Production source category?

Based on our analyses of the data and information collected and our general understanding of the industry and other available information on potential controls for this industry, we have determined that there are no developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category, other than the work practices for anode bake furnaces during startup periods (described in the December 2011 proposal), the work practices for paste plants during startup (described in the 2014 proposal) and work practices for potlines (to minimize emissions of PM, TF and POM) during normal operations (described in the 2014 supplemental proposal). We are promulgating these work practices as proposed for anode bake furnaces and paste plants during startup periods, and for potlines during normal operations, under section 112(d)(6) of the CAA. These standards apply to both new and existing sources using either of the production technologies.

In summary, we are not revising the MACT standards under CAA section 112(d)(6) other than the startup work practices for anode bake furnaces and paste plants described in the 2011 and 2014 proposals, and the work practices for potlines during normal operations described in the 2014 supplemental proposal. Additional information is available in the *Final Technology Review for the Primary Aluminum Production Source Category* document, which can be found in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797).

C. What are the final rule amendments pursuant to Clean Air Act sections 112(d)(2) and (3) for the Primary Aluminum Production source category?

We are promulgating MACT emission limits for COS, PM (as a surrogate for HAP metals other than mercury (Hg)), Hg, and polychlorinated biphenyls (PCB),[2] all of which were previously unregulated HAP, pursuant to CAA sections 112(d)(2) and (3). In addition, we are promulgating MACT limits for emissions of POM from new and existing prebake potlines and existing pitch storage tanks, which were previously unregulated sources of POM. A summary of the promulgated MACT standards is provided in Table 3, below, and additional information is available in the *Final MACT Floor Analysis for the Primary Aluminum Production Source Category* document, which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797). For more information on the MACT standards that the EPA promulgated and how they are different from those the EPA proposed, see section VI.B of this preamble.

TABLE 3—SUMMARY OF PROMULGATED MACT STANDARDS

HAP	Source	Promulgated MACT standard
COS	New potlines	3.1 lb/ton aluminum produced.
	Existing potlines	3.9 lb/ton aluminum produced.
POM	New potlines	0.77 lb/ton aluminum produced.
	Existing potlines:	
	CWPB1	1.1 lb/ton aluminum produced.
	CWPB2	12 lb/ton aluminum produced.
	CWPB3	2.7 lb/ton aluminum produced.
	SWPB	17 lb/ton aluminum produced.
	Existing pitch storage tanks	Minimum 95-percent reduction of inlet POM emissions.
PM	New potlines	4.9 lb/ton aluminum produced.
	Existing potlines:	
	CWPB1	7.4 lb/ton aluminum produced.
	CWPB2	11 lb/ton aluminum produced.
	CWPB3	20 lb/ton aluminum produced.
	SWPB	4.9 lb/ton aluminum produced.
	VSS2	26 lb/ton aluminum produced.
	New anode bake furnace	0.07 lb/ton of green anode produced.
	Existing anode bake furnace	0.20 lb/ton of green anode produced.
	New paste production plant	0.0056 lb/ton of paste produced.
	Existing paste production plant	0.082 lb/ton of paste produced.
PCB	New and existing Soderberg potlines	2.0 micrograms (µg) toxicity equivalence (TEQ) per ton of aluminum produced.
Hg	New and existing anode bake furnaces	1.7 µg per dry standard cubic meter (dscm).

CWPB1 = Center-worked prebake one.
CWPB2 = Center-worked prebake two.
CWPB3 = Center-worked prebake three.
SWPB = Side-worked prebake.
VSS2 = Vertical stud Soderberg two.

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[2] From Soderberg potlines only.

D. What are the final rule amendments addressing emissions during periods of SSM?

We are finalizing, as proposed in the 2014 proposal, changes to the Primary Aluminum Reduction Plants NESHAP to eliminate the exemption in the present rules for emissions occurring during SSM operations. Consistent with *Sierra Club* v. *EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), the EPA is establishing standards in this rule that apply at all times. Appendix A to subpart LL of 40 CFR part 63 (General Provisions applicability table) is being revised to change several references related to requirements that apply during periods of SSM. We are also eliminating or revising certain recordkeeping and reporting requirements related to the eliminated SSM exemption. The EPA also made changes to the rule to remove or modify inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. We are also not adopting the affirmative defense provisions proposed in 2011, consistent with a recent court decision vacating the affirmative defense provisions in one of the EPA's CAA section 112(d) regulations. *NRDC* v. *EPA*, 749 F. 3d 1055 (D.C. Cir. 2014).

In addition, we are finalizing work practices for potlines, paste production plants, and anode bake furnaces during startup periods that will ensure improved capture and control of emissions from those sources.

E. What other changes have been made to the Primary Aluminum Reduction Plants NESHAP?

This rule also finalizes revisions to several other Primary Aluminum Reduction Plants NESHAP requirements as proposed, or in some cases with some modification, which are summarized in this section.

1. Electronic Reporting Tool

To increase the ease and efficiency of data submittal and data accessibility, we are finalizing, as proposed, a requirement that owners and operators of sources subject to the Primary Aluminum Reduction Plants NESHAP submit electronic copies of certain required performance test reports through an electronic performance test report tool called the Electronic Reporting Tool (ERT). This requirement to submit performance test data electronically to the EPA does not require any additional performance testing and applies only to those performance tests conducted using test methods that are supported by the ERT. A listing of the pollutants and test methods supported by the ERT is available at the ERT Web site.

2. Work Practice Standards

We are finalizing work practice standards for all potlines (*i.e.* both prebake and Soderberg) and for anode bake furnaces that will ensure improved capture and control of TF, POM, and PM emissions from those sources. These work practice standards also address Hg emissions from all potlines, PCB emissions from prebake potlines and anode bake furnaces, and dioxins and furan (D/F) emissions from Soderberg potlines (see section IV.C of this preamble for additional discussion of these work practice standards).

3. Control Device and Emissions Monitoring

We are finalizing new twice-daily visible emissions (VE) monitoring requirements as an alternative to bag leak detection systems (BLDS) or PM continuous emissions monitoring systems (CEMS) for control devices installed on existing sources (see section IV.D of this preamble for additional discussion of these monitoring changes).

We are finalizing the inclusion of PM for the potline similarity option found in the current subpart LL at 40 CFR 63.848(d). This section allows an owner or operator to use the monitoring of secondary TF and/or POM emissions from one potline to represent the performance of other ''similar'' potlines. Potlines are similar ''if the owner or operator demonstrates that their structure, operability, type of emissions, volume of emissions and concentration of emissions are substantially equivalent.'' Based on consideration of comments and information received in responses to the 2014 proposal, the EPA is amending the existing rule to allow potline owners or operators this same option for PM. That is, potline owners and operators now will have the option to establish ''similarity of potlines'' with respect to PM emissions. ''Similarity'' would be established based on the criteria already applicable with respect to TF and POM. See subpart LL at 40 CFR 63.848(d). As with TF and POM, an owner or operator would have to make this demonstration to the applicable regulatory authority and obtain approval from that authority.

4. Emission Averaging

We are modifying 40 CFR 63.846 to allow emission averaging in the case of PM from potlines and anode bake furnaces. That section currently allows emission averaging in the cases of POM and TF from these process units with certain prohibitions (*e.g.*, averaging between different pollutants or process units is not allowed). We are only adding PM to these existing provisions, and not reopening the core concept of allowing emission averaging.

5. Alternative Emissions Limits for Co-Controlled New and Existing Anode Bake Furnaces

We are also finalizing the alternative emissions limits for co-controlled new and existing anode bake furances as proposed in the 2014 supplemental proposal (79 FR 72949).

6. Minor Technical and Editorial Revisions

We are also finalizing other minor technical and editorial changes to the NESHAP in response to comments received during the public comment period for the proposal and supplemental proposal, as described in this preamble.

F. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on October 15, 2015.

The compliance dates for existing sources are:

October 15, 2015 for the malfunction provisions and the electronic reporting provisions;

October 17, 2016 for potline work practice standards and COS emission limits, for Soderberg potline PM and PCB emission limits, and for anode bake furnace and paste production plant work practices and PM emission limits; and

October 16, 2017 for prebake potline POM and PM emission limits; for Soderberg potline revised POM emission limits and emission limits for Ni and As; for anode bake furnace Hg emission limits; and for pitch storage tank POM equipment standards.

For more information on how we selected compliance dates for existing sources, refer to section IV.E of this preamble and the *Final Rationale for Selection of Compliance Dates for the Primary Aluminum Production Source Category* document, which can be found in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797).

New sources must typically comply with all of the standards immediately upon the effective date of the standard, or upon startup, whichever is later. CAA section 112(i)(1).[3] CAA section 112(a)(4)

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[3] If a new source standard is more stringent than the standard proposed, a new source may have three years to comply, provided it complies with

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indicates that a new source is one which commenced construction (or reconstruction) after the Administrator first proposes regulations under CAA section 112 for the source category. We have interpreted this date to be the date of the December 2014 proposal given the substantially new record set forth in that proposal. Consequently, for the purposes of compliance with the emission standards for PM, a new affected potline, anode bake furnace, or paste production plant is one for which construction or reconstruction commenced after December 8, 2014, the date on which the EPA first proposed the amendments finalized here. For the purposes of compliance with the emission standards for POM and COS, a new affected potline is one for which construction or reconstruction commenced after December 8, 2014. For the purposes of compliance with the emission standards for Hg or PCB, a new affected anode bake furnace or Soderberg potline is one for which construction or reconstruction commenced after December 8, 2014, although the compliance dates for these standards are October 16, 2017 for anode bake furnaces and October 17, 2016 for Soderberg potlines, since these standards differ from the proposal (see CAA section 112(i)(2)).

G. What are the requirements for submission of performance test data to the EPA?

The EPA is requiring owners and operators of sources subject to the Primary Aluminum Reduction Plants NESHAP facilities to submit electronic copies of certain required performance test reports [and any other reports, *e.g.* performance evaluation reports] through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). As stated in the 2011 proposal preamble, the EPA believes that the electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment and will ultimately result in less burden on the regulated community. Electronic reporting can also eliminate paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to the affected facilities, air agencies, the EPA and the public.

As mentioned in the preamble of the 2011 proposal, the EPA Web site that stores the submitted electronic data, WebFIRE, will be easily accessible to everyone and will provide a user-friendly interface that any stakeholder could access. By making the records, data and reports addressed in this rulemaking readily available, the EPA, the regulated community and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having reports readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time.

We anticipate fewer or less substantial information collection requests (ICRs) in conjunction with prospective CAA-required technology and risk-based reviews may be needed. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Air agencies could benefit from more streamlined and automated review of the electronically submitted data. Having reports and associated data in electronic format will facilitate review through the use of software ''search'' options, as well as the downloading and analyzing of data in spreadsheet format. The ability to access and review air emission report information electronically will assist air agencies to more quickly and accurately determine compliance with the applicable regulations, potentially allowing a faster response to violations which could minimize harmful air emissions. This benefits both air agencies and the general public.

For a more thorough discussion of electronic reporting required by this rule, see the discussion in the preamble of the 2011 proposal (see 76 FR 76280). In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, air agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

H. What materials are being incorporated by reference?

In this final rule, the EPA is including regulatory text that includes incorporation by reference (IBR). In accordance with requirements of 1 CFR 51.5, the EPA is incorporating by reference the following documents described in the amendments to 40 CFR 63.14:

- ASTM D4239–14e1, ''Standard Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion,'' approved March 1, 2014;
- ASTM D6376–10, ''Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy,'' approved July 1, 2010; and
- Method 428, ''Determination Of Polychlorinated Dibenzo-P-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyle Emissions from Stationary Sources,'' amended September 12, 1990.

The following material will be referenced in 40 CFR 63.14 and as noted below. This material has already received IBR approval for subpart LL of 40 CFR part 63. We are moving it from an IBR section established earlier within subpart LL to the centralized IBR section in § 63.14.

- *Industrial Ventilation: A Manual of Recommended Practice, 22nd Edition, 1995, Chapter 3, ''Local Exhaust Hoods'' and Chapter 5, ''Exhaust System Design Procedure.'' IBR approved for §§ 63.843(b) and 63.844(b).*
- ASTM D2986–95A, ''Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test,'' approved September 10, 1995, IBR approved for section 7.1.1 of Method 315 in appendix A to 40 CFR part 63.

The EPA has made, and will continue to make, these documents generally available electronically through *www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the **ADDRESSES** section of this preamble for more information).

IV. What is the rationale for our final decisions and amendments for the Primary Aluminum Production source category?

This section provides a description of what we proposed and what we are finalizing for several issues, the EPA's rationale for the final decisions and

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the proposed standard during that 3-year period. CAA section 112(i)(2).

amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the *National Emission Standards for Hazardous Air Pollutants: Primary Aluminum Reduction Plants Summary of Public Comments and Responses* document, which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

A. Residual Risk Review for the Primary Aluminum Production Source Category

1. What did we propose pursuant to CAA section 112(f) for the Primary Aluminum Production source category?

Pursuant to CAA section 112(f), we conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the December 2014 supplemental proposal for the Primary Aluminum Reduction Plants NESHAP. The EPA views the residual risk review associated with the 2011 proposal as superseded by the residual risk review associated with the 2014 supplemental proposal, and so is referring only to that later risk assessment. The results of the risk assessment for the 2014 supplemental proposal are summarized in the preamble for that proposal and presented in more detail in the residual risk document, *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the 2014 Supplemental Proposal,* which is available in the docket for this rulemaking. Table 4 below provides the estimated inhalation health risks from the supplemental proposal.

TABLE 4—PRIMARY ALUMINUM PRODUCTION SOURCE CATEGORY INHALATION RISK ASSESSMENT RESULTS FROM SUPPLEMENTAL PROPOSAL

Maximum individual cancer risk (-in-1 million) [a]	Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]	Refined maximum acute non-cancer HQ [c]
Actual Emissions				
70	≥1-in-1 million: 881,000 ≥10-in-1 million: 65,000 ≥100-in-1 million: 0	0.06	1 Cadmium and Nickel Compounds	HQ_{REL} = 10 (Arsenic Compounds). Residential.
Allowable Emissions [d]				
300	≥1-in-1 million: 950,000 ≥10-in-1 million: 76,000 ≥100-in-1 million: 200.	0.06	2 Nickel and Arsenic Compounds.	

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Primary Aluminum Production source category for actual emissions is the kidney and respiratory system and for allowable emissions is the respiratory, immunological, and developmental systems.

[c] The maximum off-site HQ acute value of 10 at a residential location for actuals is driven by emissions of As from the potline roof vents. See section III.A.3 of the December 8, 2014 supplemental proposal for explanation of acute dose-response values. Acute assessments are not performed on allowable emissions.

[d] The development of allowable emission estimates can be found in the memorandum titled *Development of the RTR Revised Risk Modeling Dataset for the Primary Aluminum Production Source Category* (Docket item number EPA–HQ–OAR–2011–0797–0346).

Based on actual emissions estimates for the Primary Aluminum Production source category supplemental proposal, the maximum individual risk (MIR) for cancer was estimated to be up to 70-in-1 million driven by emissions of As and Ni compounds. The maximum chronic non-cancer target organ-specific hazard index (TOSHI) value was estimated to be up to 1 driven by Ni emissions. The maximum off-site acute hazard quotient (HQ) value was estimated to be 10 for As compounds and 2 for HF. The total estimated national cancer incidence from this source category, based on actual emission levels, was 0.06 excess cancer cases per year, or one case in every 17 years.

Based on MACT-allowable emissions, in the supplemental proposal, the MIR was estimated by the EPA to be up to 300-in-1 million, driven by potential emissions of As, Ni, and POM from the one idle Soderberg facility (Columbia Falls), which is now permanently closed. The maximum chronic non-cancer TOSHI value was estimated to be up to 2, driven by Ni. The MIR due to allowable emissions from prebake facilities was estimated by the EPA to be up to 70-in-1 million, driven by As and Ni.

The EPA also assessed the risks due to multipathway exposures to HAP emissions from the primary aluminum reduction plants. The assessment included tier 1 and tier 2 screening analyses and a refined analysis for the one Soderberg facility which was operational at the time recent emissions data for this source category were collected and this analysis was commenced, but which subsequently announced its permanent shut down in March 2014.

The multipathway screens rely on health-protective assumptions about consumption of local fish and locally grown or raised foods (adult female angler at 99th percentile consumption of fish [4] for the subsistence fisherman scenario and 90th percentile for consumption of locally grown or raised foods [5] for the farmer scenario) which may not occur for this source category. The tier 2 assessment is less conservative than the tier 1 analysis. However, it is important to note that, even with the inclusion of some site-specific information in the tier 2 analysis, the multipathway screening analysis is still a very conservative health-protective assessment, and, in all likelihood, will yield results that serve

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[4] Burger, J. 2002. Daily consumption of wild fish and game: Exposures of high end recreationists. International Journal of Environmental Health Research 12:343–354.

[5] U.S. EPA. Exposure Factors Handbook 2011 Edition (Final). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R–09/052F, 2011.

as an upper-bound multipathway risk associated with any facility in the Primary Aluminum Production source category.

The highest cancer exceedance in the tier 2 analyses for dioxins was 40 times and 7 times for PAH for the subsistence fisherman scenario (total cancer screen value of 50 for the MIR site). Thus, these results indicate that the maximum cancer risks due to multipathway exposures to D/F and PAH emissions for the subsistence fisher scenario are less than 50-in-1 million under these highly conservative screening assumptions.[6] The multipathway analysis for chronic non-cancer effects did not identify any persistent and bioaccumulative hazardous air pollutants (PB–HAP) that exceeded an HQ value of 1. For more information on the risk results, please refer to the residual risk document, *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the 2014 Supplemental Proposal,* which is available in the docket for this rulemaking.

For the supplemental proposal, we weighed all health risk factors in our risk acceptability determination, and we proposed that the risks due to potential HAP emissions at baseline from the Soderberg subcategory were unacceptable due mainly to the estimated cancer risks of 300-in-1 million based on potential emissions from the one idle Soderberg facility were it to operate.

Regarding the prebake subcategories, as explained in the supplemental proposal, the EPA had concerns regarding the potential acute risks due to As emissions (with a maximum acute HQ of 10). See 79 FR 72947. However, given the conservative nature of the EPA's analysis of acute effects, and the facts that: (a) The inhalation cancer MIR was well below 100-in-1 million (MIR = 70-in-1 million); (b) the chronic non-cancer risks were low (*e.g.,* hazard index (HI) = 1); and (c) given further that the multipathway assessment indicated the maximum cancer risk due to multipathway exposures to HAP emissions from prebake facilities was no higher than 50-in-1 million, we proposed that the risks due to emissions from the prebake subcategories are acceptable. See 79 FR 72947.

2. How did the risk review change for the Primary Aluminum Production source category?

The EPA carefully considered public comments regarding the supplemental proposal (and original proposal), but did not find any comments that resulted in a change in analysis. Thus, the EPA did not change the risk assessment due to actual emissions for the source category and made no changes in the overall results for prebake facilities from the December 2014 supplemental proposal. However, the estimated risks due to allowable emissions for the source category decreased significantly due to the permanent closure of the one idle Soderberg facility. For the supplemental proposal, we included the one idle Soderberg facility in our assessment of allowable risks because, at that time, the facility still had a permit to operate, had not formally announced plans to close, and, therefore, could have reopened. However, that facility is now permanently closed, and the EPA is no longer including it in the risk assessment. Therefore, the final rule considers only risks from prebake facilities. Nevertheless, as discussed in section III.A. of this preamble, we are promulgating the As, Ni and POM standards proposed in the supplemental proposal to address risk from Soderberg facilities in the very unlikely event that either this idle Soderberg facility is reopened or a new Soderberg facility is constructed. A summary of the risk assessment results for the final rule is provided in Table 5 below. The documentation and details for the final rule risk assessment can be found in the document titled, *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the September 2015 Risk and Technology Review Final Rule,* which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

TABLE 5—PRIMARY ALUMINUM PRODUCTION SOURCE CATEGORY INHALATION RISK ASSESSMENT RESULTS FOR THE FINAL RULE

[Prebake]

Maximum individual cancer risk (-in-1 million) [a]	Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]	Refined maximum acute non-cancer HQ [c]
Actual Emissions				
70	≥1-in-1 million: 881,000 ≥10-in-1 million: 65,000	0.06	1 Nickel Compounds	HQ_{REL} = 10 (Arsenic Compounds) Residential
Allowable Emissions [d]				
70	≥1-in-1 million: 950,000 ≥10-in-1 million: 76,000.	0.06	1 Nickel Compounds.	

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Primary Aluminum Production source category for actual emissions is the kidney and respiratory system and for allowable emissions is the respiratory, immunological, and developmental systems.

[c] The maximum off-site HQ acute value of 10 at a residential location for actuals is driven by emissions of As from the potline roof vents. See section III.A.3 of the December 8, 2014, supplemental proposal for explanation of acute dose-response values. Acute assessments are not performed on allowable emissions.

[d] The development of allowable emission estimates can be found in the memorandum titled, *Development of the RTR Revised Risk Modeling Dataset for the Primary Aluminum Production Source Category* (Docket item number EPA–HQ–OAR–2011–0797–0346).

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[6] D/F emissions used in this analysis are likely to be overstated because the EPA imputed values for D/F congeners even from facilities and process units where those D/F congeners were not detected in the emissions tests.

For the final rule, we again weighed all health risk factors in our risk acceptability determination. The EPA had concerns regarding the potential acute risks due to As emissions (with a maximum acute HQ of 10). See 79 FR 72947. However, given the conservative nature of the EPA's analysis of acute effects, and the facts that: (a) The inhalation cancer MIR was well below 100-in-1 million (MIR = 70-in-1 million); (b) the chronic non-cancer risks were low (*e.g.,* HI = 1); and (c) given further that the multipathway assessment indicated the maximum cancer risk due to multipathway exposures to HAP emissions from prebake facilities was no higher than 50-in-1 million, we have determined that the risks due to emissions from the source category are acceptable. See 79 FR 72947.

We also conducted an ample margin of safety analysis. As we described in the supplemental proposal, for prebake facilities we considered what further reductions might be obtained from technically feasible controls, further considering the cost of such controls and their cost-effectiveness. We identified no cost-effective controls under the ample margin of safety analysis to further reduce risks or environmental effects due to HAP emissions from prebake facilities. 79 FR 72947–48. Therefore, we indicated in the supplemental proposal, and conclude again in this final rule, that the NESHAP for prebake facilities provides an ample margin of safety to protect public health and prevent an adverse environmental effect.

With regard to Soderberg facilities, as mentioned in section III above, we proposed more stringent emission limits for Ni, As, and POM under CAA section 112(f) to ensure that the cancer MIR would remain below 100-in-1 million, the level of risk we defined as acceptable for purposes of this rule. We did not propose more stringent standards under the ample margin of safety analysis since we identified no feasible controls that would yield risk reductions at reasonable cost. Id at 72948. In this final action, we are promulgating these standards as proposed. Although these standards may not apply to any facilities, we are still promulgating the As, Ni and POM emissions limits for Soderberg facilities under CAA section 112(f) to address the shut down, but not yet demolished, existing Soderberg potlines, and the very unlikely scenario of construction of new Soderberg potlines.

3. What key comments did we receive on the risk review, and what are our responses?

The EPA received several comments regarding the revised risk assessment for the Primary Aluminum Production source category. The following is a summary of some key comments and our responses to those comments. Other comments received and our responses to those comments can be found in the document titled, *National Emission Standards for Hazardous Air Pollutants: Primary Aluminum Reduction Plants Summary of Public Comments and Responses,* which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

Comment: One commenter stated that the EPA's determination of the emissions reduction required to reduce health risks to an acceptable level violates CAA section 112(f)(2) and is arbitrary. The commenter believed that the EPA's acceptability determination for prebake facilities is flawed for the following reasons:

- The EPA's acceptability determination is unlawful and arbitrary because its risk assessment is incomplete and fails to follow the up-to-date science to assess health risk;
- The EPA's acceptability determination fails to consider or prevent unacceptable levels of cumulative impacts;
- Socioeconomic disparity in health risk from this source category makes the risk the EPA has found unacceptable, and the EPA must finalize a rule that is consistent with the principle of environmental justice (EJ);
- The EPA has failed to provide a reasoned explanation for why the lifetime cancer risk of 1-in-1 million or more based on inhalation alone from this sector is acceptable;
- After finding a level of acute risk that is 10 times the EPA's safety threshold, the agency has failed to justify not requiring the reduction of acute health risk below 1; and
- The EPA has failed to justify finding chronic non-cancer health risk to be acceptable.

Response: We disagree with the commenter that the assessment is incomplete and fails to use up-to-date science. The dose-response values used in the risk assessment are based on the current peer reviewed Integrated Risk Information System (IRIS) values, as well as other similarly peer-reviewed values. Our approach, which uses conservative tools and assumptions, ensures that our decisions are appropriately health protective and environmentally protective. The approach for selecting appropriate health benchmark values, in general, places greater weight on the EPA derived health benchmarks than those from other agencies (see *http://www.epa.gov/ttn/atw/nata1999/99pdfs/healtheffectsinfo.pdf*). This approach has been endorsed by the Science Advisory Board (SAB).[7] The SAB further recommended that the EPA scrutinize values that emerge as drivers of risk assessment results, and the Agency has incorporated this recommendation into the risk assessment process. This may result in the EPA determining that it is more appropriate to use a peer-reviewed dose-response value from another agency even if an IRIS value exists.

With regard to the comment that the EPA failed to consider cumulative impacts, we note that while the incorporation of additional background concentrations from the environment in our risk assessments (including those from mobile sources and other industrial and area sources) could be technically challenging, they are neither mandated nor barred from our analysis. In developing the decision framework in the Benzene NESHAP used for making residual risk decisions, and now codified in CAA section 112(f)(2)(B), the EPA rejected approaches that would have mandated consideration of background levels of pollution in assessing the acceptability of risk, concluding that comparison of acceptable risk should not be associated with levels in polluted urban air (54 FR 38044, 38061, September 14, 1989). Background levels (including natural background) are not barred from the EPA's ample margin of safety analysis, and the EPA may consider them, as appropriate and as available, along with other factors, such as cost and technical feasibility, in the second step of its CAA section 112(f) analysis. As discussed in the 2014 supplemental proposal, the risk assessment for this source category did not include background contributions (that may reflect emissions that are from outside the source category and from other than co-located sources) because the available data are of insufficient quality upon which to base a meaningful analysis.[8]

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[7] Refer to the May 2010, SAB response to the EPA Administrator (EPA–SAB–10–007); *http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0797-0075.*

[8] Note that this question is distinct from the issue of consideration of emissions from co-located facilities, which emissions are fully reflected in the EPA's analysis. See discussion in section IV.A.3 of this preamble, below, and 79 FR 72929/1 (emissions estimated for all emitting sources in a contiguous area under common control).

This rule has been finalized consistent with agency EJ principles and analyses. To examine the potential for any EJ issues that might be associated with the Primary Aluminum Production source category, we performed a demographic analysis, which is an assessment of risks to individual demographic groups, of the population close to the facilities. In this analysis, we evaluated the distribution of HAP-related cancer risks and non-cancer hazards from this source category across different social, demographic, and economic groups within the populations living near facilities identified as having the highest risks. The results of the demographic analysis are summarized in Table 6 below and indicate that there are no significant disproportionate risks to any particular minority, low income, or indigenous population. The methodology and the results of the demographic analyses are included in a technical report, *Analysis of Socio-Economic Factors for Populations Living Near Primary Aluminum Facilities*, which is available in the docket for this rulemaking (Docket item number EPA–HQ–OAR–2011–0797–0360).

TABLE 6—PRIMARY ALUMINUM PRODUCTION SOURCE CATEGORY DEMOGRAPHIC RISK ANALYSIS RESULTS

	Nationwide	Population with cancer risk at or above 1-in-1 million	Population with chronic hazard index above 1
Total Population	312,861,265	881,307	0
Race by Percent			
White	72	80	0
All Other Races	28	20	0
Race by Percent			
White	71.9	80.1	0
African American	13	13	0
Native American	1.1	0.9	0
Other and Multiracial	14	6	0
Ethnicity by Percent			
Hispanic	17	5	0
Non-Hispanic	83	95	0
Income by Percent			
Below Poverty Level	14	14	0
Above Poverty Level	86	86	0
Education by Percent			
Over 25 and without High School Diploma	15	14	0
Over 25 and with a High School Diploma	85	86	0

With regard to the comments that the EPA did not justify the determination that risks are acceptable, we generally draw no bright lines of acceptability regarding cancer or non-cancer risks from source category HAP emissions. This is a core feature of the Benzene NESHAP approach, now codified in CAA section 112(f)(2)(B). See 54 FR at 38046, 38057; see also 79 FR 72933–34. It is always important to consider the specific uncertainties of the emissions and health effects information regarding the source category or subcategory in question when deciding exactly what level of cancer and non-cancer risk should be considered acceptable. In addition, the source category-specific or subcategory-specific decision of what constitutes an acceptable level of risk should be a holistic one; that is, it should simultaneously consider all potential health impacts—chronic and acute, cancer and non-cancer, and multipathway—along with their uncertainties, when determining the acceptable level of source category risk. Today, such flexibility is even more imperative, because new information relevant to the question of risk acceptability is being developed all the time, and the accuracy and uncertainty of each piece of information must be considered in a weight-of-evidence approach for each decision. This relevant body of information is growing fast (and will likely continue to grow even faster), necessitating a flexible weight-of-evidence approach that acknowledges both complexity and uncertainty in the simplest and most transparent way possible. While this challenge is formidable, it is nonetheless the goal of the EPA's RTR decision-making, and it is the goal of the risk assessment to provide the information to support the decision-making process.

Our acceptability decisions for the prebake subcategory presented in the supplemental proposal, and again in this final rule, are appropriate. The rationale for our acceptability decision for the prebake subcategory was clearly explained in the supplemental proposal and was based on full consideration of the health risk information and associated uncertainties, and we summarize it here:

Regarding the prebake subcategories, as explained in the supplemental proposal, the EPA had concerns regarding the potential acute risks due to As emissions (with a maximum acute HQ of 10). See 79 FR 72947. However, given the conservative nature of the EPA's analysis of acute effects—among them, an assumption of the unlikely confluence of peak emissions, worst-case-meteorology, and an exposed individual present at the precise point this occurs (see 79 FR 72943/1), and the facts that: (a) The inhalation cancer MIR was well below 100-in-1 million (MIR = 70-in-1 million); (b) the chronic non-cancer risks were low (*e.g.,* HI = 1); and (c) given further that the multipathway assessment indicated the maximum cancer risk due to multipathway exposures to HAP emissions from prebake facilities was no higher than 50-in-1 million, we have determined that the risks due to emissions from the prebake subcategories are acceptable.

Comment: A commenter stated support for the EPA's risk assessment conclusion that the risk due to actual emissions from the prebake aluminum smelting subcategory is acceptable. The commenter stated that the modeled ambient concentrations that were used in the risk assessment likely overpredict actual concentrations since the Human Exposure Model version 3 (HEM3) uses the American Meteorological Society and EPA Regulatory Model (AERMOD) for air dispersion modeling to determine ambient concentrations. The commenter stated that the use of AERMOD is inappropriate for modeling stationary line sources like the potroom roof monitors of the facilities and overpredicts ambient concentrations from roof monitor emissions by a factor of about 30 times. The commenter recommended that the EPA use the Buoyant Line and Point source (BLP) dispersion model to correctly model the potline roof monitors.

Response: The EPA disagrees that the BLP model needs to be used to correctly model potline roof monitors. An analysis performed by the EPA to compare the modeled estimates from AERMOD and the BLP model for a typical primary aluminum facility indicated that the maximum modeled concentrations from the BLP model were only 20 percent higher than those from AERMOD. Considering the uncertainties in release characteristics and emission rates—both inputs into the models—the results estimated by both HEM3 and BLP are the same within that range of uncertainty.[9] The EPA concluded that this difference was not significant enough to warrant changing the RTR modeling methodology it uses for all source categories, which includes the use of AERMOD and meteorological data generated by the AERMOD Meteorological Preprocessor (AERMET). In addition, the 20 percent increase in maximum modeled concentrations would translate into an increase in the risk from 70-in-1 million to 80-in-1 million. This level would still be within the range of acceptability and, if the EPA had determined that it was necessary to use the BLP, the Agency would have reaffirmed that risks are acceptable.

Comment: One commenter stated that the EPA must strengthen the risk assessment and proposed risk action in order to meet its responsibilities under CAA section 112(f)(2) to provide the requisite ''ample margin of safety to protect public health.'' The EPA also should find risk from the prebake subcategories to be unacceptable, instead of acceptable. The commenter stated that the combined health risks for these sources are substantial and stated that the EPA found that the allowable emissions-based cancer risk from inhalation exposure is 70-in-1 million, plus another 70-in-1 million from multipathway exposure (50-in-1 million for the ''fisher'' scenario, or fish-based exposure; and 20-in-1 million for the ''farmer'' scenario, or farm-based exposure). The commenter stated that the 70-in-1 million inhalation risk, combined with the high acute and chronic risks the EPA found, is enough alone to find risk unacceptable.

The commenter stated that in view of the EPA's scientific policy of summing cancer risks, it should recognize that the most-exposed person's combined multipathway and inhalation cancer risk is 70 + 70 or 140-in-1 million. The commenter stated that this is well above the EPA's presumptive acceptability benchmark (which itself is insufficiently stringent, as explained in their 2012 comments, incorporated by reference). The commenter also stated that the EPA should find the current cancer risk from inhalation and multipathway exposure, due to a combination of As, Ni, PAH, and dioxins, is unacceptable. The commenter stated that if viewed together with the high acute and chronic non-cancer risks the EPA found, as a result of As and Ni in particular, the data the EPA has compiled on risk show that the current health risks are unacceptable.

The commenter stated that the EPA has not assessed the additional multipathway risk from risk-driver pollutants, such as As and Ni. The commenter stated that, as discussed in their 2012 comments (to EPA's original proposal), this is inconsistent with the scientific evidence showing these are persistent bioaccumulative toxics [PBTs], and it is, thus, unlawful and arbitrary and capricious for the EPA not to assess and address the multipathway risks they create.

Response: We disagree with the commenter's arguments for finding risks to be unacceptable. The thrust of the comment is that the risk analysis failed to combine risks from various scenarios and pathways, and that, added together, these risks are unacceptable. In fact, the analysis combines risk estimates to the extent that it is scientifically appropriate to do so. We consider the effect of mixtures of carcinogens consistent with the EPA guidelines and use a TOSHI approach for our chronic non-cancer assessments. We do not use a TOSHI approach for acute analyses, nor do we combine the results of our inhalation and multipathway assessments. (See the *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the September 2015 Risk and Technology Review Final Rule*, which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797)).

In the multipathway screening assessment, we did not sum the risk results of the fisher and farmer scenarios. The modeling approach used for this analysis constructs two different exposure scenarios, which serves as a conservative estimate of potential risks to the most-exposed receptor in each scenario. Given that it is highly unlikely that the most-exposed farmer is the same person as the most-exposed fisher, it is not reasonable to add risk results from these two exposure scenarios (see Appendix 5 and Section 2.5 of the *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the September 2015 Risk and Technology Review Final Rule*).

We do not find it reasonable to combine the results of our inhalation and multipathway assessments for this source category. The multipathway risk assessment for prebake facilities was a screening-level assessment. The screening assessment used highly conservative assumptions designed to ensure that sources with results below the screening threshold values did not have the potential for multipathway impacts of concern. The screening scenario is a hypothetical scenario, and, due to the theoretical construct of the screening model, exceedances of the thresholds are not directly translatable into estimates of risk or HQs for these facilities. Rather, it represents a high-end estimate of what the risk or hazard may be. For example, an exceedance of 2 for a non-carcinogen can be interpreted to mean that we have high confidence that the HQ or HI would be

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[9] September 27, 2010, Memo to the EPA from EC/R Incorporated; ''Draft Modeling Comparison of BLP and AERMOD for Primary Aluminum'' available in the docket at *http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0797-0175.*

less than 2. Similarly, an exceedance of 30 for a carcinogen means that we have high confidence that the risk is lower than 30-in-1 million. Our confidence comes from the health-protective assumptions that are in the screens: We choose inputs from the upper end of the range of possible values for the influential parameters used in the screens, and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total multipathway exposure. It would be inappropriate to sum the risk results from the chronic inhalation assessment and the screening multipathway assessment. In addition to the constraints in the screening-level multipathway assessment described above, it is highly unlikely that the same receptor has the maximum results in both assessments. In other words, it is unlikely that the person with the highest chronic inhalation cancer risk is also the same person with the highest individual multipathway cancer risk. We agree with the commenter that we ''should look at the whole picture of cancer risk,'' but we do so by assessing cancer and chronic non-cancer inhalation risk, acute risk, multipathway risk, and combining risk results where it is scientifically appropriate to do so, not by arbitrarily and indiscriminately summing risk measures in the absence of a valid technical basis.

We currently do not have screening values for some PB–HAP, but we disagree that the multipathway assessment is inadequate because it did not include ''all HAP metals emitted (such as arsenic and nickel).'' We developed the current PB–HAP list considering all available information on persistence and bioaccumulation (see *http://www2.epa.gov/fera/air-toxics-risk-assessment-reference-library-volumes-1-3*, specifically Volume 1, Appendix D). (The Air Toxics Risk Assessment Reference Library presents the decision process by which the PB–HAP were selected and provides information on the fundamental principles of risk-based assessment for air toxics and how to apply those principles.) In developing the list, we considered HAP identified as PB–HAP by other EPA program offices (*e.g.,* the Great Waters Program), as well as information from the PBT profiler (see *http://www.pbtprofiler.net/*). Considering this list was peer-reviewed by the SAB and found to be acceptable,[10] we believe it to be reasonable for use in risk assessments for the RTR program.

Regarding the commenter's assertion that we did not base the multipathway risk assessment on allowable emissions, we believe it is reasonable for the multipathway risk assessment to be based on actual emissions for this source category, and not the allowable level of emissions—*i.e.* the level that facilities are permitted to emit. The potline fugitive emissions, which drive the risks associated with this source category, vary in magnitude and location along the roofline due to normal operations, including, among others, replacement of anodes. We exacerbate the uncertainty associated with these variations in fugitive emissions when we scale up actual emissions to estimate allowable emissions. Also, there is considerable uncertainty associated with estimated allowable emissions from batch operations, such as pitch storage tank and pitch production, due to the nature of batch operations (*e.g.,* estimating the number of batch operations possible or necessary during a period of time). Further uncertainty results when we consider that, in order to comply with the emission limits at all times, a source's allowable emissions would need to be below the associated standard by an indeterminate amount during normal operations. Therefore, we conclude that the uncertainties associated with the multipathway screen along with uncertainties in the allowable emissions estimates would make a multipathway risk assessment based on allowable emissions highly uncertain and, thereby, not appropriate for use in making this regulatory decision.

The commenter also argued for summing acute HQs from different HAP to assess acute non-cancer risk. We do not sum results of the acute non-cancer inhalation assessment to create a combined acute risk number that would represent the total acute risk for all pollutants that act in a similar way on the same organ system or systems (similar to the chronic TOSHI). The worst-case acute screen is already a conservative scenario. That is, the acute screening scenario assumes worst-case meteorology, peak emissions for all emission points occurring concurrently and an individual being located at the site of maximum concentration for an hour. Thus, as noted in the *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the September 2015 Risk and Technology Review Final Rule*, page 31, which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797), ''because of the conservative nature of the acute inhalation screening and the variable nature of emissions and potential exposures, acute impacts were screened on an individual pollutant basis, not using the TOSHI approach.'' The EPA may conduct a reasoned screening assessment without having to adopt the most conceivably conservative assumption for each and every part of the analysis.

Comment: One commenter stated that, as the EPA recognized in the secondary aluminum proposal, at least nine secondary aluminum facilities have co-located primary aluminum operations. The commenter stated that for both source categories, the EPA found that the facility-wide MIR is 70-in-1 million, driven by As, Ni, and hexavalent chromium, and that the TOSHI (chronic non-cancer risk) is 1, driven by cadmium. The commenter stated that the TOSHI number appears to consider only inhalation risk and stated that the TOSHI number must be viewed in context, as the EPA is aware that scientists have directed the EPA to do (and as previously explained and cited to the EPA in comments). The commenter stated that if considered in combination with the high secondary aluminum multipathway risk, and with the high inhalation and multipathway risks for primary aluminum, the facility-wide cancer risk provides additional evidence that risks from both source categories are unacceptable. The commenter asserts this is the case because the most-exposed person's full amount of risk is the combined amount from the co-located primary and secondary aluminum, not just each source category separately. The commenter stated that it would be unlawful and arbitrary to consider each type of risk separately, when people near both sources are exposed to both kinds of risk at the same time and, thus, face a higher overall amount of risk.

The commenter stated that the EPA has not offered and can not offer a valid justification for not finding risk from both source categories (including primary aluminum prebake and secondary aluminum) to be unacceptable based on the co-located and combined risks. The commenter stated that the EPA has collected data from both source categories and is evaluating that data in rulemakings for both source categories. The commenter stated that the EPA may not lawfully ignore the full picture of risk that its combined rulemakings show is present

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[10] 10 Refer to the May 2010, SAB response to the EPA Administrator (EPA–SAB–10–007); *http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0797-0075*

for people exposed simultaneously to both source categories at the same facility.

The commenter stated that the EPA only assessed facility-wide risks based on so-called ''actual'' emissions, so the facility-wide risk number could be at least 1.5 to 3 times higher, based on the EPA's recognition that allowable emissions from primary aluminum facilities are about 1.5 to 1.9 times higher and the fact that allowable emissions from secondary aluminum are at least 3 times higher.

The commenter stated that it is important that the EPA is evaluating facility-wide risk from sources in multiple categories that are co-located.

The commenter stated that the EPA may not reasonably or lawfully then decide not to use the results of that assessment to set stronger standards for these sources. The commenter stated that this rulemaking is an important opportunity for the EPA to recognize the need to act based on data showing significant combined and cumulative risks and impacts at the facility-wide level. The commenter stated that the EPA is also required to do so to meet its CAA section 112(f)(2) duties, as explained in the 2012 comments and reincorporated by reference here.

Response: We agree with the commenter that facility-wide risk assessment is appropriately considered in putting the source category risks in context. However, we disagree with the comment that we failed to appropriately consider or account for cumulative risk.

We conducted facility-wide risk assessments for all major sources in the source category that were operating in 2014, including the nine secondary aluminum production facilities co-located with primary aluminum reduction plants. See 79 FR 72929 (emissions estimated for all emitting sources in a contiguous area under common control).

The commenter stated that the EPA must find the risks unacceptable based on the whole-facility risks from co-located primary and secondary aluminum operations. The EPA does not typically include whole-facility assessments in the CAA section 112(f) acceptability determination for a source category. Reasons for this include the fact that emissions and source characterization data are usually not of the same vintage and quality for all source categories that are on the same site, and, thus, the results of the whole-facility assessment are generally not appropriate to include in the regulatory decisions regarding acceptability. However, in this case, we are developing the risk assessments for primary and secondary aluminum production at the same time. The data are generally of the same vintage and we have actual emissions data and source characterization data for both source categories. In response to the comment, we refer to the facility-wide risk assessment, which included the nine facilities with co-located primary and secondary aluminum operations. As discussed above and shown in Table 6, for the facility with the highest risk from inhalation, the facility-wide MIR for cancer from actual emissions is 70-in-1 million. The facility-wide non-cancer hazard is 1. The highest facility-wide exceedance of the multipathway screen is 70. There was no facility-wide exceedance of a noncancer threshold in the multipathway screen. Considering these facility-wide results as part of the acceptability determination is thus corroborative of our determination that the risks are acceptable for the Secondary Aluminum Production source category.

The commenter is correct that we based our facility-wide risk assessment on actual emissions rather than on estimated allowable emissions. Because the facility-wide allowable emissions estimates have not been subjected to the same level of scrutiny, quality assurance, and technical evaluation as the actual emissions estimates from the source category, and because of the larger inherent uncertainty associated with allowable emissions discussed above, facility-wide risk results based on allowable emissions would be too uncertain to support a regulatory decision, but they could remain important for providing context as long as their uncertainty is taken into consideration.

The distinct issue of whether background emissions not associated with co-located emitting sources at the facility is discussed above. We reiterate that while the incorporation of additional background concentrations from the environment in our risk assessments (including those from mobile sources and other industrial and area sources) could be technically challenging, they are neither mandated nor barred from our analysis. In developing the decision framework in the Benzene NESHAP used for making residual risk decisions, the EPA rejected approaches that would have mandated consideration of background levels of pollution in assessing the acceptability of risk, concluding that comparison of acceptable risk should not be associated with levels in polluted urban air (54 FR 38044, 38061, September 14, 1989).

Background levels (including natural background) are not barred from the EPA's ample margin of safety analysis, and the EPA may consider them, as appropriate and as available, along with other factors, such as cost and technical feasibility, in the second step of its CAA section 112(f) analysis. As discussed in the 2014 supplemental proposal, the risk assessment for this source category did not include background contributions (that may reflect emissions that are from outside the source category and from other than co-located sources) because the available data are of insufficient quality upon which to base a meaningful analysis.

Comment: Some commenters recommended that the EPA should proceed with the required full multipathway risk assessment, as the data showed that the persistent and bioaccumulation screening emission rates were exceeded for POM. The commenters do not believe the risk analysis for this source category is final until this step is complete and disagree with the EPA's explanation that the results are biased high and subject to significant uncertainties, arguing that the EPA cannot ignore the implications of this screening assessment. The commenter recommended that the EPA perform a full multipathway assessment to find a number it believes fully represents this risk, or use the number it has created as the best available number, without discounting the impact of that number.

One commenter recommended conducting a full multipathway risk assessment for this source category that includes consideration of a child's multipathway exposure in urban and rural residential scenarios. The commenter further stated that the failure of the EPA to assess an exposed child scenario as part of the cumulative risk assessment ignores the exposures that may pose the most significant risk from this source category. The commenter highlighted the risk to children from contaminated soils, noting that past risk assessments have relied on outdated estimates of incidental soil ingestion exposures and stated that the EPA must update these values. The commenter cited two EPA exposures factors handbooks and a journal article as resources to use for assessing risks.

Response: We disagree with the comment that our multipathway risk assessment does not consider children. The multipathway screening scenario is intended to represent a high-end exposure for children via incidental soil ingestion. The 2011 Exposure Factors Handbook recommended ''upper-percentile'' soil ingestion rate (numeric percentile not specified) for children aged 3 to 6 years is 200 milligrams per day (mg/d). The EPA also published the Child-Specific Exposure Factors Handbook (2008). No additional data or recommendations for child soil ingestion are presented in this source, and, in fact, an ''upper percentile'' value for this parameter is not provided. Based on these sources, a value of 200 mg/d is used in the current RTR multipathway screening scenario for the child incidental soil ingestion rate.

The multipathway risk assessment conducted for the proposal was a screening-level assessment. The screening assessment used highly conservative assumptions designed to ensure that facilities with results below the screening threshold values did not have the potential for multipathway impacts of concern. The screening scenario is a hypothetical scenario, and, due to the theoretical construct of the screening model, exceedances of the thresholds are not directly translatable into estimates of risk or HQs for these facilities. The scope of the assessment did not change across the tiers in the multipathway screening assessment and is described in the risk assessment documents (and related appendices) available in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797).

4. What is the rationale for our final approach and final decisions for the risk review?

As discussed above and in the preamble of the 2014 supplemental proposal, after considering health risk information and other factors, including uncertainties, we have determined that the risks from primary aluminum production prebake facilities are acceptable and that the current NESHAP provides an ample margin of safety to protect public health for prebake facilities given that the inhalation cancer MIR was well below 100-in-1 million, the chronic non-cancer risks were low, and the multipathway assessment indicated the maximum cancer risk due to multipathway exposures to HAP emissions from prebake facilities was no higher than 50-in-1 million. In summary, our revised risk assessment indicates that cancer risks due to actual and allowable emissions from prebake facilities are below the presumptive limit of acceptability, and that non-cancer results indicate minimal likelihood of adverse health effects. We evaluated potential risk reductions as well as the cost of control options, but did not identify any control technologies or other measures that would be cost-effective in further reducing risks (or potential risks) for prebake facilities. In particular, we did not identify any cost-effective approaches to further reduce As, Ni, and PAH emissions and risks beyond what is already being achieved by the current NESHAP.

Regarding the Soderberg facilities, as discussed above, since all existing Soderberg facilities are permanently shut down, we necessarily conclude the risks due to emissions from Soderberg facilities are currently acceptable. However, under our ample margin of safety analysis, we have determined that it is appropriate to promulgate standards for Ni, As, and PAH under CAA section 112(f) for the Soderberg subcategory potlines to ensure that excess cancer risk due to HAP emissions from any possible future primary aluminum reduction plant would remain below 100-in-1 million. We estimate the costs to comply with these standards for Soderberg facilities would be zero since there are no existing operating Soderberg facilities in the U.S. Furthermore, we expect any future new primary aluminum reduction plant would use prebake potlines since prebake potlines are more energy efficient (and lower-emitting) than Soderberg potlines. Therefore, we also estimate that these standards would pose no cost for any future new primary aluminum reduction plant.

B. CAA Sections 112(d)(2) and (3) Revisions for the Primary Aluminum Production Source Category

1. What did we propose pursuant to CAA sections 112(d)(2) and (3) for the Primary Aluminum Production source category?

We proposed several MACT standards in the December 2011 proposal pursuant to CAA sections 112(d)(2) and (3), which are summarized in Table 7, below.

We received significant comments on the 2011 proposal from industry representatives, environmental organizations, and state regulatory agencies. After reviewing the comments, and after consideration of additional data and information received since the 2011 proposal, the EPA determined it was appropriate to gather additional data, revise some of the analyses associated with that proposal, and to publish a supplemental proposal.

In support of the supplemental proposal, the EPA sent an information request to owners of currently operating primary aluminum reduction plants in March of 2013. The EPA received associated responses in May through August 2013. As part of this data collection effort, we received emissions data for PM, HAP metals (including antimony, As, beryllium, cobalt, manganese, selenium, Ni, cadmium, chromium, lead, and Hg), PCB, and D/F from potlines, anode bake furnaces, and/or paste production plants from every primary aluminum reduction plant that was operational at that time, including nine prebake-type facilities and one Soderberg-type facility.

Based on evaluation of all the data, we proposed several revised and new MACT standards in the December 2014 proposal pursuant to CAA sections 112(d)(2) and (3), which are summarized in Table 7, below.

TABLE 7—SUMMARY OF PROPOSED MACT STANDARDS

Proposal	HAP	Source	Promulgated MACT standard
2011 proposal (76 FR 76259)	COS	New potlines	3.1 lb/ton aluminum produced.
		Existing potlines	3.9 lb/ton aluminum produced.
	POM	New potlines	0.62 lb/ton aluminum produced.
		Existing potlines.	
		CWPB1	0.62 lb/ton aluminum produced.
		CWPB2	1.3 lb/ton aluminum produced.
		CWPB3	1.26 lb/ton aluminum produced.
		SWPB	0.65 lb/ton aluminum produced.
		VSS2	3.8 lb/ton aluminum produced.
		HSS	3.0 lb/ton aluminum produced.
		Existing pitch storage tanks	Minimum 95-percent reduction of inlet POM emissions.
2014 proposal (79 FR 72914)	POM	New potlines	0.77 lb/ton aluminum produced.
		Existing potlines.	

TABLE 7—SUMMARY OF PROPOSED MACT STANDARDS—Continued

Proposal	HAP	Source	Promulgated MACT standard
	PM	CWPB1	1.1 lb/ton aluminum produced.
		CWPB2	12 lb/ton aluminum produced.
		CWPB3	2.7 lb/ton aluminum produced.
		SWPB	19 lb/ton aluminum produced.
		New potlines	4.6 lb/ton aluminum produced.
		Existing potlines.	
		CWPB1	7.2 lb/ton aluminum produced.
		CWPB2	11 lb/ton aluminum produced.
		CWPB3	20 lb/ton aluminum produced.
		SWPB	4.6 lb/ton aluminum produced.
		VSS2	26 lb/ton aluminum produced.
		New anode bake furnace	0.036 lb/ton of green anode produced.
		Existing anode bake furnace	0.068 lb/ton of green anode produced.
		New paste production plant	0.0056 lb/ton of paste produced.
		Existing paste production plant	0.082 lb/ton of paste produced.

HSS = horizontal stud Soderberg.

2. How did the proposed CAA sections 112(d)(2) and (3) standards change for the Primary Aluminum Production source category?

Commenters provided additional emissions data for POM from SWPB potlines and for PM from CWPB1 potlines and anode bake furnaces, and identified areas where we had misinterpreted data used for the proposed PM and POM standards.

Based on these comments and additional PM and POM emissions data, we re-evaluated the proposed PM and POM MACT standards and revised the following MACT limits:

- POM emission limit of 19 lb/ton aluminum for existing SWPB potlines changed to 17 lb/ton aluminum;
- PM emission limit of 7.2 lb/ton aluminum for existing CWPB1 potlines changed to 7.4 lb/ton aluminum;
- PM emission limit of 4.6 lb/ton aluminum for existing SWPB potlines changed to 4.9 lb/ton aluminum;
- PM emission limit of 4.6 lb/ton aluminum for new potlines changed to 4.9 lb/ton aluminum;
- PM emission limit of 0.068 lb/ton green anode for existing anode bake furnaces changed to 0.2 lb/ton green anode; and
- PM emission limit of 0.036 lb/ton green anode for new anode bake furnaces changed to 0.07 lb/ton green anode.

The EPA discussed at proposal whether to promulgate MACT standards at this time for HAP where much, most, or virtually all of the data showed levels below detection limits. See 79 FR 72936. We received comments claiming that, in addition to the standards listed above, the EPA must promulgate standards for these HAP: Hg, D/F, and PCB. Based on these comments, and considering further reply comments from industry addressing this issue (see email, dated July 1, 2015, from Mr. Curt Wells of The Aluminum Association, which is available in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797)), we re-evaluated the data we had for PCB, D/F, and Hg to determine whether it would be appropriate to establish emissions limits for these HAP. Based on that evaluation, we determined that the emissions data for PCB from VSS2 Soderberg potlines are above detection limits and that numerical limits reflecting MACT can be set for these sources. Therefore, we are finalizing a MACT limit for PCB of 2.0 µg TEQ/ton for existing Soderberg VSS2 potlines and new Soderberg potlines. These standards were developed based on the 99-percent upper prediction limit (UPL) for PCB emissions from the available emissions data and represent the MACT floor level of control. We also considered beyond-the-floor options, but did not identify any feasible or cost-effective beyond-the-floor options.

Furthermore, we determined that the emissions data for Hg from anode bake furnaces are above detection limits and that MACT limits can be set for these sources. Therefore, we are finalizing a MACT limit for Hg of 1.7 µg/dscm for new and existing anode bake furnaces. These standards are equal to 3 times the representative detection limit (RDL) value for Hg. The RDL is the average method detection level (MDL) achieved in practice by laboratories whose data support the best performing 12 percent of a MACT category (or categories). We use an average value for the RDL because a decision for a new source floor may be based upon a test report where the laboratory chosen has better equipment and/or practices than other laboratories and, therefore, reported a lower MDL. Using that data to set the floor would result in requiring all new sources to choose that laboratory in order to demonstrate compliance with the new limit. We recognize the need to allow sources to conduct business with their local laboratories, or a laboratory of their preference; however, we limit the RDL to the best laboratory performers because we do not want to incentivize the use of the worst performing laboratories. The EPA policy is to set MACT standards for a pollutant at a level of 3 times the RDL level for that pollutant when the 99-percent UPL value for the available emissions data results in a value that is less than 3 times the RDL level for that pollutant, which is the case for Hg emissions from anode bake furnaces. See, *e.g.*, docket item number EPA–HQ–OAR–2009–0559–0157.

We use the multiplication factor of 3 to approximately reduce the imprecision of the analytical method until the imprecision in the field sampling reflects the relative method precision as estimated by the American Society of Mechanical Engineers (ASME) study[11] that also indicates that such relative imprecision, from 10 to 20 percent, remains constant over the range of the methods. For comparing to the floor, if 3 times the RDL were less than the calculated floor or emissions limit (*e.g.*, calculated from the UPL), we would conclude that measurement variability was adequately addressed. The calculated floor or emissions limit would need no adjustment. If, on the other hand, the value equal to 3 times the RDL were greater than the UPL, we would conclude that the calculated floor or emissions limit does not account entirely for measurement variability.

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[11] Reference Method Accuracy and Precision (ReMAP): PHASE 1, Precision of Manual Stack Emission Measurements; American Society of Mechanical Engineers, Research Committee on Industrial and Municipal Waste, February 2001.

Therefore, we substituted the value equal to 3 times the RDL for the calculated floor or emissions limit which results in a concentration where the method would produce measurement accuracy on the order of 10 to 20 percent similar to other EPA test methods and the results found in the ASME study.

Please refer to the *Final MACT Floor Analysis for the Primary Aluminum Production Source Category*, which is available in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797), for more information regarding the new standards.

Regarding the Hg and PCB emissions from the other process units (such as potlines and paste production plants), and D/F from all the process units, most (or all) of the emissions tests were below the detection limit. Therefore, we conclude it is not feasible to prescribe or enforce a numerical emission standard for these HAP emissions, within the meaning of CAA section 112(h)(1) and (2). Specifically, measured values for these HAP would be neither duplicable nor replicable and would not give reliable indication of what (if anything) the source was emitting. Under CAA section 112(h)(2), the EPA may adopt work practice standards when ‘‘the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.’’ As discussed more fully in section IV.C below, the EPA does not regard measurements which are unreliable, non-duplicable, and non-replicable to be practicable. Simply put, the CAA simply does not compel promulgation of numerical emission standards that are too unreliable to be meaningful. Therefore, as discussed in section IV.C of this preamble, we are promulgating work practice standards for these HAP under section 112(h) of the CAA for various process units.

3. What key comments did we receive on the CAA sections 112(d)(2) and (3) proposed revisions, and what are our responses?

Comment: Commenters identified POM and PM emissions data from prebake potlines and PM emissions data from anode bake furnaces that were incorrectly represented in the data sets used for MACT limit determinations. Commenters also provided additional PM data for prebake potlines and anode bake furnaces. Commenters requested the EPA to re-evaluate MACT floors and recalculate MACT limits for PM and POM based on the corrected and additional data.

Response: We agree with commenters that the EPA misinterpreted certain data in the supplemental proposal. For example, we misinterpreted the PM and POM emissions from a single exhaust stack of a control device with multiple exhaust stacks to be the total PM and POM emissions from that source and misinterpreted the primary POM emissions from a potline to be total POM emissions from that potline (see pages 5 through 8 of the public comments provided by The Aluminum Association, which are available in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2011–0797). The final rule reflects appropriate data corrections, and the additional data provided have been incorporated in the final limits promulgated for POM and PM from prebake potlines and PM from anode bake furnaces. Further information regarding the development of the final emission limits can be found in the document titled, *Final MACT Floor Analysis for the Primary Aluminum Production Source Category,* which is available in the docket for this action.

Comment: One commenter stated that the EPA must set standards for all HAP emitted by primary aluminum reduction plants. The commenter explained that the EPA's data collection found that primary aluminum reduction plants emit D/F, Hg, and PCB. Nevertheless, the EPA proposed not to set standards to limit these pollutants at all because ‘‘many of the emissions tests were below detection limit’’ even though there are emissions data in the record above the detection limits for these pollutants for some sources. The commenter continued their argument by stating that the CAA and D.C. Circuit case law require the EPA to set limits for all emitted pollutants. As the D.C. Circuit has held, the EPA has a ‘‘clear statutory obligation to set emissions standards for each listed HAP [*i.e.*, hazardous air pollutant]’’ under CAA section 112.

Response: As explained above, based on consideration of this comment, industry comment, and re-evaluation of the data, we are promulgating numerical emissions limits for Hg from anode bake furnaces and PCB for Soderberg potlines because the data we have support the development of such numerical limits. Furthermore, regarding Hg, D/F, and PCB from the other process units, as described in section IV.C of this preamble, we are promulgating work practice standards under CAA section 112(h) because most of the emissions data were below the detection limit for these HAP and process units.

4. What is the rationale for our final approach for the CAA sections 112(d)(2) and (3) revisions?

All numerical MACT standards proposed and promulgated for the Primary Aluminum Production source category reflect the MACT floor and were developed based on the 99-percent UPL of the available emissions data for this source category,[12] except for the limits set for Hg emissions from anode bake furnaces which were set equal to a value of 3 times the RDL due to data limitations, as explained above. We considered beyond-the-floor options. However, we determined that no cost-effective beyond-the-floor options were available. For more information regarding the development of the MACT standards for this source category and our analyses of beyond-the-floor options, see the document, *Final MACT Floor Analysis for the Primary Aluminum Production Source Category,* which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

C. Revisions to the Work Practice Standards for the Primary Aluminum Production Source Category

1. What work practice standards did we propose pursuant to CAA sections 112(h) and/or 112(d)(6) for the Primary Aluminum Production source category?

In 2011, we proposed work practice standards for TF and POM emissions from potlines during startup periods under 112(h) of the CAA because we determined that it is economically and technically infeasible to measure emissions of these HAP during these startup periods. Subsequently, in 2014 we proposed to expand these standards to also apply to PM.

In 2014, we also realized that these work practices could also help minimize emissions during periods of normal operation. Therefore, as mentioned above, under the technology review pursuant to CAA section 112(d)(6), in 2014 we proposed that these work practice standards for potlines would also apply during normal operations to ensure improved capture and control of TF, POM, and

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[12] For determining performance over time, the EPA used the UPL statistical methodology. That is, the best performers, and their level of performance, are determined after accounting for sources' normal operating variability. The UPL represents the value which one can expect the mean of a specified number of future observations (*e.g.*, 3-run average) to fall below for the specified level of confidence, based upon the results of an independent sample from the same population. See MACT Floor Memo and Memorandum, *Use of the Upper prediction limit for Calculating MACT Floors* (Docket ID No. EPA–HQ–OAR–2011–0797).

PM emissions from those sources. For potlines, the work practices included: (1) Ensuring the potline scrubbers and exhaust fans are operational at all times; (2) ensuring that the primary capture and control system is operating at all times; (3) keeping pots covered as much as practicable to include, but not limited to, minimizing the removal of covers or panels of the pots on which work is being performed; and (4) inspecting potlines daily.

Regarding other emissions sources, in 2011 we also proposed work practices for anode bake furnaces during startup periods under CAA section 112(d)(6) that will ensure improved capture and control of HAP emissions from those sources during startup periods. Then, in the 2014 supplemental proposal, we proposed work practices for paste production plants during startup periods under CAA section 112(d)(6) that will ensure improved capture and control of HAP emissions from those sources during startup periods.

For anode bake furnaces and paste production plants, the proposed work practices included ensuring that the associated emission control system is operating within normal parametric limits prior to startup of the emission source and requiring that the anode bake furnace or paste production plants be shut down if the associated emission control system is off line during startup.

2. What changes were made to the work practice standards developed for the Primary Aluminum Production source category pursuant to CAA sections 112(h) and/or 112(d)(6)?

In the final rule, the work practices for potlines, anode bake furnaces, and paste production plants remain unchanged from the proposals. In the final rule, we added additional, more specific VE monitoring requirements, which are applicable during all periods of operation, for emission points that are not equipped with BLDS or PM CEMS, and thus, ensuring improved capture and control of emissions at all times. Furthermore, the work practice standards for anode bake furnaces address PCB emissions (under CAA section 112(h)) for these process units, and the work practice standards for potlines address Hg from all potlines, PCB emissions from prebake potlines, and D/F emissions from Soderberg potlines (under CAA section 112(h)) because in all these cases we determined that it is economically and technically infeasible to reliably measure emissions of these HAP from these process units.

3. What key comments did we receive regarding work practice standards and what are our responses?

Comment: As mentioned above, one commenter stated that the EPA's data collection found that primary aluminum reduction plants emit D/F, Hg, and PCB. The commenter stated that the EPA states that it is not proposing standards for these currently unregulated pollutants because ''many of the emissions tests were below detection limit.'' The commenter stated that the EPA has some emission data in the record above the detection limits for these pollutants for some sources. The commenter stated that the CAA and D.C. Circuit case law require the EPA to set limits for all emitted pollutants.

The commenter stated that as the D.C. Circuit has held, the EPA has a ''clear statutory obligation to set emissions standards for each listed HAP [i.e., hazardous air pollutant]'' under CAA sections 112(d)(1)–(3). The commenter stated that these pollutants are some of the most potent and most harmful, even at extremely low levels of human exposure.

The commenter stated that it would be internally inconsistent not to regulate these HAP, because in this rulemaking, the EPA has recognized the need to set emission standards for unregulated pollutants. The commenter stated that the EPA states that it may, but is not required to set emission standards for these pollutants, citing the Portland Cement decision (665 F.3d at 189). The commenter stated that the Portland Cement decision did not hold that the EPA may avoid setting limits for CAA section 112-listed pollutants emitted by a source category. The commenter stated that the Portland Cement decision affirmed that the EPA may set revised emission standards, including updated MACT floors, whenever it determines this is necessary, including as a result of a CAA section 112(d)(6) review, or more often.

The commenter stated that the revised standards the EPA is proposing here must satisfy CAA sections 112(d)(2)–(3). The commenter stated that the EPA may not ''cherry-pick'' the HAP when initially setting and revising standards. The commenter stated that if the EPA missed HAP that it is legally required to regulate in prior standards, then it has an ongoing obligation to set such standards, and it would be both unlawful and arbitrary and capricious for the EPA not to set such standards as part of this review and revision rulemaking under CAA section 112(d).

The commenter stated that the EPA has recognized the need to assess health risks from these pollutants and has created a method to do so by assuming that the undetected emissions were equal to one-half the detection limit, which the EPA explains is ''the established approach for dealing with non-detects in the EPA's RTR program when developing emissions estimates for input to the risk assessments.'' The commenter stated that the EPA may not ignore these pollutants under CAA section 112(d) when it acknowledges and has found a way to address them under CAA section 112(f)—even though some of the data in the record are below the detection level.

The commenter stated that instead of ignoring the emissions data it has, the EPA must at least use the emission data that are above the detection level to set standards. Furthermore, the commenter stated that for the non-detect values, the EPA may not lawfully ignore these data. The commenter stated that the EPA must recognize that some sources have achieved levels of emissions below the detection level and use an appropriate number at or below the detection level as part of its floor analysis, to satisfy the floor and beyond-the-floor requirements of CAA sections 112(d)(2)–(3).

Response: As mentioned in section IV.B above, based on consideration of this comment, industry comment, and re-evaluation of the data, we are promulgating numerical emissions limits for Hg from anode bake furnaces and PCB from Soderberg potlines because the data we have support the development of such numerical limits. Furthermore, regarding Hg from potlines, PCB from prebake potlines and anode bake furnaces, and D/F from Soderberg potlines, as described in section IV.C of this preamble, we are promulgating work practice standards under CAA section 112(h) because most of the emissions data were below the detection limits for these HAP and process units. However, EPA is not adopting either numerical standards or work practice standards for these HAP from other process units because all of the associated emissions data were below the detection limit or otherwise unreliable (*e.g.*, the test report indicated quality assurance problems). There is certainly no obligation under CAA sections 112(d)(2) and (3) for the EPA to promulgate standards for HAP that are not emitted by a source category.

Given these determinations, the commenter's claims that the EPA is obligated to establish MACT standards for HAP at particular times, and that it must do so if it is making assumptions about emission levels as part of the CAA section 112(f) risk analysis, are no longer presented.[13]

4. What is the rationale for our final approach regarding work practice standards under CAA sections 112(h) and/or 112(d)(6)?

Based on comments received during the 2014 supplemental proposal public comment period, we determined that it was appropriate to re-evaluate the data we had for PCB, D/F, and Hg. For D/F from potlines, anode bake furnaces, and paste production plants; Hg from potlines and paste production plants; and PCB from prebake potlines, anode bake furnaces, and paste production plants, we found that more than half of the test data were below the detection limit. We maintain our December 2014 proposed position that it is not appropriate to promulgate numerical MACT limits for these HAP from these process units. Instead, as explained below, we are promulgating work practice standards under CAA section 112(h), when appropriate.

Sections 112(h)(1) and (h)(2)(B) of the CAA indicate that the EPA may adopt a work practice standard rather than a numeric standard when ''the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.'' As explained above, the majority of the data collected for Hg, D/F, and PCB during the information request test program for these emissions points were below the detection limit. Under these circumstances, the EPA does not believe that it is technologically and economically practicable to reliably measure Hg, D/F, and PCB emissions from these particular sources. The ''application of measurement methodologies'' (described in CAA section 112(h)(2)(B)) means more than taking a measurement. It must also mean that a measurement has some reasonable relation to what the source is emitting, *i.e.*, that the measurement yields a meaningful value. That is not the case here, and the EPA, therefore, does not believe it reasonable to establish a numerical standard for Hg, D/F, and PCB from these particular process units in this rule. Moreover, a numerical limit established at some level greater than the detection limit (which would be a necessity since any numeric standard would have to be measurable) could actually authorize and allow more emissions of these HAP than would otherwise be the case. The work practices for anode bake furnaces, paste production plants, and potlines discussed in section IV.C.1 of this preamble are those practices utilized by the best performing sources—the sources with the work practices in place that the EPA has evaluated as best controlling emissions of these HAP.

In the cases of PCB from anode bake furnaces and prebake potlines, D/F from Soderberg potlines, and Hg from both Soderberg and prebake potlines, we determined that about 70 to 80 percent of the emissions data were below the detection limits. In previous cases (see, e.g., 76 FR 25046, 78 FR 22387, and docket item number EPA–HQ–OAR–2013–0291–0120) where test results were predominantly (*e.g.*, more than 55 percent of the test run results) found to be below detection limits, the EPA established work practice standards for the pollutants in question from the subject sources, since we believe emissions of the pollutants are too low to reliably measure and quantify. We are adopting that same approach here, for the same reasons, and are, therefore, finalizing work practice standards to address emissions of Hg from potlines, PCB from anode bake furnaces and prebake potlines, and D/F from Soderberg potlines. Specifically, we are finalizing the work practice standards presented in 40 CFR 63.847(l) and (m) and 40 CFR 63.854 of the 2014 supplemental proposal to address emissions of Hg from potlines, D/F from Soderberg potlines, and PCB from prebake potlines. Further, the requirements of 40 CFR 63.847(h)(1) and 40 CFR 63.848(f)(1) of current subpart LL; the work practice standards proposed in sections 40 CFR 63.843(f) and 40 CFR 63.844(f) of the 2011 proposal and 40 CFR 63.847(l) of the 2014 proposal; and the enhanced VE monitoring of 40 CFR 63.848(g)(3) of the final rule address the PCB emissions from anode bake furnaces.

However, as noted above, all of the emissions data for D/F from prebake potlines, anode bake furnaces, and paste production plants were either below the detection limit or otherwise unreliable (*e.g.*, were flagged in the test report as having quality assurance issues). Therefore, we are not promulgating numerical emissions limits or work practices for these HAP since there is no reliable evidence that these sources emit them.

D. What changes did we make to the control device monitoring requirements for the Primary Aluminum Production source category?

1. What control device monitoring requirements did we propose for the Primary Aluminum Production source category?

In the 2014 supplemental proposal, we proposed that the owner or operator of a primary aluminum reduction plant would need to install either a BLDS or a PM CEMS on the exhaust of each control device used to control emissions from a new or existing affected potline, anode bake furnace, or paste production plant.

2. What changes did the EPA make to the proposed control device monitoring requirements developed for the Primary Aluminum Production source category?

In the final rule, the control device monitoring requirements for new potlines, new anode bake furnaces, and new paste production plants remain unchanged. However, for existing potlines, existing anode bake furnaces and existing paste production plants, the owner or operators have the option to conduct enhanced VE monitoring as an alternative to the installation of BLDS or PM CEMS. This enhanced VE monitoring would include twice daily monitoring of VE from the exhaust of each control device, with those two VE monitoring events at least 4 hours apart. If VE are observed, then the owner or operator would need to take corrective action within 1 hour, including isolating, shutting down, and conducting internal inspections of any baghouse compartment associated with VE indicating abnormal operations and fixing the compartment before it is put back in service.

3. What key comments did we receive regarding control device monitoring requirements and what are our responses?

Comment: Several commenters stated that the proposed rule requires either the installation of PM CEMS or the installation of BLDS on stack emission points associated with fabric filter (baghouse) control systems for demonstration of continuous compliance with the PM limit. The commenters stated that the EPA has not considered the large number of stacks involved and the complexity, time, and cost for installing BLDS or PM CEMS monitoring systems on the baghouses of potline primary control systems.

The commenters stated that there are significant and substantial issues with this requirement that merit rethinking.

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[13] We disagree with the commenter that standards are compelled at this time, given the EPA's discretion regarding timing of revising MACT standards. See 79 FR 72936 at n. 35. The EPA is exercising its discretion in adopting these standards in the final rule.

The commenters stated that there is already a requirement in the 40 CFR part 63, subpart LL rule for a daily visual check for opacity on all stacks associated with baghouse control systems. The commenters stated that this serves the same function and purpose as the installation of BLDSs and has been working well in that manner since the time the original rules were finalized in 1997.

The commenters stated that the EPA concluded ''. . . that all existing prebake potlines will be able to meet these MACT floor limits for PM without the need to install additional controls because the performance of all sources in the category is similar, all of the potlines within each of the subcategories utilize very similar emission control technology, the average emissions from each source are well below the MACT floor limit and emissions data from every facility that performed emissions testing were included in the dataset used to develop the MACT floor.'' The commenters stated that it is clear that the daily VE inspection, corrective action, and baghouse maintenance practices that facilities have already implemented in response to the enhanced monitoring requirements of current 40 CFR part 63, subpart LL are resulting in a level of baghouse performance that ensures ongoing continuous compliance with the proposed PM emission limits.

The commenters stated that the EPA notes in the proposed rule that potline secondary PM emissions comprise by far the largest share of primary aluminum reduction plant PM emissions, and these would not be addressed with BLDS. The commenters cited test data to highlight this issue and stated that the EPA's own analysis of control options on secondary PM emissions from potlines found them to not be economically feasible yet the resulting risks are still within acceptable risk limits.

The commenters stated that the most common potline primary PM control system, the A–398 scrubber system, has multiple stacks associated with each control device, and there are multiple control devices for each potline. The commenters stated that a survey of U.S. primary aluminum facilities indicated that at present there are 388 potline stack emission points across seven operating plants that would need to install BLDS in response to this proposed new requirement. The commenters stated that there are 50 to 100 individual stacks per potline at some of their facilities and provided a table of the affected sources. The commenters stated that the costs, complexity, and time required for installing BLDS or PM CEMS at a facility with over 100 potline control device stacks are formidable.

The commenters provided a cost analysis of installation and operating cost for BLDS and estimated that industry-wide, this would result in cumulative $5.24 million of initial costs and $1.2 million of annual costs to comply with this requirement for potlines, not including the additional costs relative to compliance for anode bake furnaces and paste production plants. The commenters stated that none of these very significant costs are included in either the December 2014 supplemental proposal preamble discussion of the costs/benefit calculation or the *Revised Draft Cost Impacts for the Primary Aluminum Source Category* document dated November 13, 2014. The commenters stated that inclusion of these bag leak detector costs alters the cost/benefit dynamic substantially such that it changes the calculation from a slight net benefit to a significant net cost. The commenters stated that the bag leak detector option is the most cost-effective of the two compliance options presented in the proposed rule (BLDS versus PM CEMS). The commenters urged the EPA to recalculate the revised cost estimate to address the installation of BLDS or PM CEMS on existing sources and to provide for the opportunity to comment on the changes.

The commenters stated that the proposed requirements of 40 CFR 63.848(o)(3)(i) require initiation of procedures to determine the cause of a BLDS alarm with 30 minutes. The commenters stated that the subpart LL requirements of 40 CFR 63.848(h) all require the initiation of corrective action within 1 hour. The commenters stated that the EPA should set the time frame for initiating a response to BLD events at 1 hour so as to be consistent with the other corrective action requirements.

The commenters stated that the proposed timelines for compliance do not consider the time required to design, procure, and install and operate a BLDS or PM CEMS on each baghouse stack. The commenters stated that since the proposed requirement to install BLDS or PM CEMS on potline control devices is unnecessary and cost-prohibitive for existing potlines, they strongly recommend that BLDS and PM CEMS provisions be deleted from the final rule requirements in their entirety.

The commenters stated that the EPA's proposed requirements of 40 CFR 63.848(o)(1) pertain to baghouse preventative maintenance requirements. The commenters stated that facilities already have to comply with similar requirements for proper operation and maintenance of emission control equipment under state or federal requirements as included in their title V air operating permits. The commenters stated that the EPA should tailor the proposed requirements to specifically address the development and implementation of procedures pertaining to the BLDS.

The commenters recommended (in the event that BLDS is in the final rule) revisions to 40 CFR 63.848(o)(1) and (3)(i).

Response: The EPA agrees that installation of BLDS or PM CEMS for certain existing emission control configurations would be both technically challenging and cost prohibitive for some facilities due to the large number of individual stacks supporting these control devices. We also agree with the commenters that PM emissions from potlines are dominated by secondary roof vent emissions. This is a result of effective emissions control on the primary stacks and the difficulty (technical and economic) associated with installation and operation of secondary roof vent emission controls. Moreover, we further find that under these circumstances, enhanced VE monitoring provides sufficiently reliable and timely information for determining compliance with the PM standards—in particular, the twice daily VE monitoring with requirement for initiation of corrective actions (if applicable), including isolation and internal inspection of a scrubber compartment, within 1 hour.[14] Therefore, we are providing owners or operators of existing affected sources the options to monitor these sources with either BLDS, PM CEMS, or enhanced VE observations, as described above. Further, for those sources that do have BLDS, we agree that 1 hour is the appropriate length of time for initiation of root cause analysis for alarms and, therefore, are promulgating this requirement.

4. What is the rationale for our final approach regarding control device monitoring requirements?

The final rule will require annual PM testing of the primary control device and continuous or frequent monitoring

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[14] See *Sierra Club* v. *EPA*, 353 F. 3d 976, 991 (D.C. Cir. 2004) (per Roberts, J.) (enhanced monitoring requirement in CAA section 114(a)(3) does not mandate continuous monitoring or create a presumption for such monitoring. Consistent with that reading, CAA section 504 (b) provides that ''continuous emissions monitoring need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance'').

with BLDS, PM CEMS, or VE observations. The EPA believes it is necessary that facilities conduct at least one of these monitoring measures to ensure that the primary control device is maintained in good working order throughout the year. As mentioned above, as an alternative to BLDS or PM CEMS, we are finalizing a third option of twice daily visual inspections of each exhaust stack(s) of each control device using Method 22 (at least 4 hours apart) for existing sources. Existing sources will have the option to perform Method 22 inspections, install BLDS, or install PM CEMS. We believe that the twice daily visual inspection alternative will provide adequate assurance that the control devices are properly operated and maintained.

We believe that future potline air pollution control systems will be constructed/installed with a newer technology (dry injection type), rather than the currently installed (older) technology A–398 type. The newer technologies have significantly fewer stack emission points than the many stacks of the A–398 systems. Consequently, the number of BLDS needed would be substantially less with those systems than for the A–398 systems. For this reason, we are maintaining the requirement to install BLDS or PM CEMS on new sources.

E. What changes did we make to compliance dates for the Primary Aluminum Production source category?

1. What existing source compliance dates did we propose for the Primary Aluminum Production source category?

The proposed compliance dates for existing sources in the December 2014 supplemental proposal were as follows:

- Date of publication of final rule for the malfunction provisions and the electronic reporting provisions;
- One year after date of publication of final rule for potlines subject to the COS and PM emission limits; prebake potlines subject to POM emission limits; the potline, paste production plant, and anode bake furnace work practices; anode bake furnaces and paste production plants subject to PM emission limits; and pitch storage tanks subject to POM standards; and
- Two years after date of publication of final rule for Soderberg potlines subject to the POM, Ni, and As emission limits.

2. What changes is EPA making to the proposed existing source compliance dates for the Primary Aluminum Production source category?

The EPA has revised the compliance dates for existing sources in the Primary Aluminum Production source category from those proposed in 2014 as follows:

- The compliance date was changed from 1 year after date of publication of final rule to 2 years after date of publication of final rule for prebake potlines subject to POM and PM emission limits and for pitch storage tanks subject to POM equipment standards;
- The compliance date of 1 year after date of publication of final rule was added for Soderberg potlines subject to PCB emission limits; and
- The compliance date of 2 years after date of publication of final rule was added for anode bake furnaces subject to Hg emission limits.

For more discussion of the promulgated compliance dates, refer to the document, *Final Rationale for Selection of Compliance Dates for the Primary Aluminum Production Source Category,* which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

3. What key comments did we receive regarding compliance dates and what are our responses?

Comment: Several commenters stated concern with the compliance dates outlined in the supplemental proposal. The commenters stated that the compliance dates in the December 2014 proposal are in marked contrast to the 2011 proposal that included a 3-year compliance window for all changes. The commenters stated that they are concerned that the rationale used to dramatically shorten the compliance timelines is not reflective of actual on-site conditions and decision-making/approval processes for the changes required for compliance. The commenters stated that new emission limits imposed on the affected facilities will require installation of additional emission controls and/or monitoring devices.

The commenters stated that at least one facility will be required to install a Method 14 manifold or Method 14A cassette system in a currently operating potline for collecting roof monitor samples to determine emissions of PM and POM. The commenters stated that a number of facilities currently do not have an emission control system on their existing pitch storage tanks. The commenters stated that these facilities will be required to install and test (or certify) an emission control system to meet the 95-percent POM reduction requirement.

The commenters stated that the effort involved in the determination of the exact changes that will be needed; the selection, installation, and startup of new controls and their associated equipment; and consideration of the business planning cycle for making significant new capital and operating expense monetary outlays all indicate that more than 1 year is needed to have the emissions control and monitoring devices installed and properly operational.

The commenters requested an increased amount of time for compliance dates for malfunction and ERT provisions, work practices, and emission limits.

Response: The EPA has received information from Alcoa that their Wenatchee facility currently has two potlines (potlines 2 and 3) that are not equipped with a Method 14 manifold or Method 14A cassette system. Either a manifold or cassette system is required to monitor secondary potline emissions and to demonstrate compliance with the potline PM and POM emission limits. Alcoa provided cost estimates for the installation of a Method 14 manifold and a Method 14A cassette system. These costs were estimated at $500,000 (or approximately $55,000 per year annualized) for either system (see Installation of Method 14 or 14A Sampling Equipment at Alcoa Wenatchee, Docket item number EPA–HQ–OAR–2011–0797–0385). After considering this comment and after further evaluation, we agree that a compliance date of 2 years after publication of the final rule is appropriate for the demonstration of compliance with the potline emissions limits because some facilities may need to install Method 14 manifolds or Method 14A cassette systems to demonstrate compliance, and we believe that up to 2 years may be needed to plan, design, construct, and install such systems and complete the required testing and analyses.

After further evaluation, the EPA determined that the appropriate compliance date for the 95-percent POM reduction requirement for pitch storage tanks is 2 years from the publication date of the final rule. The EPA agrees with the commenters that this additional time may be needed to install, test, and certify emission control systems.

We are finalizing the proposed compliance dates for existing sources for the malfunction provisions and the electronic reporting provisions.

We are finalizing a compliance date of 1 year after date of publication of the final rule for potlines subject to the work practice standards and the COS emission limits, and for anode bake furnaces and paste production plants subject to work practices and PM emission limits.

We are finalizing a compliance date of 2 years after date of publication of the final rule for prebake potlines subject to POM emission limits; for Soderberg potlines subject to revised POM emission limits and emission limits for Ni, As, and PCB; for potlines subject to PM emissions limits; and for existing pitch storage tank POM equipment standards.

We are finalizing a compliance date of 2 years after date of publication of final rule for anode bake furnaces subject to Hg emission limits.

4. What is the rationale for our final approach regarding compliance dates?

The EPA extended the compliance dates for prebake potlines subject to POM and PM emissions limits from 1 to 2 years after date of publication of the final rule to give owners or operators an appropriate amount of time to install the manifolds or cassette systems necessary to sample the potline fugitive emissions. Monitoring of potline fugitive emissions will be required in order to demonstrate compliance with the promulgated POM and PM emissions limits unless the owner or operator can demonstrate potline similarity for purposes of these HAP pursuant to 40 CFR 63.848(d) of subpart LL, and the EPA finds that the 2 year compliance time allows adequate time for owners or operators to apply for similarity determinations.

Similarly, the compliance date for existing pitch storage tanks subject to POM equipment standards was extended by EPA from 1 to 2 years after date of publication of the final rule to give owners or operators an appropriate amount of time to install, test, and certify the emission control systems.

The compliance date of 1 year after date of publication of the final rule was added for Soderberg potlines subject to a PCB emission limit or D/F work practice standards. We believe that 1 year will be sufficient to demonstrate compliance with these requirements for existing Soderberg potlines, in the unlikely event that the existing Soderberg potlines are restarted, since the available data suggests that no modifications or additional controls are necessary to meet that limit.

The EPA added a compliance date of 2 years after date of publication of the final rule for anode bake furnaces subject to the Hg emission limit. We believe 2 years is justified in this case to provide industry sufficient time to schedule and perform testing and take appropriate subsequent steps to ensure compliance.

V. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted

A. What are the affected sources?

The affected sources are new and existing potlines, new and existing pitch storage tanks, new and existing anode bake furnaces (except for one that is located at a facility that only produces anodes for use off-site and is subject to the state MACT determination established by the regulatory authority), and new and existing paste production plants.

B. What are the air quality impacts?

We estimate that the promulgated lower VSS2 potline POM emissions limit would reduce POM emissions from the one Soderberg facility by approximately 53 tpy if the facility were to resume operation. Furthermore, we estimate that these standards would also result in about 1 tpy reduction of HAP metals and 40 tpy reduction of PM with diameter of 2.5 microns and less ($PM_{2.5}$) if the one Soderberg facility reopened. We consider this very unlikely as the owner of that facility, Columbia Falls Aluminum Company, has publicly announced its permanent closure. However, we include this analysis because the potlines have not been demolished yet.

Finally, we estimate that the addition of controls to the eight existing uncontrolled pitch storage tanks located at prebake facilities would reduce POM emissions by 1.55 tpy.

C. What are the cost impacts?

Under the final amendments, facilities are subject to additional testing, monitoring, and equipment costs. Owners and operators are required to conduct semiannual tests for PM and POM emissions from potline roof vents, annual tests for PM and POM from potline primary emissions, annual tests of PM and Hg from anode bake furnace exhausts, and annual tests of PM from paste production plant exhausts. These testing costs are offset by reduced frequency of secondary potline TF emissions testing (from monthly to semiannual). In addition, all emission stacks not equipped with either BLDS or PM CEMS are subject to increased frequency (from daily to twice daily) VE testing. Additional monitoring to demonstrate continuous compliance with PM standards for anode bake furnaces and paste production plants is required by the rule. Eight owners or operators of facilities operating uncontrolled pitch storage tanks are required to install and operate controls on these tanks, and the owner or operator of one facility with two potlines (one idle and one in operation) not currently equipped with either a manifold or a cassette system may be required to install this equipment. These amendments result in a net estimated reduction in testing costs of $1.05 million, a net estimated increase in monitoring costs of $625,000, and a net increase in estimated annualized capital equipment costs of $260,000. Nationwide annual costs to industry are expected to decrease by an estimated $165,000 per year under these amendments.

The memorandum, *Final Cost Impacts for the Primary Aluminum Production Source Category,* includes a description of the details and assumptions used for this analysis and is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

D. What are the economic impacts?

We performed an economic impact analysis for the modifications in this action. That analysis estimates a net savings for each primary aluminum reduction facility based on the belief that the Columbia Falls Soderberg facility will not reopen. In March of 2015, the Columbia Falls Aluminum Company announced the permanent closure of their Soderberg facility. For more information, please refer to the *Economic Impact Analysis for National Emissions Standards for Hazardous Air Pollutants: Primary Aluminum Reduction Plants* and *Final Economic Impact Analysis for the Primary Aluminum Production Source Category* documents, which are available in the docket for this rulemaking.

E. What are the benefits?

If the Columbia Falls Soderberg facility were to resume operations, there would be an estimated reduction in its annual HAP emissions (*i.e.*, about 53 tons) that would provide significant benefits to public health. In addition to the HAP reductions, which would ensure an ample margin of safety, we also estimate that this final rule would achieve about 230 tons of reductions in PM (including 40 tons of $PM_{2.5}$) emissions as a co-benefit of the HAP reductions annually (again assuming resumption of plant operation).

Further, we estimate that the addition of controls to the eight existing uncontrolled pitch storage tanks at prebake facilities would reduce POM emissions by 1.55 tpy.

This rulemaking is not an ‘‘economically significant regulatory action’’ under Executive Order 12866 because it is not likely to have an annual effect on the economy of $100 million or more. Therefore, we have not conducted a Regulatory Impact Analysis (RIA) for this rulemaking or a benefits analysis. While we expect that these avoided emissions will improve air quality and reduce health effects associated with exposure to air pollution associated with these emissions, we have not quantified or monetized the benefits of reducing these emissions for this rulemaking. This does not imply that there are no benefits associated with these emission reductions. We provide a qualitative description of benefits associated with reducing these pollutants below. When determining whether the benefits of an action exceed its costs, Executive Orders 12866 and 13563 direct the Agency to consider qualitative benefits that are difficult to quantify, but nevertheless essential to consider.

Directly emitted particles are precursors to secondary formation of $PM_{2.5}$. Controls installed to reduce HAP would also reduce ambient concentrations of $PM_{2.5}$ as a co-benefit. Reducing exposure to $PM_{2.5}$ is associated with significant human health benefits, including avoiding mortality and morbidity from cardiovascular and respiratory illnesses. Researchers have associated $PM_{2.5}$ exposure with adverse health effects in numerous toxicological, clinical, and epidemiological studies (U.S. EPA, 2009).[15] When adequate data and resources are available and an RIA is required, the EPA generally quantifies several health effects associated with exposure to $PM_{2.5}$ (*e.g.,* U.S. EPA, 2012).[16] These health effects include premature mortality for adults and infants, cardiovascular morbidities such as heart attacks, hospital admissions, and respiratory morbidities such as asthma attacks, acute bronchitis, hospital and emergency department visits, work loss days, restricted activity days, and respiratory symptoms. The scientific literature also suggests that exposure to $PM_{2.5}$ is associated with adverse effects on birth weight, pre-term births, pulmonary function, and other cardiovascular and respiratory effects (U.S. EPA, 2009), but the EPA has not quantified these impacts in its benefits analyses. $PM_{2.5}$ also increases light extinction, which is an important aspect of visibility.

The rulemaking may prevent increases in emissions of other HAP, including HAP metals (As, cadmium, chromium (both total and hexavalent), lead, manganese, Hg, and Ni) and PAH. Some of these HAP are carcinogenic (*e.g.,* As, PAH), and some have effects other than cancer (*e.g.,* kidney disease from cadmium, respiratory and immunological effects from Ni). While we cannot quantitatively estimate the benefits achieved by reducing emissions of these HAP, we expect benefits by reducing exposures to these HAP. More information about the health effects of these HAP can be found on the IRIS,[17] U.S. Agency for Toxic Substances and Disease Registry (ATSDR),[18] and California EPA[19] Web sites.

F. What analysis of environmental justice did we conduct?

To examine the potential for any EJ issues that might be associated with the Primary Aluminum Production source category, we performed a demographic analysis, which is an assessment of risks to individual demographic groups, of the population close to the facilities. In this analysis, we evaluated the distribution of HAP-related cancer risks and non-cancer hazards from this source category across different social, demographic, and economic groups within the populations living near facilities identified as having the highest risks. The results of the demographic analysis are summarized in Table 6 in section IV.A.3 of this preamble and indicate that there are no significant disproportionate risks to any particular minority, low income, or indigenous population (see the discussion in section IV.A.3 of this preamble). The methodology and the results of the demographic analyses are included in a technical report, *Analysis of Socio-Economic Factors for Populations Living Near Primary Aluminum Facilities,* which is available in the docket for this rulemaking (docket item No. EPA–HQ–OAR–2011–0797–0360).

G. What analysis of children's environmental health did we conduct?

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because the Agency does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. The report, *Analysis of Socio-Economic Factors for Populations Living Near Primary Aluminum Facilities,* which is available in the docket for this rulemaking, indicates that the percentages for all demographic groups exposed to various risk levels, including children, are similar to their respective nationwide percentages. That report further shows that, prior to the implementation of the provisions included in this final rule, on a nationwide basis, there are approximately 900,000 people exposed to a cancer risk at or above 1-in-1 million and no people exposed to a chronic non-cancer TOSHI greater than 1 due to emissions from the source category.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to the OMB under the PRA. The ICR document prepared by the EPA has been assigned EPA ICR number 2447.01. You can find a copy of the ICR in the docket for this rule (Docket ID No. EPA–HQ–OAR–2011–0797) and it is briefly summarized below. The information collection requirements are not enforceable until OMB approves them.

We are finalizing changes to the paperwork requirements for the Primary Aluminum Production source category facilities subject to 40 CFR part 63, subpart LL. In this final rule, we are promulgating less frequent testing of TF emissions from potlines. In addition, we are removing the burden associated with the affirmative defense provisions included in the December 2011 proposal.

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[15] U.S. Environmental Protection Agency (U.S. EPA). 2009. *Integrated Science Assessment for Particulate Matter* (Final Report). EPA–600–R–08–139F. National Center for Environmental Assessment—RTP Division. Available on the Internet at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.*

[16] U.S. Environmental Protection Agency (U.S. EPA). 2012. Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter. Office of Air and Radiation, Research Triangle Park, NC. Available on the Internet at *http://www.epa.gov/ttn/ecas/regdata/RIAs/finalria.pdf.http://www.epa.gov/ttnecas1/regdata/RIAs/PMRIACombinedFile_Bookmarked.pdf.*

[17] U.S. EPA, 2006. Integrated Risk Information System. *http://www.epa.gov/iris/index.html.*

[18] ATSDR, 2013. Minimum Risk Levels (MRLs) for Hazardous Substances. *http://www.atsdr.cdc.gov/mrls/index.html.*

[19] California Office of Environmental Health Hazard Assessment. Chronic Reference Exposure Levels Adopted by OEHHA as of December 2008. *http://www.oehha.ca.gov/air/chronic_rels.*

We estimate 11 regulated entities are currently subject to CFR part 63, subpart LL and will be subject to this action. The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) as a result of the final amendments to 40 CFR part 63, subpart LL (NESHAP for Primary Aluminum Reduction Plants) is estimated to be −$931,000 per year.

This includes 361 labor hours per year at a total labor cost of $27,400 per year, and total non-labor capital, and operation and maintenance costs of −$958,000 per year. This estimate includes performance tests, notifications, reporting, and recordkeeping associated with the new requirements for primary aluminum reduction plant operations. The total burden for the federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be 181 hours per year at a total labor cost of $8,250 per year. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. There are no small entities in this regulated industry. For this source category, which has the NAICS code 331312, the Small Business Administration (SBA) small business size standard is 1,000 employees according to the SBA small business standards definitions.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. This action does not have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the *Residual Risk Assessment for the Primary Aluminum Production Source Category in Support of the September 2015 Risk and Technology Review Final Rule,* which is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2011–0797).

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This final action involves technical standards. The rule requires the use of either ASTM D4239–14e1, ''Standard Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion,'' approved March 1, 2014, or ASTM D6376–10, ''Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-ray Fluorescence Spectroscopy,'' approved July 1, 2010. ASTM D4239–14e1, approved March 1, 2014, covers the determination of sulfur in samples of coal or coke by high temperature tube furnace combustion. ASTM D6376–10, approved July 1, 2010, covers the x-ray fluorescence spectrometric determination of total sulfur and trace metals in samples of raw or calcined petroleum coke. These are voluntary consensus methods. These methods can be obtained from the American Society for Testing and Materials, 100 Bar Harbor Drive, West Conshohocken, Pennsylvania 19428 (telephone number (610) 832–9500). These methods were promulgated in the final rule because they are commonly used by primary aluminum reduction plants to demonstrate compliance with sulfur dioxide emission limitations imposed in their current title V permits.

This final rule also requires use of Method 428, ''Determination of Polychlorinated Dibenzo-P-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyle Emissions (PCB) from Stationary Sources,'' amended September 12, 1990. Method 428, amended September 12, 1990, covers the determination of PCDD, PCDF, or PCB from stationary sources. The standard is available from the California Air Resources Board, 1001 ''I'' Street, Sacramento, CA 95812 (telephone number (800) 242–4450) or at their Web site, *http://www.arb.ca.gov/testmeth/vol3/m_428.pdf.*

The EPA has decided to use EPA Method 29 for the determination of the concentration of Hg. While the EPA identified ASTM D6784–02 (2008), ''Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),'' ASTM International, West Conshohocken, PA, 2008, as being potentially applicable, the Agency decided not to use it. The use of this voluntary consensus standard would be more expensive and is inconsistent with the final Hg standard that was determined using EPA Method 29 data.

Under 40 CFR 63.7(f) and 40 CFR 63.8(f) of Subpart A of the General Provisions, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in this final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority, low-income or indigenous populations. For the Primary Aluminum Production source category, the EPA determined that the current health risks posed to anyone by actual emissions from this source category are within the acceptable range, and that this action will not appreciably reduce these risks further.

These final standards will improve public health and welfare, now and in the future, by reducing HAP emissions contributing to environmental and human health impacts. These reductions in HAP associated with the rule will benefit all populations.

To examine the potential for any EJ issues that might be associated with this source category, we evaluated the distributions of HAP-related cancer and non-cancer risks across different social, demographic, and economic groups within the populations living near the facilities where this source category is located. The methods used to conduct demographic analyses for this final rule, and the results of these analyses, are described in the document, *Analysis of Socio-Economic Factors for Populations Living Near Primary Aluminum Facilities,* which can be found in the docket for this rulemaking (Docket item number EPA–HQ–OAR–2011–0797–0360).

In the demographics analysis, we focused on populations within 50 kilometers of the facilities in this source category with emissions sources subject to 40 CFR part 63, subpart LL. More specifically, for these populations we evaluated exposures to HAP that could result in cancer risks of 1-in-one million or greater. We compared the percentages of particular demographic groups within the focused populations to the total percentages of those demographic groups nationwide.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 10, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, Title 40, chapter I, of the Code of Federal Regulations (CFR) is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart A—General Provisions

■ 2. Section 63.14 is amended:

■ a. By redesignating paragraphs (b)(1) and (2) as paragraphs (b)(2) and (3), respectively, and adding new paragraph (b)(1);

■ b. By redesignating paragraphs (h)(77) through (95) as paragraphs (h)(80) through (98), respectively;

■ c. By redesignating paragraphs (h)(53) through (76) as paragraphs (h)(55) through (78), respectively;

■ d. By redesignating paragraphs (h)(33) through (52) as paragraphs (h)(34) through (53), respectively;

■ e. By adding new paragraphs (h)(33), (54) and (79); and

■ f. By redesignating paragraphs (k)(1) through (4) as paragraphs (k)(2) through (5), respectively, and adding new paragraph (k)(1).

The additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) * * *

(1) Industrial Ventilation: A Manual of Recommended Practice, 22nd Edition, 1995, Chapter 3, ''Local Exhaust Hoods'' and Chapter 5, ''Exhaust System Design Procedure.'' IBR approved for §§ 63.843(b) and 63.844(b).

* * * * *

(h) * * *

(33) ASTM D2986–95A, ''Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test,'' approved September 10, 1995, IBR approved for section 7.1.1 of Method 315 in appendix A to this part.

* * * * *

(54) ASTM D4239–14e1, ''Standard Test Method for Sulfur in the Analysis Sample of Coal and Coke Using High-Temperature Tube Furnace Combustion,'' approved March 1, 2014, IBR approved for § 63.849(f).

* * * * *

(79) ASTM D6376–10, ''Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy,'' Approved July 1, 2010, IBR approved for § 63.849(f).

* * * * *

(k) * * *

(1) Method 428, ''Determination Of Polychlorinated Dibenzo-P-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyle Emissions from Stationary Sources,'' amended September 12, 1990, IBR approved for § 63.849(a)(13) and (14).

* * * * *

Subpart LL—National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants

■ 3. Section 63.840 is amended by revising paragraph (a) to read as follows:

§ 63.840 Applicability.

(a) Except as provided in paragraph (b) of this section, the requirements of this subpart apply to the owner or operator of each new or existing pitch storage tank, potline, paste production plant and anode bake furnace associated with primary aluminum production and located at a major source as defined in § 63.2.

* * * * *

§ 63.841 [Removed and reserved]

■ 4. Section 63.841 is removed and reserved.

■ 5. Section 63.842 is amended by:

■ a. Adding, in alphabetical order, a definition of ''High purity aluminum'';

■ b. Removing the definition for ''Horizontal stud Soderberg (HSS) process'';

■ c. Adding, in alphabetical order, definitions of ''Operating day'' and ''Particulate matter (PM)'';

■ d. Revising the definition for ''Paste production plant'';

■ e. Adding, in alphabetical order definitions of ''Polychlorinated biphenyl (PCB)'', ''Startup of an anode bake furnace'', and ''Toxicity equivalence (TEQ)''; and

■ f. Removing the definition for ''Vertical stud Soderberg one (VSS1)''.The revisions and additions read as follows:

§ 63.842 Definitions.

* * * * *

High purity aluminum means aluminum produced with an average purity level of at least 99.9 percent.

* * * * *

Operating day means a 24-hour period between 12 midnight and the following midnight during which an affected source operates at any time. It is not necessary for operations to occur for the entire 24-hour period.

Particulate matter (PM) means, for the purposes of this subpart, emissions of particulate matter that serve as a measure of total particulate emissions and as a surrogate for metal hazardous air pollutants contained in the particulates, including but not limited to: Antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel and selenium.

Paste production plant means the processes whereby calcined petroleum coke, coal tar pitch (hard or liquid) and/or other materials are mixed, transferred and formed into briquettes or paste for vertical stud Soderberg (VSS) processes or into green anodes for a prebake process. This definition includes all operations from initial mixing to final forming (i.e., briquettes, paste, green anodes) within the paste production plant, including conveyors and units managing heated liquid pitch.

* * * * *

Polychlorinated biphenyl (PCB) means any or all of the 209 possible chlorinated biphenyl isomers.

* * * * *

Startup of an anode bake furnace means the process of initiating heating to the anode bake furnace. The startup or re-start of the furnace begins when the heating begins. The startup or re-start concludes at the start of the second anode bake cycle if the furnace was at ambient temperature upon startup or when the anode bake cycle resumes if the furnace was not at ambient temperature.

* * * * *

Toxicity equivalence (TEQ) means an international method of expressing toxicity equivalents for PCBs as defined in U.S. EPA, Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds, EPA/100/R–10/005 December 2010.

* * * * *

■ 6. Section 63.843 is amended by:

■ a. Revising paragraph (a) introductory text, and paragraphs (a)(1)(iv), (a)(1)(vi), and (a)(2)(iii);

■ b. Removing paragraph (a)(1)(vii);

■ c. Removing and reserving paragraphs (a)(1)(v), (a)(2)(i) and (a)(2)(ii);

■ d. Adding paragraphs (a)(2)(iv) through (vii);

■ e. Redesignating paragraph (a)(3) as (a)(7) and adding new paragraphs (a)(3) through (6);

■ f. Revising paragraph (b) introductory text, and paragraph (b)(1);

■ g. Adding paragraph (b)(4);

■ h. Revising paragraph (c); and

■ i. Adding paragraphs (d), (e) and (f).

The revisions and additions read as follows:

§ 63.843 Emission limits for existing sources.

(a) *Potlines.* The owner or operator shall not discharge or cause to be discharged into the atmosphere any emissions of TF, POM, PM, nickel, arsenic or PCB in excess of the applicable limits in paragraphs (a)(1) through (6) of this section.

(1) * * *

(iv) 0.8 kg/Mg (1.6 lb/ton) of aluminum produced for each SWPB potline; and

(v) [Reserved]

(vi) 1.35 kg/Mg (2.7 lb/ton) of aluminum produced for each VSS2 potline.

(2) * * *

(i) [Reserved]

(ii) [Reserved]

(iii) 0.85 kg/Mg (1.9 lb/ton) of aluminum produced for each VSS2 potline;

(iv) 0.55 kg/Mg (1.1 lb/ton) of aluminum produced for each CWPB1 prebake potline;

(v) 6.0 kg/Mg (12 lb/ton) of aluminum produced for each CWPB2 prebake potline;

(vi) 1.4 kg/Mg (2.7 lb/ton) of aluminum produced for each CWPB3 prebake potline; and

(vii) 8.5 kg/Mg (17 lb/ton) of aluminum produced for each SWPB prebake potline.

(3) *PM limits.* Emissions of PM shall not exceed:

(i) 3.7 kg/Mg (7.4 lb/ton) of aluminum produced for each CWPB1 potline;

(ii) 5.5 kg/Mg (11 lb/ton) of aluminum produced for each CWPB2 potline;

(iii) 10 kg/Mg (20 lb/ton) of aluminum produced for each CWPB3 potline;

(iv) 2.45 kg/Mg (4.9 lb/ton) of aluminum produced for each SWPB potline; and

(v) 13 kg/Mg (26 lb/ton) of aluminum produced for each VSS2 potline.

(4) *Nickel limit.* Emissions of nickel shall not exceed 0.07 lb/ton of aluminum produced from each VSS2 potline at a primary aluminum reduction plant.

(5) *Arsenic limit.* Emissions of arsenic shall not exceed 0.006 lb/ton of aluminum produced from each VSS2 potline at a primary aluminum reduction plant.

(6) *PCB limit.* Emissions of PCB shall not exceed 2.0 μg toxicity equivalence (TEQ) per ton of aluminum produced from each VSS2 potline at a primary aluminum reduction plant.

(7) * * *

(b) *Paste production plants.* The owner or operator shall install, operate and maintain equipment to capture and control POM and PM emissions from each paste production plant.

(1) The emission capture system shall be installed and operated to meet the generally accepted engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of ‘‘Industrial Ventilation: A Handbook of Recommended Practice’’ (incorporated by reference; see § 63.14); and

* * * * *

(4) *PM limit.* Emissions of PM shall not exceed 0.041 kg/Mg (0.082 lb/ton) of paste.

(c) *Anode bake furnaces.* The owner or operator shall not discharge or cause to be discharged into the atmosphere any emissions of TF, POM, PM or mercury in excess of the limits in paragraphs (c)(1) through (4) of this section.

(1) *TF limit.* Emissions of TF shall not exceed 0.10 kg/Mg (0.20 lb/ton) of green anode;

(2) *POM limit.* Emissions of POM shall not exceed 0.09 kg/Mg (0.18 lb/ton) of green anode;

(3) *PM limit.* Emissions of PM shall not exceed 0.10 kg/Mg (0.20 lb/ton) of green anode; and

(4) *Mercury limit.* Emissions of mercury shall not exceed 1.7 μg/dscm.

(d) *Pitch storage tanks.* Each pitch storage tank shall be equipped with an emission control system designed and operated to reduce inlet emissions of POM by 95 percent or greater.

(e) *COS limit.* Emissions of COS must not exceed 1.95 kg/Mg (3.9 lb/ton) of aluminum produced for each potline.

(f) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.

■ 7. Section 63.844 is amended by:

■ a. Revising paragraph (a) introductory text, and paragraph (a)(2);

■ b. Adding paragraphs (a)(3) through (6);

■ c. Revising paragraph (b);

■ d. Revising paragraph (c); and

■ e. Adding paragraphs (e) and (f).

The revisions and additions read as follows:

§ 63.844 Emission limits for new or reconstructed sources.

(a) *Potlines.* The owner or operator shall not discharge or cause to be discharged into the atmosphere any emissions of TF, POM, PM, nickel, arsenic or PCB in excess of the applicable limits in paragraphs (a)(1) through (6) of this section.

* * * * *

(2) *POM limit.* Emissions of POM from potlines must not exceed 0.39 kg/Mg (0.77 lb/ton) of aluminum produced.

(3) *PM limit.* Emissions of PM from potlines must not exceed 2.45 kg/Mg (4.9 lb/ton) of aluminum produced.

(4) *Nickel limit.* Emissions of nickel shall not exceed 0.035 kg/Mg (0.07 lb/ton) of aluminum produced from each Soderberg potline at a primary aluminum reduction plant.

(5) *Arsenic limit.* Emissions of arsenic shall not exceed 0.003 kg/Mg (0.006 lb/ton) of aluminum produced from each Soderberg potline at a primary aluminum reduction plant.

(6) *PCB limit.* Emissions of PCB shall not exceed 2.0 μg TEQ/ton of aluminum produced from each Soderberg potline at a primary aluminum reduction plant.

(b) *Paste production plants.* (1) The owner or operator shall meet the requirements in § 63.843(b)(1) through (3) for existing paste production plants and shall not discharge or cause to be discharged into the atmosphere any emissions of PM in excess of the limit in paragraph (b)(2) of this section.

(2) Emissions of PM shall not exceed 0.0028 kg/Mg (0.0056 lb/ton) of green anode.

(c) *Anode bake furnaces.* The owner or operator shall not discharge or cause to be discharged into the atmosphere any emissions of TF, PM, POM or mercury in excess of the limits in paragraphs (c)(1) through (4) of this section.

(1) *TF limit.* Emissions of TF shall not exceed 0.01 kg/Mg (0.02 lb/ton) of green anode;

(2) *POM limit.* Emissions of POM shall not exceed 0.025 kg/Mg (0.05 lb/ton) of green anode;

(3) *PM limit.* Emissions of PM shall not exceed 0.035 kg/Mg (0.07 lb/ton) of green anode; and

(4) *Mercury limit.* Emissions of mercury shall not exceed 1.7 μg/dscm.

* * * * *

(e) *COS limit.* Emissions of COS must not exceed 1.55 kg/Mg (3.1 lb/ton) of aluminum produced for each potline.

(f) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.

■ 8. Section 63.846 is amended by:

■ a. Revising paragraph (b);

■ b. Revising paragraph (c);

■ c. Revising paragraphs (d)(2)(ii) through (iv) and (d)(4)(i) through (iii); and

■ d. Removing paragraph (d)(4)(iv).

The revisions read as follows:

§ 63.846 Emission averaging.

* * * * *

(b) *Potlines.* The owner or operator may average emissions from potlines and demonstrate compliance with the limits in Tables 1 through 3 of this subpart using the procedures in paragraphs (b)(1) through (3) of this section.

(1) Semiannual average emissions of TF shall not exceed the applicable emission limit in Table 1 of this subpart. The emission rate shall be calculated based on the total primary and secondary emissions from all potlines comprising the averaging group over the period divided by the quantity of aluminum produced during the period, from all potlines comprising the averaging group. To determine compliance with the applicable emission limit in Table 1 of this subpart for TF emissions, the owner or operator shall determine the average emissions (in lb/ton) from each potline from at least three runs per potline semiannually for TF secondary emissions and at least three runs per potline primary control system each year using the procedures and methods in §§ 63.847 and 63.849. The owner or operator shall combine the results of secondary TF average emissions with the TF results for the primary control system and divide total emissions by total aluminum production.

(2) Semiannual average emissions of POM shall not exceed the applicable emission limit in Table 2 of this subpart. The emission rate shall be calculated based on the total primary and secondary emissions from all potlines comprising the averaging group over the period divided by the quantity of aluminum produced during the period, from all potlines comprising the averaging group. To determine compliance with the applicable emission limit in Table 2 of this subpart for POM emissions, the owner or operator shall determine the average emissions (in lb/ton) from each potline from at least three runs per potline semiannually for POM secondary emissions and at least three runs per potline primary control system each year for POM primary emissions using the procedures and methods in §§ 63.847 and 63.849. The owner or operator shall combine the results of secondary POM average emissions with the POM results for the primary control system and divide total emissions by total aluminum production.

(3) Semiannual average emissions of PM shall not exceed the applicable emission limit in Table 3 of this subpart. The emission rate shall be calculated based on the total primary and secondary emissions from all potlines comprising the potline group over the period divided by the quantity of aluminum produced during the period, from all potlines comprising the averaging group. To determine compliance with the applicable emission limit in Table 3 of this subpart for PM emissions, the owner or operator shall determine the average emissions (in lb/ton) from each potline from at least three runs per potline semiannually for PM secondary emissions and at least three runs per potline primary control system each year for PM primary emissions using the procedures and methods in §§ 63.847 and 63.849. The owner or operator shall combine the results of secondary PM average emissions with the PM results for the primary control system and divide total emissions by total aluminum production.

(c) *Anode bake furnaces.* The owner or operator may average TF emissions from anode bake furnaces and demonstrate compliance with the limits in Table 4 of this subpart using the procedures in paragraphs (c)(1) and (2) of this section. The owner or operator also may average POM emissions from anode bake furnaces and demonstrate compliance with the limits in Table 4 of this subpart using the procedures in paragraphs (c)(1) and (2) of this section. The owner or operator also may average

PM emissions from anode bake furnaces and demonstrate compliance with the limits in Table 4 of this subpart using the procedures in paragraphs (c)(1) and (2) of this section.

(1) Annual emissions of TF, POM and/or PM from a given number of anode bake furnaces making up each averaging group shall not exceed the applicable emission limit in Table 4 of this subpart in any one year; and

(2) To determine compliance with the applicable emission limit in Table 4 of this subpart for anode bake furnaces, the owner or operator shall determine TF, POM and/or PM emissions from the control device for each anode bake furnace at least once each year using the procedures and methods in §§ 63.847 and 63.849.

(d) * * *

(2) * * *

(ii) The assigned TF, POM and/or PM emission limit for each averaging group of potlines and/or anode bake furnaces;

(iii) The specific control technologies or pollution prevention measures to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measures reduce or eliminate emissions from multiple sources, the owner or operator must identify each source;

(iv) The test plan for the measurement of TF, POM and/or PM emissions in accordance with the requirements in § 63.847(b);

* * * * *

(4) * * *

(i) Any averaging between emissions of differing pollutants or between differing sources. Emission averaging shall not be allowed between TF, POM and/or PM, and emission averaging shall not be allowed between potlines and anode bake furnaces;

(ii) The inclusion of any emission source other than an existing potline or existing anode bake furnace or the inclusion of any potline or anode bake furnace not subject to the same operating permit; or

(iii) The inclusion of any potline or anode bake furnace while it is shut down, in the emission calculations.

* * * * *

■ 9. Section 63.847 is amended by:

■ a. Revising paragraph (a) introductory text, and paragraphs (a)(1) and (a)(2);

■ b. Removing and reserving paragraph (a)(3);

■ c. Adding paragraphs (a)(5) through (9);

■ d. Removing and reserving paragraph (b)(6);

■ e. Revising paragraph (c) introductory text, paragraph (c)(1), and paragraph (c)(2) introductory text;

■ f. Adding paragraph (c)(2)(iv);

■ g. Revising paragraph (c)(3) introductory text;

■ h. Adding paragraphs (c)(3)(iii) and (iv);

■ i. Revising paragraph (d) introductory text and paragraph (d)(1);

■ j. Removing and reserving paragraph (d)(2);

■ k. Revising paragraph (d)(4);

■ l. Adding paragraphs (d)(5) through (7);

■ m. Revising paragraph (e) introductory text, and paragraph (e)(1);

■ n. Removing and reserving paragraph (e)(2);

■ o. Revising paragraphs (e)(3) and (e)(4);

■ p. Adding paragraph (e)(8);

■ q. Revising paragraph (f);

■ r. Revising paragraph (g) introductory text, and paragraphs (g)(2)(ii) and (iv);

■ s. Adding and reserving paragraph (i); and

■ t. Adding paragraphs (j), (k), (l) and (m).

The revisions and additions read as follows:

§ 63.847 Compliance provisions.

(a) *Compliance dates.* The owner operator of a primary aluminum reduction plant must comply with the requirements of this subpart by the applicable compliance date in paragraph (a)(1), (a)(2) or (a)(4) of this section:

(1) Except as noted in paragraph (a)(2) of this section, the compliance date for an owner or operator of an existing plant or source subject to the provisions of this subpart is October 7, 1999.

(2) The compliance dates for existing plants and sources are:

(i) October 15, 2015 for the malfunction provisions of § 63.850(d)(2) and (e)(4)(xvi) and (xvii) and the electronic reporting provisions of § 63.850(b), (c) and (f) which became effective October 15, 2015.

(ii) October 17, 2016 for potline work practice standards in § 63.854 and COS emission limit provisions of § 63.843(e); for anode bake furnace startup practices in § 63.847(l) and PM emission limits in § 63.843(c)(3); for Soderberg potline PM and PCB emission limits in § 63.843(a)(3)(v) and (a)(6); and for paste production plant startup practices in § 63.847(m) and PM emission limits in § 63.843(b)(4) which became effective October 15, 2015.

(iii) October 16, 2017 for prebake potline POM emission limits in § 63.843(a)(2)(iv) through (vii); for Soderberg potline POM, As and Ni emission limits in §§ 63.843(a)(2)(iii), (a)(4) and (5); for prebake potline PM emission limits in § 63.843(a)(3); for anode bake furnace Hg emission limits in § 63.843(c)(4); and for the pitch storage tank POM limit provisions of § 63.843(d) which became effective October 15, 2015.

(3) [Reserved]

* * * * *

(5) Except as provided in paragraphs (a)(6) and (7) of this section, a new affected source is one for which construction or reconstruction commenced after September 26, 1996.

(6) For the purposes of compliance with the emission standards for PM, a new affected potline, anode bake furnace or paste production plant is one for which construction or reconstruction commenced after December 8, 2014.

(7) For the purposes of compliance with the emission standards for POM and COS, a new affected prebake potline is one for which construction or reconstruction commenced after December 8, 2014.

(8) For the purposes of compliance with the emission standards for As, Ni and POM, a new affected Soderberg potline is one for which construction or reconstruction commenced after December 8, 2014.

(9) For the purposes of compliance with the emission standards for Hg, a new affected anode bake furnace is one for which construction or reconstruction commenced after December 8, 2014.

* * * * *

(b) * * *

(6) [Reserved]

* * * * *

(c) Following approval of the site-specific test plan, the owner or operator must conduct a performance test to demonstrate initial compliance according to the procedures in paragraph (d) of this section. If a performance test has been conducted on the primary control system for potlines, the anode bake furnace, the paste production plant, or (if applicable) the pitch storage tank control device within the 12 months prior to the compliance date, the results of that performance test may be used to demonstrate initial compliance. The owner or operator must conduct the performance test:

(1) During the first month following the compliance date for an existing potline (or potroom group), anode bake furnace, paste production plant or pitch storage tank.

(2) By the date determined according to the requirements in paragraph (c)(2)(i), (ii), (iii), or (iv) of this section for a new or reconstructed potline, anode bake furnace, or pitch storage tank (for which the owner or operator

elects to conduct an initial performance test):

* * * * *

(iv) By the 30th day following startup of a paste production plant. The 30-day period starts when the paste production plant produces green anodes.

(3) By the date determined according to the requirements in paragraph (c)(3)(i), (ii), (iii) or (iv) of this section for an existing potline, anode bake furnace, paste production plant, or pitch storage tank that was shut down at the time compliance would have otherwise been required and is subsequently restarted:

* * * * *

(iii) By the 30th day following startup of a paste production plant. The 30-day period starts when the paste production plant produces green anodes.

(iv) By the 30th day following startup for a pitch storage tank. The 30-day period starts when the tank is first used to store pitch.

(d) *Performance test requirements.* The initial performance test and all subsequent performance tests must be conducted in accordance with the applicable requirements of the general provisions in subpart A of this part, the approved test plan and the procedures in this section. Performance tests must be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(1) *TF, POM and PM emissions from potlines.* For each potline, the owner or operator shall measure and record the emission rates of TF, POM and PM exiting the outlet of the primary control system and the rate of secondary emissions exiting through each roof monitor, or for a plant with roof scrubbers, exiting through the scrubbers. Using the equation in paragraph (e)(1) of this section, the owner or operator shall compute and record the average of at least three runs semiannually for secondary emissions and at least three runs each year for the primary control system to determine compliance with the applicable emission limit. Compliance is demonstrated when the emission rates of TF, POM, and PM are equal to or less than the applicable emission limits in § 63.843, § 63.844, or § 63.846.

(2) [Reserved]

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(4) *TF, POM, PM and Hg emissions from anode bake furnaces.* For each anode bake furnace, the owner or operator shall measure and record the emission rate of TF, POM, PM and Hg exiting the exhaust stacks(s) of the primary emission control system. In accordance with paragraphs (e)(3) and (4) of this section, the owner or operator shall compute and record the average of at least three runs each year to determine compliance with the applicable emission limits for TF, POM, PM and Hg. Compliance is demonstrated when the emission rates of TF, POM, PM and Hg are equal to or less than the applicable TF, POM, PM and Hg emission limits in § 63.843, § 63.844 or § 63.846.

(5) *Nickel emissions from VSS2 Potlines and new Soderberg potlines.* (i) For each VSS2 potline, and for each new Soderberg potline, the owner or operator must measure and record the emission rate of nickel exiting the primary emission control system and the rate of secondary emissions of nickel exiting through each roof monitor, or for a plant with roof scrubbers, exiting through the scrubbers. Using the equation in paragraph (e)(1) of this section, the owner or operator must compute and record the average of at least three runs each year for secondary emissions and at least three runs each year for primary emissions.

(ii) Compliance is demonstrated when the emissions of nickel are equal to or less than the applicable emission limit in § 63.843(a)(4) or § 63.844(a)(4).

(6) *Arsenic emissions from VSS2 Potlines and from new Soderberg potlines.* (i) For each VSS2 potline, and for each new Soderberg potline, the owner or operator must measure and record the emission rate of arsenic exiting the primary emission control system and the rate of secondary emissions of arsenic exiting through each roof monitor, or for a plant with roof scrubbers, exiting through the scrubbers. Using the equation in paragraph (e)(1) of this section, the owner or operator must compute and record the average of at least three runs each year for secondary emissions and at least three runs each year for primary emissions.

(ii) Compliance is demonstrated when the emissions of arsenic are equal to or less than the applicable emission limit in § 63.843(a)(5) or § 63.844(a)(5).

(7) *PCB emissions from VSS2 Potlines and from new Soderberg potlines.* (i) For each VSS2 potline, and for each new Soderberg potline, the owner or operator must measure and record the emission rate of PCB exiting the primary emission control system and the rate of secondary emissions of PCB exiting through each roof monitor, or for a plant with roof scrubbers, exiting through the scrubbers. Using the equation in paragraph (e)(1) of this section, the owner or operator must compute and record the average of at least three runs each year for secondary emissions and at least three runs each year for primary emissions.

(ii) Compliance is demonstrated when the emissions of PCB are equal to or less than the applicable emission limit in § 63.843(a)(6) or § 63.844(a)(6).

(e) The owner or operator shall determine compliance with the applicable TF, POM, PM, nickel, arsenic or PCB emission limits using the following equations and procedures:

(1) Compute the emission rate (E_p) of TF, POM, PM, nickel, arsenic or PCB from each potline using Equation 1:

$$E_p = \frac{\left[(C_{s1} \times Q_{sd})_1 + (C_{s2} \times Q_{sd})_2\right]}{(P \times K)} \qquad (Equation\ 1)$$

Where:

E_p = emission rate of TF, POM, PM, nickel or arsenic from a potline, kg/Mg (lb/ton) (or µg TEQ/ton for PCB);

C_{s1} = concentration of TF, POM, PM, nickel or arsenic from the primary control system, mg/dscm (mg/dscf) (or µg TEQ/dscf for PCB);

Q_{sd} = volumetric flow rate of effluent gas corresponding to the appropriate subscript location, dscm/hr (dscf/hr);

C_{s2} = concentration of TF, POM, PM, nickel or arsenic as measured for roof monitor emissions, mg/dscm (mg/dscf) (or µg TEQ/dscf for PCB);

P = aluminum production rate, Mg/hr (ton/hr);

K = conversion factor, 10^6 mg/kg (453,600 mg/lb) for TF, POM, PM, nickel or arsenic (= 1 for PCB);

$_1$ = subscript for primary control system effluent gas; and

$_2$ = subscript for secondary control system or roof monitor effluent gas.

(2) [Reserved]

(3) Compute the emission rate (E_b) of TF, POM or PM from each anode bake furnace using Equation 2,

$$E_b = \frac{(C_s \times Q_{sd})}{(P_b \times K)} \qquad (Equation\ 2)$$

Where:

E_b = emission rate of TF, POM or PM, kg/mg (lb/ton) of green anodes;
C_s = concentration of TF, POM or PM, mg/dscm (mg/dscf);
Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr);
P_b = quantity of green anode material placed in the furnace, mg/hr (ton/hr); and
K = conversion factor, 10^6 mg/kg (453,600 mg/lb).

(4) Compliance with the anode bake furnace Hg emission standard is demonstrated if the Hg concentration of the exhaust from the anode bake furnace control device is equal to or less than the applicable concentration standard in § 63.843(c)(4) or § 63.844(c)(4).

* * * * *

(8) Compute the emission rate (E_{PMpp}) of PM from each paste production plant using Equation 3,

$$E_{PMpp} = \frac{(C_s \times Q_{sd})}{(P_b \times K)} \qquad Equation\ 3$$

Where:

E_{PMpp} = emission rate of PM, kg/mg (lb/ton) of green anode material exiting the paste production plant;
C_s = concentration of PM, mg/dscm (mg/dscf);
Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr);
P_b = quantity of green anode material exiting the paste production plant, mg/hr (ton/hr); and
K = conversion factor, 10^6 mg/kg (453,600 mg/lb).

(f) *Paste production plants.* (1) Initial compliance with the POM standards for existing and new paste production plants in §§ 63.843(b) and 63.844(b) will be demonstrated through site inspection(s) and review of site records by the applicable regulatory authority.

(2) For each paste production plant, the owner or operator shall measure and record the emission rate of PM exiting the exhaust stacks(s) of the primary emission control system. Using the equation in paragraph (e)(8) of this section, the owner or operator shall compute and record the average of at least three runs each year to determine compliance with the applicable emission limits for PM. Compliance with the PM standards for existing and new paste production plants is demonstrated when the PM emission rates are less than or equal to the applicable PM emission limits in §§ 63.843(b)(4) and 63.844(b)(2).

(g) *Pitch storage tanks.* The owner or operator must demonstrate initial compliance with the standard for pitch storage tanks in §§ 63.843(d) and 63.844(d) by preparing a design evaluation or by conducting a performance test. The owner or operator must submit for approval by the regulatory authority the information specified in paragraph (g)(1) of this section, along with the information specified in paragraph (g)(2) of this section where a design evaluation is performed or the information specified in paragraph (g)(3) of this section where a performance test is conducted.

* * * * *

(2) * * *

(ii) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 degrees C (1,400 degrees F) is used to meet the emission reduction requirement specified in § 63.843(d) and § 63.844(d), documentation that those conditions exist is sufficient to meet the requirements of § 63.843(d) and § 63.844(d);

* * * * *

(iv) If the pitch storage tank is vented to the emission control system installed for control of emissions from the paste production plant pursuant to § 63.843(b) or § 63.844(b)(1), documentation of compliance with the requirements of § 63.843(b) is sufficient to meet the requirements of § 63.843(d) or § 63.844(d);

* * * * *

(i) [Reserved]

(j) *Carbonyl sulfide (COS) emissions.* The owner operator must calculate, for each potline, the emission rate of COS for each calendar month of operation using Equation 4:

$$E_{COS} = [K] \times \left[\frac{Y}{Z}\right] \times [S] \quad \cdots (Equation\ 4)$$

Where:

E_{COS} = the emission rate of COS during the calendar month, pounds per ton of aluminum produced;
K = factor accounting for molecular weights and conversion of sulfur to carbonyl sulfide = 234;
Y = the mass of anode consumed in the potline during the calendar month, tons;
Z = the mass of aluminum produced by the potline during the calendar month, tons; and
S = the weighted average fraction of sulfur in the anode coke consumed in the production of aluminum during the calendar month (*e.g.,* if the weighted average sulfur content of the anode coke consumed during the calendar month was 2.5 percent, then S = 0.025). The weight of anode coke used during the calendar month of each different concentration of sulfur is used to calculate the overall weighted average fraction of sulfur.

Compliance is demonstrated if the calculated value of E_{COS} is less than the applicable standard for COS emissions in §§ 63.843(e) and 63.844(e).

(k) *Startup of potlines.* The owner or operator must develop a written startup plan as described in § 63.854(b) that contains specific procedures to be followed during startup periods of potline(s). Compliance with the applicable standards in § 63.854(b) will be demonstrated through site inspection(s) and review of site records by the regulatory authority.

(l) *Startup of anode bake furnaces.* The owner or operator must develop a written startup plan as described in paragraphs (l)(1) through (4) of this section, to be followed during startup periods of bake furnaces. Compliance with the startup plan will be demonstrated through site inspection(s) and review of site records by the regulatory authority. The written startup plan must contain specific procedures to be followed during startup periods of anode bake furnaces, including the following:

(1) A requirement to develop an anode bake furnace startup schedule.

(2) Records of time, date, duration of anode bake furnace startup and any nonroutine actions taken during startup of the furnaces.

(3) A requirement that the associated emission control system be operating within normal parametric limits prior to startup of the anode bake furnace.

(4) A requirement to take immediate actions to stop the startup process as soon as practicable and continue to comply with § 63.843(f) or § 63.844(f) if the associated emission control system is off line at any time during startup. The anode bake furnace restart may resume once the associated emission control system is back on line and operating within normal parametric limits.

(m) *Startup of paste production plants.* The owner or operator must develop a written startup plan as described in paragraphs (m)(1) through (3) of this section, to be followed during startup periods for paste production plants. Compliance with the startup plan will be demonstrated through site inspection(s) and review of site records by the regulatory authority. The written startup plan must contain specific procedures to be followed during startup periods of paste production plants, including the following:

(1) Records of time, date, duration of paste production plant startup and any nonroutine actions taken during startup of the paste production plants.

(2) A requirement that the associated emission control system be operating within normal parametric limits prior to startup of the paste production plant.

(3) A requirement to take immediate actions to stop the startup process as soon as practicable and continue to comply with § 63.843(f) or § 63.844(f) if the associated emission control system is off line at any time during startup. The paste production plant restart may resume once the associated emission control system is back on line and operating within normal parametric limits.

■ 10. Section 63.848 is amended by:

■ a. Revising paragraphs (a), (b), (c), (d) introductory text, (d)(1)(ii), and (d)(7);

■ b. Removing and reserving paragraph (e);

■ c. Adding paragraphs (f)(6) and (7);

■ d. Revising paragraph (g); and

■ e. Adding paragraphs (n), (o) and (p).

The revisions and additions read as follows:

§ 63.848 Emission monitoring requirements.

(a) *TF and PM emissions from potlines.* Using the procedures in § 63.847 and in the approved test plan, the owner or operator shall monitor emissions of TF and PM from each potline by conducting annual performance tests on the primary control system and semiannual performance tests on the secondary emissions. The owner or operator shall compute and record the average semiannually from at least three runs for secondary emissions and the average from at least three runs for the primary control system to determine compliance with the applicable emission limit. The owner or operator must include all valid runs in the semiannual average. The duration of each run for secondary emissions must represent a complete operating cycle. Potline emissions shall be recorded as the sum of the average of at least three runs from the primary control system and the average of at least three runs from the roof monitor or secondary emissions control device.

(b) *POM emissions from potlines.* Using the procedures in § 63.847 and in the approved test plan, the owner or operator must monitor emissions of POM from each potline stack annually and secondary potline POM emissions semiannually. The owner or operator must compute and record the semiannual average from at least three runs for secondary emissions and at least three runs for the primary control systems to determine compliance with the applicable emission limit. The owner or operator must include all valid runs in the semiannual average. The duration of each run for secondary emissions must represent a complete operating cycle. The primary control system must be sampled over an 8-hour period, unless site-specific factors dictate an alternative sampling time subject to the approval of the regulatory authority. Potline emissions shall be recorded as the sum of the average of at least three runs from the primary control system and the average of at least three runs from the roof monitor or secondary emissions control device.

(c) *TF, PM, Hg and POM emissions from anode bake furnaces.* Using the procedures in § 63.847 and in the approved test plan, the owner or operator shall determine TF, PM, Hg and POM emissions from each anode bake furnace on an annual basis. The owner or operator shall compute and record the annual average of TF, PM, Hg and POM emissions from at least three runs to determine compliance with the applicable emission limits. A minimum of four dscm per run must be collected for monitoring of Hg emissions. The owner or operator must include all valid runs in the annual average.

(d) *Similar potlines.* As an alternative to semiannual monitoring of TF, POM or PM secondary emissions from each potline using the methods in § 63.849, the owner or operator may perform semiannual monitoring of TF, POM or PM secondary emissions from one potline using the test methods in § 63.849(a) or (b) to represent the performance of similar potline(s). The similar potline(s) must be monitored using an alternative method that meets the requirements of paragraphs (d)(1) through (7) of this section. Two or more potlines are similar if the owner or operator demonstrates that their structure, operability, type of emissions, volume of emissions and concentration of emissions are substantially equivalent.

(1) * * *

(ii) For TF, POM and PM emissions, must meet or exceed Method 14 criteria.

* * * * *

(7) If the alternative method is approved by the applicable regulatory authority, the owner or operator must perform semiannual emission monitoring using the approved alternative monitoring procedure to demonstrate compliance with the alternative emission limit for each similar potline.

(e) [Reserved]

(f) * * *

(6) For emission sources control device exhaust streams for which the owner or operator chooses to demonstrate continuous compliance through bag leak detection systems you must install and operate a bag leak detection system according to the requirements in paragraph (o) of this section, and you must set your operating limit such that the sum of the durations of bag leak detection system alarms does not exceed 5 percent of the process operating time during a 6-month period.

(7) For emission sources control device exhaust streams for which the owner or operator chooses to demonstrate continuous compliance through a PM CEMS, you must install and operate a PM CEMS according to the requirements in paragraph (p) of this section. You must determine continuous compliance averaged on a rolling 30 operating day basis, updated at the end of each new operating day. All valid hours of data from 30 successive operating days shall be included in the arithmetic average. Compliance is demonstrated when the 30 operating day PM emissions are equal to or less than the applicable emission limits in § 63.843, § 63.844, or § 63.846.

(g) The owner or operator of a new or reconstructed affected source that is subject to a PM limit shall comply with the requirements of either paragraph (f)(6) or (7) of this section. The owner or operator of an existing affected source that is equipped with a control device and is subject to a PM limit shall:

(1) Install and operate a bag leak detection system in accordance with paragraph (f)(6) of this section; or

(2) Install and operate a PM CEMS in accordance with paragraph (f)(7) of this section; or

(3) Visually inspect the exhaust stack(s) of each fabric filter using Method 22 on a twice daily basis (at least 4 hours apart) for evidence of any visible emissions indicating abnormal operations and, must initiate corrective actions within 1 hour of a visible emissions inspection that indicates abnormal operation. Corrective actions shall include, at a minimum, isolating, shutting down and conducting an internal inspection of the baghouse compartment that is the source of the visible emissions that indicate abnormal operations.

* * * * *

(n) *PM emissions from paste production plants.* Using the procedures in § 63.847 and in the approved test plan, the owner or operator shall monitor PM emissions from each paste production plant on an annual basis. The owner or operator shall compute and record the annual average of PM emissions from at least three runs to determine compliance with the applicable emission limits. The owner or operator must include all valid runs in the annual average.

(o) *Bag leak detection system.* For each new affected source subject to a PM emissions limit, you must install, operate and maintain a bag leak detection system according to paragraphs (o)(1) through (3) of this section, unless a system meeting the requirements of paragraph (p) of this section, for a CEMS, is installed for monitoring the concentration of PM.

(1) You must develop and implement written procedures for control device maintenance that include, at a minimum, a preventative maintenance schedule that is consistent with the control device manufacturer's instructions for routine and long-term maintenance.

(2) Each bag leak detection system must meet the specifications and requirements in paragraphs (o)(2)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1.0 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings.

(iii) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loadings is detected over a preset level.

(iv) You must install, calibrate, operate and maintain the bag leak detection system according to the manufacturer's written specifications and recommendations.

(v) The initial adjustment of the system must, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vi) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except in accordance with the procedures developed under paragraph (o)(1) of this section. You cannot increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless such adjustment follows a complete PM control device inspection that demonstrates that the PM control device is in good operating condition.

(vii) You must install the bag leak detector downstream of the PM control device.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(3) You must include in the written procedures required by paragraph (o)(1) of this section a corrective action plan that specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan must include, at a minimum, the procedures that you will use to determine and record the time and cause of the alarm as well as the corrective actions taken to minimize emissions as specified in paragraphs (o)(3)(i) and (ii) of this section.

(i) The procedures used to determine the cause of the alarm must be initiated within 1 hour of the alarm.

(ii) The cause of the alarm must be alleviated by taking the necessary corrective action(s) that may include, but not be limited to, those listed in paragraphs (o)(3)(ii)(A) through (F) of this section.

(A) Inspecting the PM control device for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions.

(B) Sealing off defective bags or filter media.

(C) Replacing defective bags or filter media, or otherwise repairing the control device.

(D) Sealing off a defective baghouse compartment.

(E) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(F) Shutting down the process producing the particulate emissions.

(p) *Particulate Matter CEMS.* If you are using a CEMS to measure particulate matter emissions to meet requirements of this subpart, you must install, certify, operate and maintain the particulate matter CEMS as specified in paragraphs (p)(1) through (4) of this section.

(1) You must conduct a performance evaluation of the PM CEMS according to the applicable requirements of § 60.13, and Performance Specification 11 at 40 CFR part 60, Appendix B of this chapter.

(2) During each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, Appendix B of this chapter, collect data concurrently by both the CEMS and by conducting performance tests using Method 5, 5D or 5I at 40 CFR part 60, Appendix A–3.

(3) Operate and maintain the CEMS in accordance with Procedure 2 at 40 CFR part 60, Appendix F of this chapter. Relative Response Audits must be performed annually and Response Correlation Audits must be performed every three years.

■ 11. Section 63.849 is amended by:

■ a. Revising paragraph (a) introductory text, and paragraphs (a)(6) and (a)(7); and

■ b. Adding paragraphs (a)(8) through (14), and (f).

The revisions and additions read as follows:

§ 63.849 Test methods and procedures.

(a) The owner or operator shall use the following reference methods to determine compliance with the applicable emission limits for TF, POM, PM, Ni, As, Hg, PCB and conduct visible emissions observations:

* * * * *

(6) Method 315 in appendix A to this part or an approved alternative method for the concentration of POM where stack or duct emissions are sampled;

(7) Method 315 in appendix A to this part and Method 14 or 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of POM where emissions are sampled from roof monitors not employing wet roof scrubbers. Method 315 need not be set up as required in the method. Instead, when using Method 14A, replace the Method 14A monitor cassette filter with the filter specified by Method 315. Recover and analyze the filter according to Method 315. When using Method 14, test at ambient conditions, do not heat the filter and probe, and do not analyze the back half of the sampling train;

(8) Method 5 in appendix A to part 60 of this chapter or an approved alternative method for the concentration of PM where stack or duct emissions are sampled;

(9) Method 17 and Method 14 or Method 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of PM where emissions are sampled from roof monitors not employing wet roof scrubbers. Method 17 need not be set up as required in the method. Instead, when using Method 14A, replace the Method 14A monitor cassette filter with the filter specified by Method 17. Recover and analyze the filter according to Method 17. When using Method 14, test at ambient conditions, do not heat the filter and probe, and do not analyze the back half of the sampling train;

(10) Method 29 in appendix A to part 60 of this chapter or an approved alternative method for the concentration of mercury, nickel and arsenic where stack or duct emissions are sampled;

(11) Method 29 and Method 14 or Method 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of nickel and arsenic where emissions are sampled from roof monitors not employing wet roof scrubbers. Method 29 need not be set up as required in the method. Instead, replace the Method 14A monitor cassette filter with the filter specified by Method 29. Recover and analyze the filter according to Method 29. When using Method 14, test at ambient conditions, do not heat the filter and probe, and do not analyze the back half of the sampling train;

(12) Method 22 in Appendix A to part 60 of this chapter or an approved alternative method for determination of visual emissions;

(13) Method 428 of the California Air Resources Board (incorporated by reference; see § 63.14) for the measurement of PCB where stack or duct emissions are sampled; and

(14) Method 428 of the California Air Resources Board (incorporated by reference; see § 63.14) and Method 14 or Method 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of PCB where emissions are sampled from roof monitors not employing wet roof scrubbers.

* * * * *

(f) The owner or operator must use either ASTM D4239–14e1 or ASTM D6376–10 (incorporated by reference; see § 63.14) for determination of the sulfur content in anode coke shipments to determine compliance with the applicable emission limit for COS emissions.

■ 12. Section 63.850 is amended by:
■ a. Revising paragraphs (b), (c), and (d);
■ b. Removing and reserving paragraph (e)(4)(iii);
■ c. Revising paragraphs (e)(4)(xiv) and (e)(4)(xv); and
■ d. Adding paragraphs (e)(4)(xvi), (e)(4)(xvii) and (f).

The revisions and additions read as follows:

§ 63.850 Notification, reporting and recordkeeping requirements.

* * * * *

(b) *Performance test reports.* Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests following the procedure specified in either paragraph (b)(1) or (b)(2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(3) For data collected which requires summation of results from both ERT and non-ERT supported test methods in order to demonstrate compliance with an emission limit, you must submit the results of the performance test(s) used to demonstrate compliance with that emission limit to the Administrator at the appropriate address listed in § 63.13.

(c) *Performance evaluation reports.* Within 60 days after the date of completing each continuous emissions monitoring system performance evaluation (as defined in § 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (c)(1) or (2) of this section.

(1) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance evaluation data in an electronic file format consistent with the XML schema listed on the EPA's ERT Web site once the XML schema is available. If you claim that some of the

performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

(d) *Reporting.* In addition to the information required under § 63.10 of the General Provisions, the owner or operator must provide semiannual reports containing the information specified in paragraphs (d)(1) and (2) of this section to the Administrator or designated authority.

(1) Excess emissions report. As required by § 63.10(e)(3), the owner or operator must submit a report (or a summary report) if measured emissions are in excess of the applicable standard. The report must contain the information specified in § 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions.

(2) If there was a malfunction during the reporting period, the owner or operator must submit a report that includes the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §§ 63.843(f) and 63.844(f), including actions taken to correct a malfunction.

(e) * * *

(4) * * *

(iii) [Reserved]

* * * * *

(xiv) Records documenting any POM data that are invalidated due to the installation and startup of a cathode;

(xv) Records documenting the portion of TF that is measured as particulate matter and the portion that is measured as gaseous when the particulate and gaseous fractions are quantified separately using an approved test method;

(xvi) Records of the occurrence and duration of each malfunction of operation (*i.e.* process equipment) or the air pollution control equipment and monitoring equipment; and

(xvii) Records of actions taken during periods of malfunction to minimize emissions in accordance with §§ 63.843(f) and 63.844(f), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(f) All reports required by this subpart not subject to the requirements in paragraph (b) or (c) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (b) of this section in paper format.

■ 13. Section 63.854 is added to read as follows:

§ 63.854 Work practice standards for potlines.

(a) *Periods of operation other than startup.* If you own or operate a new or existing primary aluminum reduction affected source, you must comply with the requirements of paragraphs (a)(1) through (8) of this section during periods of operation other than startup.

(1) Ensure the potline scrubbers and exhaust fans are operational at all times.

(2) Ensure that the primary capture and control system is operating at all times.

(3) Hood covers should be replaced as soon as possible after each potroom operation.

(4) Inspect potlines daily and perform the work practices specified in paragraphs (a)(4)(i) through (iii) of this section.

(i) Identify unstable pots as soon as practicable but in no case more than 12 hours from the time the pot became unstable;

(ii) Reduce cell temperatures to as low as practicable, and follow the written operating plan described in paragraph (b)(4) of this section if the cell temperature exceeds the specified high temperature limit; and

(iii) Reseal pot crusts that have been broken as often and as soon as practicable.

(5) Ensure that hood covers fit properly and are in good condition.

(6) If the exhaust system is equipped with an adjustable damper system, the hood exhaust rate for individual pots must be increased whenever hood covers are removed from a pot, provided that the exhaust system will not be overloaded by placing too many pots on high exhaust.

(7) Dust entrainment must be minimized during material handling operations and sweeping of the working aisles.

(8) Only tapping crucibles with functional aspirator air return systems (for returning gases under the collection hooding) can be used, unless the regulatory authority approves an alternative tapping crucible.

(b) *Periods of startup.* If you own or operate a new or existing primary aluminum reduction affected source, you must comply with the requirements of paragraphs (a)(1) through (8) and (b)(1) through (4) of this section during periods of startup for each affected potline.

(1) Develop a potline startup schedule before starting up the potline.

(2) Keep records of the number of pots started each day.

(3) Inspect potlines daily and adjust pot parameters to their optimum levels, as specified in the operating plan described in paragraph (b)(4) of this section, including, but not limited to: alumina addition rate, exhaust air flow rate, cell voltage, feeding level, anode current and liquid and solid bath levels.

(4) Prepare a written operating plan to minimize emissions during startup to include, but not limited to, the requirements in (b)(1) through (3) of this section. The operating plan must include a specified high temperature limit for pots that will trigger corrective action.

■ 14. Section 63.855 is added to read as follows:

§ 63.855 Alternative emissions limits for co-controlled new and existing anode bake furnaces.

(a) *Applicability.* The owner or operator of a new anode bake furnace meeting the criteria of paragraphs (a)(1) and (2) of this section may demonstrate compliance with alternative TF and POM emission limits according to the procedures of this section.

(1) The new anode bake furnace must have been permitted to operate prior to May 1, 1998; and

(2) The new anode bake furnace must share a common control device with one or more existing anode bake furnaces.

(b) *TF emission limit.* (1) Prior to the date on which each TF emission test is required to be conducted, the owner or operator must determine the applicable TF emission limit using Equation 6–A,

$$L_{TFC} = [(L_{TFE} \times P_E) + (0.018 \times P_N)]/(P_E + P_N) \qquad \text{Eq. 6-A}$$

Where:

L_{TFC} = Combined emission limit for TF, lb/ton green anode material placed in the bake furnace;

L_{TFE} = TF limit for emission averaging for the total number of new and existing anode bake furnaces from Table 4 to this subpart;

P_E = Mass of green anode placed in existing anode bake furnaces in the twelve months preceding the compliance test, ton/year; and

P_N = Mass of green anode placed in new anode bake furnaces in the twelve months preceding the compliance test, ton/year.

(2) The owner or operator of a new anode bake furnace that is controlled by a control device that also controls emissions of TF from one or more existing anode bake furnaces must not discharge, or cause to be discharged into the atmosphere, any emissions of TF in excess of the emission limits established in paragraph (b)(1) of this section.

(c) *POM emission limits.* (1) Prior to the date on which each POM emission test is required to be conducted, the owner or operator must determine the applicable POM emission limit using Equation 6–B,

$$L_{POMC} = [(0.17 \times P_E) + (0.045 \times P_N)]/(P_E + P_N) \qquad \text{Eq. 6-B}$$

Where:

L_{POMC} = Combined emission limit for POM, lb/ton green anode material placed in the bake furnace.

(2) The owner or operator of a new anode bake furnace that is controlled by a control device that also controls emissions of POM from one or more existing anode bake furnaces must not discharge, or cause to be discharged into the atmosphere, any emissions of TF in excess of the emission limits established in paragraph (c)(1) of this section.

■ 15. Table 1 to Subpart LL of Part 63 is revised to read as follows:

TABLE 1 TO SUBPART LL OF PART 63—POTLINE TF LIMITS FOR EMISSION AVERAGING

Type	Semiannual TF limit (lb/ton) [for given number of potlines]						
	2 lines	3 lines	4 lines	5 lines	6 lines	7 lines	8 lines
CWPB1	1.7	1.6	1.5	1.5	1.4	1.4	1.4
CWPB2	2.9	2.8	2.7	2.7	2.6	2.6	2.6
CWPB3	2.3	2.2	2.2	2.1	2.1	2.1	2.1
SWPB	1.4	1.3	1.3	1.2	1.2	1.2	1.2
VSS2	2.6	2.5	2.5	2.4	2.4	2.4	2.4

■ 16. Table 2 to Subpart LL of Part 63 is revised to read as follows:

TABLE 2 TO SUBPART LL OF PART 63—POTLINE POM LIMITS FOR EMISSION AVERAGING

Type	Semiannual POM limit (lb/ton) [for given number of potlines]						
	2 lines	3 lines	4 lines	5 lines	6 lines	7 lines	8 lines
CWPB1	1	0.9	0.9	0.9	0.8	0.8	0.8
CWPB2	11.6	11.2	10.8	10.8	10.4	10.4	10.4
CWPB3	2.5	2.4	2.4	2.3	2.3	2.3	2.3
SWPB	14.8	13.8	13.8	13.8	13.8	13.8	13.8
VSS2	1.7	1.6	1.5	1.5	1.4	1.4	1.4

■ 17. Table 3 to Subpart LL of Part 63 is redesignated as Table 4 to Subpart LL of Part 63 and revised to read as follows:

TABLE 4 TO SUBPART LL OF PART 63—ANODE BAKE FURNACE LIMITS FOR EMISSION AVERAGING

Number of furnaces	Emission limit (lb/ton of anode)		
	TF	POM	PM
2	0.11	0.17	0.11

TABLE 4 TO SUBPART LL OF PART 63—ANODE BAKE FURNACE LIMITS FOR EMISSION AVERAGING—Continued

Number of furnaces	Emission limit (lb/ton of anode)		
	TF	POM	PM
3	0.09	0.17	0.091
4	0.077	0.17	0.076
5	0.07	0.17	0.071

■ 18. New Table 3 to Subpart LL of Part 63 is added to read as follows:

TABLE 3 TO SUBPART LL OF PART 63—POTLINE PM LIMITS FOR EMISSION AVERAGING

Type	Semiannual PM limit (lb/ton) [for given number of potlines]						
	2 lines	3 lines	4 lines	5 lines	6 lines	7 lines	8 lines
CWPB1	6.1	6.1	5.3	5.3	5.0	5.0	5.0
CWPB2	10.6	10.3	9.9	9.9	9.5	9.5	9.5
CWPB3	18.4	17.6	17.6	16.8	16.8	16.8	16.8
SWPB	4.3	3.9	3.9	3.7	3.7	3.7	3.7
VSS2	25	24.1	24.1	23.1	23.1	23.1	23.1

■ 19. Appendix A to Subpart LL of Part 63 is revised to read as follows:

APPENDIX A TO SUBPART LL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A)

Reference section(s)	Requirement	Applies to subpart LL	Comment
63.1(a)(1) through (4)	General Applicability	Yes.	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)		Yes.	
63.1(a)(7) through (9)		No	[Reserved].
63.1(a)(10) through (12)		Yes.	
63.1(b)(1) through (3)	Initial Applicability Determination	Yes	(b)(2) Reserved.
63.1(c)(1)	Applicability after standard Established	Yes.	
63.1(c)(2)		Yes	Area sources are not subject to this subpart.
63.1(c)(3) and (4)		No	[Reserved].
63.1(c)(5)		Yes.	
63.1(d)		No	[Reserved].
63.1(e)	Applicability of Permit Program	Yes.	
63.2	Definitions	Yes	Reconstruction defined in § 63.842.
63.3	Units and Abbreviations	Yes.	
63.4(a)(1) and (2)	Prohibited activities	Yes.	
63.4(a)(3) through (5)		No	[Reserved].
63.4(b) and (c)	Circumvention/Severability	Yes.	
63.5(a)	Construction/Reconstruction Applicability	Yes.	
63.5(b)(1)	Existing, New, Reconstructed Sources Requirements.	Yes.	
63.5(b)(2)		No	[Reserved].
63.5(b)(3) and (4)		Yes.	
63.5(b)(5)		No	[Reserved].
63.5(b)(6)		Yes.	
63.5(c)		No	[Reserved].
63.5(d)	Application for Approval of Construction/Reconstruction.	Yes.	
63.5(e)	Approval of Construction/Reconstruction	Yes.	
63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes.	
63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes.	
63.6(b)(1) through (5)	New and Reconstructed Source Dates	Yes	See § 847(a)(6) and (7).
63.6(b)(6)		No	[Reserved].
63.6(b)(7)		Yes.	
63.6(c)(1)	Existing Source Dates	No	See § 847(a).
63.6(c)(2)		Yes.	
63.6(c)(3) and (4)		No	[Reserved].
63.6(c)(5)		Yes.	
63.6(d)		No	[Reserved].

APPENDIX A TO SUBPART LL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A)—Continued

Reference section(s)	Requirement	Applies to subpart LL	Comment
63.6(e)(1)(i)		No	See §§ 63.843(f) and 63.844(f) for general duty requirement.
63.6(e)(1)(ii)		No.	
63.6(e)(1)(iii)		Yes.	
63.6(e)(2)		No	[Reserved].
63.6(e)(3)	Startup, Shutdown and Malfunction Plan	No.	
63.6(f)(1)	Compliance with Emissions Standards	No.	
63.6(f)(2)	Methods/Finding of Compliance	Yes.	
63.6(g)	Alternative Standard	Yes.	
63.6(h)	Compliance with Opacity/VE Standards	Only in § 63.845	Opacity standards applicable only when incorporating the NSPS requirements under § 63.845.
63.6(i)(1) through (14)	Extension of Compliance	Yes.	
63.6(i)(15)		No	[Reserved].
63.6(i)(16)		Yes.	
63.6(j)	Exemption from Compliance	Yes.	
63.7(a)	Performance Test Requirements Applicability.	Yes.	
63.7(b)	Notification	Yes.	
63.7(c)	Quality Assurance/Test Plan	Yes.	
63.7(d)	Testing facilities	Yes.	
63.7(e)(1)	Conduct of Tests	No	See § 63.847(d).
63.7(e)(2) through (4)		Yes.	
63.7(f), (g), (h)	Alternative Test Method	Yes.	
63.8(a)(1) and (2)	Monitoring Requirements Applicability	Yes.	
63.8(a)(3)		No	[Reserved].
63.8(b)	Conduct of Monitoring	Yes.	
63.8(c)(1)(i)		No	See §§ 63.843(f) and 63.844(f) for general duty requirement.
63.8(c)(1)(ii)		Yes.	
63.8(c)(1)(iii)		No.	
63.8(c)(2) through (d)(2)		Yes.	
63.8(d)(3)		Yes, except for last sentence.	
63.8(e) through (g)		Yes.	
63.9(a)	Notification Requirements Applicability	Yes.	
63.9(b)	Initial Notifications	Yes	Notification of re-start specified in § 63.850(a)(9).
63.9(c)	Request for Compliance Extension	Yes.	
63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
63.9(e)	Notification of Performance Test	No.	
63.9(f)	Notification of VE/Opacity Test	No.	
63.9(g)	Additional CMS Notifications	No.	
63.9(h)(1) through (3)	Notification of Compliance Status	Yes.	
63.9(h)(4)		No	[Reserved].
63.9(h)(5) and (6)		Yes.	
63.9(i)	Adjustment of Deadlines	Yes.	
63.9(j)	Change in Previous Information	Yes.	
63.10(a)	Recordkeeping/Reporting Applicability	Yes.	
63.10(b)(1)	General Recordkeeping Requirements	Yes.	
63.10(b)(2)(i)		No.	
63.10(b)(2)(ii)		No	See §§ 63.850(e)(4)(xvi) and (xvii) for recordkeeping of occurrence and duration of malfunctions and recordkeeping of actions taken during malfunction.
63.10(b)(2)(iii)		Yes.	
63.10(b)(2)(iv) and (v)		No.	
63.10(b)(2)(vi) through (xiv)		Yes.	
63.(10)(b)(3)		Yes.	
63.10(c)(1) through (9)		Yes.	
63.10(c)(10) and (11)		No	See §§ 63.850(e)(4)(xvi) and (xvii) for recordkeeping of malfunctions.
63.10(c)(12) through (14)		Yes.	
63.10(c)(15)		No.	
63.10(d)(1)	General Reporting Requirements	Yes.	
63.10(d)(2)		No	See § 63.850(b).
63.10(d)(3) and (4)		Yes.	
63.10(d)(5)	Startup-Shutdown and Malfunction Reports.	No	See § 63.850(d)(2) for reporting of malfunctions.

APPENDIX A TO SUBPART LL OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A)—Continued

Reference section(s)	Requirement	Applies to subpart LL	Comment
63.10(e) and (f)	Additional CMS Reports and Recordkeeping/Reporting Waiver.	Yes.	
63.11	Control Device/work practices requirements Applicability.	No.	
63.12	State Authority and Delegations	Yes.	
63.13	Addresses	Yes.	
63.14	Incorporation by Reference	Yes.	
63.15	Information Availability/Confidentiality	Yes.	
63.16	Performance Track Provisions	No.	

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Part III

Environmental Protection Agency

40 CFR Part 63
NESHAP for Brick and Structural Clay Products Manufacturing; and
NESHAP for Clay Ceramics Manufacturing; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2013–0290 and EPA–HQ–OAR–2013–0291; FRL–9933–13–OAR]

RIN 2060–AP69

NESHAP for Brick and Structural Clay Products Manufacturing; and NESHAP for Clay Ceramics Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is finalizing national emission standards for hazardous air pollutants (NESHAP) for Brick and Structural Clay Products (BSCP) Manufacturing and NESHAP for Clay Ceramics Manufacturing. All major sources in these categories must meet maximum achievable control technology (MACT) standards for mercury (Hg), non-mercury (non-Hg) metal hazardous air pollutants (HAP) (or particulate matter (PM) surrogate) and dioxins/furans (Clay Ceramics only); health-based standards for acid gas HAP; and work practice standards, where applicable. The final rule, which has been informed by input from industry (including small businesses), environmental groups, and other stakeholders, protects air quality and promotes public health by reducing emissions of HAP listed in section 112 of the Clean Air Act (CAA).

DATES: This action is effective on December 28, 2015. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of December 28, 2015.

ADDRESSES: The EPA has established dockets for this rulemaking under Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing. All documents in the dockets are listed in the *regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *regulations.gov* or in hard copy at the EPA Docket Center, EPA WJC West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744 and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about the final rule for BSCP Manufacturing and Clay Ceramics Manufacturing, contact Ms. Sharon Nizich, Minerals and Manufacturing Group, Sector Policies and Program Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541–2825; Fax number: (919) 541–5450; Email address: *nizich.sharon@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations. This preamble includes several acronyms and terms used to describe industrial processes, data inventories and risk modeling. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI	activated carbon injection
AEGL	Acute Exposure Guideline Level
AERMOD	air dispersion model used by the HEM–3 model
APCD	air pollution control device
ASOS	Automated Surface Observing Systems
ATSDR	Agency for Toxic Substances and Disease Registry
BIA	Brick Industry Association
BLD	bag leak detection
BSCP	Brick and Structural Clay Products
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CASRN	Chemical Abstract Services Registry Number
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
Cl_2	chlorine
CO	carbon monoxide
CO_2	carbon dioxide
CPMS	continuous parameter monitoring system
CRA	Congressional Review Act
DHHS	Department of Health and Human Services
DIFF	dry lime injection fabric filter
DLA	dry limestone adsorber
DLS/FF	dry lime scrubber/fabric filter
DOD	Department of Defense
ECHO	Enforcement and Compliance History Online
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
ERT	Electronic Reporting Tool
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FF	fabric filter
FQPA	Food Quality Protection Act
FRFA	final regulatory flexibility analysis
FTIR	Fourier transform infrared
gr/dscf	grains per dry standard cubic foot
HAP	hazardous air pollutant
HBEL	health-based emission limit
HCl	hydrogen chloride
HEM–3	Human Exposure Model (Community and Sector version 1.3.1)
HF	hydrogen fluoride
Hg	mercury
HI	hazard index
HQ	hazard quotient
IARC	International Agency for Research on Cancer
ICR	information collection request
IRFA	initial regulatory flexibility analysis
IRIS	Integrated Risk Information System
lb/hr	pounds per hour
lb/ton	pounds per ton
LML	lowest measured level
LOAEL	lowest observed adverse effects level
LOEL	lowest observed effects level
MACT	maximum achievable control technology
mg/m^3	milligrams per cubic meter
MMBtu/yr	million British thermal units per year
MRL	Minimal Risk Level
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NATA	National Air Toxics Assessment
NEI	National Emissions Inventory
NESHAP	national emissions standards for hazardous air pollutants
ng/kg	nanograms per kilogram
NIOSH	National Institute for Occupational Safety and Health
No.	number
NO_2	nitrogen dioxide
NOAEL	no observed adverse effect level
Non-Hg	non-mercury
NO_X	nitrogen oxides
NTTAA	National Technology Transfer and Advancement Act
NWS	National Weather Service
O_2	oxygen
OECD	Organisation for Economic Co-operation and Development
OEHHA	Office of Environmental Health Hazard Assessment
OM&M	operation, maintenance and monitoring
OMB	Office of Management and Budget
%R	percent recovery
PM	particulate matter
$PM_{2.5}$	particulate matter with particles less than 2.5 micrometers in diameter
ppm	parts per million
PRA	Paperwork Reduction Act
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RfD	reference dose
RIA	Regulatory Impact Analysis
RTR	residual risk and technology review
SAB	Science Advisory Board
SBA	Small Business Administration
SBAR	Small Business Advocacy Review
SBE	Standard Brick Equivalent
SBREFA	Small Business Regulatory Enforcement Fairness Act

SO_2	sulfur dioxide
SSM	startup, shutdown and malfunction
TEQ	2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents
TOSHI	target-organ-specific hazard index
tph	tons per hour
tpy	tons per year
TTN	Technology Transfer Network
µg/dscm	micrograms per dry standard cubic meter
$\mu g/m^3$	micrograms per cubic meter
UMRA	Unfunded Mandates Reform Act
UPL	Upper Prediction Limit
VE	visible emissions
yr	year

Background Information Documents. On December 18, 2014, the EPA proposed NESHAP for BSCP Manufacturing and NESHAP for Clay Ceramics Manufacturing (79 FR 75622). In this action, we are finalizing the rules. Documents summarizing the public comments on the proposal and presenting the EPA responses to those comments are available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing.

Organization of This Document. The information in this preamble is organized as follows:

I. General Information

A. Executive Summary

1. Purpose of the Regulatory Action

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by sources in each source category and subcategory listed under section 112(c). We issued the NESHAP for BSCP Manufacturing and the NESHAP for Clay Ceramics Manufacturing on May 16, 2003. The two NESHAP were vacated and remanded by the United States Court of Appeals for the District of Columbia Circuit on March 13, 2007. To address the vacatur and remand of the original NESHAP, we are issuing standards for BSCP manufacturing facilities and clay ceramics manufacturing facilities located at major sources.

2. Summary of the Major Provisions

a. BSCP Manufacturing NESHAP

The EPA is finalizing MACT emission limits for non-Hg HAP metals (or PM surrogate) and Hg, and a health-based emission limit (HBEL) for acid gases (hydrogen fluoride (HF), hydrogen chloride (HCl) and chlorine (Cl_2)) for BSCP tunnel kilns. In addition, the EPA is finalizing work practice standards for periodic kilns, dioxins/furans from tunnel kilns, and periods of startup and shutdown for tunnel kilns. To demonstrate compliance with the emission limits, the EPA is requiring initial and repeat 5-year performance testing for the regulated pollutants, parameter monitoring, and daily visible emissions (VE) checks. Owners/operators whose BSCP tunnel kilns are equipped with a fabric filter (FF) (*e.g.,* dry lime injection fabric filter (DIFF), dry lime scrubber/fabric filter (DLS/FF)) have the option of demonstrating compliance using a bag leak detection (BLD) system or daily VE checks.

b. Clay Ceramics Manufacturing NESHAP

The EPA is finalizing MACT emission limits for Hg, PM (surrogate for non-Hg HAP metals), and dioxins/furans and HBEL for acid gases (HF and HCl) for sanitaryware tunnel kilns and ceramic tile roller kilns. In addition, the EPA is finalizing MACT emission limits for dioxins/furans for ceramic tile spray dryers and floor tile press dryers, MACT emission limits for Hg and PM (surrogate for non-Hg HAP metals) for ceramic tile glaze lines and MACT emission limits for PM (surrogate for non-Hg HAP metals) for sanitaryware glaze spray booths. The EPA is also finalizing work practice standards for shuttle kilns and periods of startup and shutdown. To demonstrate compliance with the emission limits, the EPA is requiring initial and repeat 5-year performance testing for the regulated pollutants, parameter monitoring, and daily VE checks. Owners/operators whose affected sources are equipped with an FF (*e.g.,* DIFF, DLS/FF) have the option of demonstrating compliance using a BLD system or daily VE checks.

3. Costs and Benefits

Table 1 of this preamble summarizes the costs and benefits of this action for 40 CFR part 63, subpart JJJJJ (BSCP Manufacturing NESHAP), while Table 2 of this preamble summarizes the costs of this action for 40 CFR part 63, subpart KKKKK (Clay Ceramics Manufacturing NESHAP). See section VI of this preamble for further discussion of the costs and benefits for the BSCP Manufacturing NESHAP and the costs for the Clay Ceramics Manufacturing NESHAP. See section VII.B of this preamble for discussion of the recordkeeping and reporting costs.

TABLE 1—SUMMARY OF THE COSTS AND BENEFITS OF 40 CFR PART 63, SUBPART JJJJJ

(Millions of 2011 dollars)

Requirement	Capital cost	Annual cost	Net benefit (7 percent discount).[a]
Emission controls	$62.3	$23.7	$48 to 150.
Emissions testing	2.26	0.552	
Monitoring	—	0.352	

[a] Net benefit is the annual cost subtracted from the total monetized benefits (at a 7-percent discount rate). For more information, see section 7 of ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

TABLE 2—SUMMARY OF THE COSTS OF 40 CFR PART 63, SUBPART KKKKK

(Millions of 2011 dollars)

Requirement	Capital cost	Annual cost
Emission controls	$0	$0
Emissions testing	0.267	0.0655
Monitoring	—	0.0269

B. Does this action apply to me?

The regulated categories and entities potentially affected by this action are shown in Table 3 of this preamble:

TABLE 3— NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS ACTION

Category	NAICS Code[a b]	Examples of potentially regulated entities
Industry	327120	Brick, structural clay, and extruded tile manufacturing facilities (BSCP Manufacturing NESHAP); and ceramic wall and floor tile manufacturing facilities (Clay Ceramics Manufacturing NESHAP).
	327110	Vitreous plumbing fixtures (sanitaryware) manufacturing facilities (Clay Ceramics Manufacturing NESHAP).
Federal government		Not affected.
State/local/tribal government		Not affected.

[a] North American Industry Classification System.

[b] Refractories manufacturing is not included in the source categories affected by this action.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility, company, business, organization, *etc.,* is regulated by this action, you should examine the applicability criteria in 40 CFR 63.8385 of subpart JJJJJ (BSCP Manufacturing NESHAP) or 40 CFR 63.8535 of subpart KKKKK (Clay Ceramics Manufacturing NESHAP). If you have any questions regarding the applicability of this action to a particular entity, contact either the delegated authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this action at *http://www.epa.gov/ttn/atw/brick/brickpg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final rule and key technical documents at this same Web site.

D. Judicial Review

Under section 307(b)(1) of the CAA, judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by December 28, 2015. Under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for us to convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC North Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background Information

A. What is the statutory authority for the final rule?

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by sources in each source category and subcategory listed under section 112(c). The MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing five sources for source categories with less than 30 sources (CAA section 112(d)(3)(A) and (B)). This level of minimum stringency is called the MACT floor. For new sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source (CAA section 112(d)(3)). The EPA also must consider more stringent ''beyond-the-floor'' control options. When considering beyond-the-floor options, the EPA must not only consider the maximum degree of reduction in emissions of HAP, but must also take into account costs, energy and nonair environmental impacts when doing so.

B. What actions preceded this final rule?

Pursuant to CAA section 112(c)(5), the EPA was originally required to promulgate standards for the BSCP Manufacturing and Clay Ceramics Manufacturing source categories by November 2000. The agency initially promulgated standards for these categories in 2003. See 68 FR 26690 (May 16, 2003). Those standards were challenged and subsequently vacated by the United States Court of Appeals for the District of Columbia Circuit in 2007. *See Sierra Club* v. *EPA,* 479 F.3d 875, 876 (D.C. Cir. 2007). In 2008, Sierra Club filed suit in the United States Court of Appeals for the District of Columbia Circuit under CAA section 304(a)(2), alleging that the EPA had a continuing mandatory duty to promulgate standards for these categories under CAA section 112 based on the 2000 deadline under CAA section 112(c)(5). The EPA challenged that claim in a motion to dismiss, arguing that the mandatory duty to act by the 2000 deadline was satisfied by the 2003 rule and that the 2007 vacatur of the 2003 rule did not recreate the statutory duty to act by the 2000 deadline. Ultimately, the Court found that the vacatur of the 2003 rule recreated the mandatory duty to set standards by 2000 and held that Sierra Club's claims could continue. *See Sierra Club* v. *EPA,* 850 F.Supp.2d 300 (D.D.C. 2012). The EPA and Sierra Club then negotiated a consent decree to settle the litigation and establish proposal and promulgation deadlines for establishing standards for these categories.

Following the 2007 vacatur of the 2003 rule, the EPA began efforts to collect additional data to support new standards for the BSCP and clay ceramics industries. The EPA conducted an initial information collection effort in 2008 to update information on the inventory of affected units, hereafter referred to as ''the 2008 EPA survey.'' The EPA conducted a second information collection effort in 2010 to obtain additional emissions data and information on each facility's startup, shutdown, and malfunction (SSM) procedures, hereafter referred to as ''the 2010 EPA survey.'' The information collected as part of these surveys, and not claimed as CBI by respondents, is available in Docket ID Nos. EPA–HQ–OAR–2013–0290 and EPA–HQ–OAR–2013–0291. In addition, the dockets A–99–30 and OAR–2002–0054 are incorporated by reference for BSCP. The dockets A–2000–48, OAR–2002–0055, and EPA–HQ–OAR–2006–0424 are incorporated by reference for clay ceramics.

On December 18, 2014, the EPA proposed NESHAP for BSCP Manufacturing and NESHAP for Clay Ceramics Manufacturing. See 79 FR 75622 (December 18, 2014). In response to a request from industry, the EPA extended the public comment period for the proposed action from February 17, 2015, to March 19, 2015. See 79 FR 78768 (December 31, 2014). In this action, the EPA is finalizing the rule.

C. What are the health effects of pollutants emitted from the BSCP Manufacturing and Clay Ceramics Manufacturing source categories?

The final rule protects air quality and promotes the public health by reducing emissions of HAP emitted from BSCP and clay ceramics kilns. Emissions data collected during development of the final rule show that acid gases such as HF, HCl, and Cl_2 represent the predominant HAP emitted by BSCP and clay ceramics kilns, accounting for 99.3 percent of the total HAP emissions. These kilns also emit lesser amounts of other HAP compounds such as HAP metals and dioxins/furans, accounting for about 0.7 percent of total HAP emissions. The HAP metals emitted include antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, Hg, nickel and selenium. Exposure to these HAP, depending on exposure duration and levels of exposures, can be associated with a variety of adverse health effects. These adverse health effects could include chronic health disorders (*e.g.,* irritation of the lung, skin and mucus membranes, effects on the central nervous system and damage to the kidneys) and acute health disorders (*e.g.,* lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified two of the HAP as human carcinogens (arsenic and chromium VI) and four as probable human carcinogens (cadmium, lead, dioxins/furans and nickel).

III. Summary of the Final Rule

The following sections summarize the final requirements for the BSCP Manufacturing source category and Clay Ceramics Manufacturing source category. Section IV of this preamble summarizes the major changes since proposal.

A. What are the final rule requirements for BSCP Manufacturing?

1. What source category is affected by the final rule?

The final NESHAP for BSCP Manufacturing applies to BSCP manufacturing facilities that are located at or are part of a major source of HAP emissions. The BSCP Manufacturing source category includes those facilities that manufacture brick (face brick, structural brick, brick pavers and other brick); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products.

2. What are the affected sources?

The affected sources, which are the portions of each source in the category for which we are setting standards, are (1) all tunnel kilns at a BSCP manufacturing facility and (2) each periodic kiln. For purposes of the final BSCP Manufacturing NESHAP, tunnel kilns are defined to include any type of continuous kiln used at BSCP manufacturing facilities, including roller kilns.

Tunnel kilns are fired by natural gas or other fuels, including sawdust. Sawdust firing typically involves the use of a sawdust dryer because sawdust typically is purchased wet and needs to be dried before it can be used as fuel. Consequently, some sawdust-fired tunnel kilns have two process streams, including (1) a process stream that exhausts directly to the atmosphere or to an air pollution control device (APCD), and (2) a process stream in which the kiln exhaust is ducted to a sawdust dryer where it is used to dry sawdust before being emitted to the atmosphere. Both process streams are subject to the requirements of the final BSCP Manufacturing NESHAP.

The following BSCP process units are not subject to the requirements of the final rule: (1) Kilns that are used exclusively for setting glazes on previously fired products, (2) raw material processing and handling, and (3) dryers. Sources regulated under the Clay Ceramics Manufacturing NESHAP or the Refractories Manufacturing NESHAP are not subject to the requirements of the BSCP Manufacturing NESHAP.

3. Does the final rule apply to me?

This final BSCP Manufacturing NESHAP applies to owners or operators of an affected source at a major source meeting the requirements discussed previously in this preamble. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAP.

4. What emission limitations and work practice standards must I meet?

Emission limitations. We are providing a choice of emission limits for total non-Hg HAP metals and Hg for new and existing tunnel kilns in two subcategories based on kiln size. In this final BSCP Manufacturing NESHAP, a large tunnel kiln is defined as a new or existing tunnel kiln with a design capacity of 10 tons per hour (tph) or greater, and a small tunnel kiln is defined as a new or existing tunnel kiln with a design capacity of less than 10 tph. The options for total non-Hg HAP metals include total non-Hg HAP metals limits in units of pounds per hour (lb/hr) and options for limiting PM as a surrogate for non-Hg HAP metals in units of pounds per ton (lb/ton) or grains per dry standard cubic foot (gr/dscf) at 17-percent oxygen (O_2). The options for Hg include emission limits in units of lb/ton, lb/hr or micrograms per dry standard cubic meter (µg/dscm) at 17-percent O_2. We are also issuing an emission limit for HCl-equivalent for all existing and new tunnel kilns at the facility to reduce the acid gases HF, HCl and Cl_2. The emission limits for acid gases, Hg, and non-Hg HAP metals are presented in Table 4 of this preamble.

TABLE 4—ACID GASES, TOTAL NON-MERCURY HAP METALS AND MERCURY EMISSION LIMITS FOR BRICK AND STRUCTURAL CLAY PRODUCTS TUNNEL KILNS

Subcategory	Acid gases	Total non-Hg HAP metals	Hg
Limits for existing sources			
Large tunnel kilns (≥ 10 tph)	—	0.036 lb/ton PM OR 0.0029 gr/dscf PM at 17-percent O_2 OR 0.0057 lb/hr non-Hg HAP metals for each existing tunnel kiln at facility.	4.1 E–05 lb/ton OR 5.5 E–04 lb/hr OR 7.7 µg/dscm at 17- percent O_2 for each existing large tunnel kiln at facility
Small tunnel kilns (< 10 tph)	—	0.37 lb/ton PM OR 0.0021 gr/dscf PM at 17-percent O_2 OR 0.11 lb/hr non-Hg HAP metals for each existing tunnel kiln at facility.	3.3 E–04 lb/ton OR 0.0019 lb/hr OR 91 µg/dscm at 17- percent O_2 for each existing small tunnel kiln at facility
All tunnel kilns	57 lb/hr HCl-equivalent for collection of all tunnel kilns at facility.	—	—
Limits for new sources			
Large tunnel kilns (≥ 10 tph)	—	0.018 lb/ton PM OR 0.0014 gr/dscf PM at 17-percent O_2 OR 0.0057 lb/hr non-Hg HAP metals for each new tunnel kiln at facility.	2.8 E–05 lb/ton OR 3.4 E–04 lb/hr OR 6.2 µg/dscm at 17- percent O_2 for each new large tunnel kiln at facility
Small tunnel kilns (< 10 tph)	—	0.030 lb/ton PM OR 0.0021 gr/dscf PM at 17-percent O_2 OR 0.11 lb/hr non-Hg HAP metals for each new tunnel kiln at facility.	3.3 E–04 lb/ton OR 0.0019 lb/hr OR 91 µg/dscm at 17- percent O_2 for each new small tunnel kiln at facility
All tunnel kilns	57 lb/hr HCl-equivalent for collection of all tunnel kilns at facility.	—	—

Work practice standards. We are issuing work practice standards for BSCP periodic kilns in lieu of HAP emission limits. The work practice standards require developing and using a designed firing time and temperature cycle for each periodic kiln; labeling each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; documenting the total tonnage placed in the kiln for each load to ensure that it is not greater than the maximum load; developing and implementing maintenance procedures for each kiln that specify the frequency of inspection and maintenance; and developing and maintaining records for each periodic kiln, including logs to document the proper operation and maintenance procedures of the periodic kilns.

We are also issuing work practice standards for BSCP tunnel kilns in lieu of dioxin/furan emission limits. The work practice standards require maintaining and inspecting the burners and associated combustion controls (as applicable); tuning the specific burner type to optimize combustion; keeping records of each burner tune-up; and submitting a report for each tune-up conducted. As discussed in section III.C.1.a of this preamble, we are also issuing work practice standards for periods of startup and shutdown.

5. What are the testing and initial compliance requirements?

We are requiring that owners or operators of all affected sources subject to emission limits conduct an initial performance test using specified EPA test methods to demonstrate initial compliance with all applicable emission limits. A performance test must be conducted before renewing the facility's 40 CFR part 70 operating permit or at least every 5 years following the initial performance test, as well as when an operating limit parameter value is being revised.

Under the final BSCP Manufacturing NESHAP, the owner or operator is required to measure emissions of HF, HCl, Cl_2, Hg and PM (or non-Hg HAP metals). We are requiring that the owner or operator measure HF, HCl and Cl_2 using one of the following methods:

- EPA Method 26A, ''Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method,'' 40 CFR part 60, appendix A–8;
- EPA Method 26, ''Determination of Hydrogen Chloride Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–8, when no acid particulate (*e.g.,* HF, HCl or Cl_2 dissolved in water droplets emitted by sources controlled by a wet scrubber) is present;
- EPA Method 320, ''Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR'' 40 CFR part 63, appendix A, provided the test follows the analyte spiking procedures of section 13 of Method 320, unless the owner or operator can demonstrate that the complete spiking procedure has been conducted at a similar source; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Following the performance test, the owner or operator must calculate the HCl-equivalent for the kiln using Equation 2 in 40 CFR 63.8445(f)(2)(i). If there are multiple kilns at a facility, the owner or operator must sum the HCl-equivalent for each kiln using Equation 3 in 40 CFR 63.8445(f)(2)(ii) to get the total facility HCl-equivalent and compare this value to the HBEL for acid gases.

As noted above, with respect to non-Hg HAP metals, the owner or operator of a source can choose to meet either a non-Hg HAP metals limit or one of two alternative PM limits. If the owner or operator chooses to comply with one of the two PM emission limits rather than the non-Hg HAP metals limit, we are requiring that the owner or operator measure PM emissions using one of the following methods:

- EPA Method 5, ''Determination of Particulate Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–3;
- EPA Method 29, ''Determination of Metals Emissions From Stationary Sources,'' 40 CFR part 60, appendix A–8; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

If the owner or operator chooses to comply with the non-Hg HAP metals emission limit instead of one of the PM emission limits, the owner or operator must measure non-Hg HAP metals emissions using EPA Method 29 cited above or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions. The owner or operator may also use Method 29 or any other approved alternative method to measure Hg emissions.

The following paragraphs discuss the initial compliance requirements. Prior to the initial performance test, the owner or operator is required to install the continuous parameter monitoring system (CPMS) equipment (as discussed in section III.A.6 of this preamble) to be used to demonstrate continuous compliance with the operating limits. During the initial test, the owner or operator must use the CPMS to establish site-specific operating parameter values that represent the operating limits.

For a DIFF or DLS/FF, we are requiring that the owner or operator ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the HF/HCl/Cl_2 performance test and record the feeder setting (on a per ton of fired product basis) for the three test runs. If the lime feed rate varies, the owner or operator is required to determine the average feed rate from the three test runs. The average of the three test runs establishes the minimum site-specific feed rate operating limit. If there are different average feed rate values during the PM/non-Hg HAP metals and HF/HCl/Cl_2 tests, the highest of the average values becomes the site-specific operating limit. If a BLD system is present, the owner or operator is required to submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a stand-alone FF (*i.e.,* no dry sorbent injection or DLS) and a BLD system, we are requiring that the owner or operator submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a dry limestone adsorber (DLA), we are requiring that the owner or operator continuously measure the pressure drop across the DLA during the HF/HCl/Cl_2 performance test and determine the 3-hour block average pressure drop. The average of the three test runs establishes the minimum site-specific pressure drop operating limit. Alternatively, the owner or operator may continuously monitor the bypass stack damper position at least once every 15 minutes during the performance test. The owner or operator also must maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA) and DLA at all times. In addition, the owner or operator is required to establish the limestone feeder setting (on a per ton of fired product basis) 1 week prior to the performance test and maintain the feeder setting for the 1-week period that precedes the performance test and during the performance test. Finally, the owner or operator must document the source and grade of the limestone used during the performance test.

For a wet scrubber, we are requiring that the owner or operator continuously measure the scrubber liquid pH during the HF/HCl/Cl_2 performance test and the scrubber liquid flow rate during both the PM/non-Hg HAP metals and HF/HCl/Cl_2 performance tests. For each wet scrubber parameter, the owner or operator is required to determine and record the average values for the three test runs and the 3-hour block average value. The average of the three test runs establishes the minimum site-specific liquid pH and liquid flow rate operating limits. If different average wet scrubber liquid flow rate values are measured during the PM/non-Hg HAP metals and HF/HCl/Cl_2 tests, the highest of the average values become the site-specific operating limit.

For an activated carbon injection (ACI) system, we are requiring that the owner or operator measure the activated carbon flow rate during the Hg performance test and determine the 3-hour block average flow rate. The average of the three test runs establishes the minimum site-specific activated carbon flow rate operating limit.

For a source with no APCD installed, we are requiring that the owner or operator calculate the maximum potential HCl-equivalent using Equation 4 in 40 CFR 63.8445(g)(1)(i). The owner or operator must use the results from the performance test to determine the emissions at the maximum possible process rate. For example, if the design capacity of the kiln is 10 tph and the production rate during the performance test was 9 tph, then the test results represent 90 percent of the maximum potential emissions. If there are multiple kilns at a facility, the owner or operator must sum the maximum potential HCl-equivalent for each kiln to get the total facility maximum potential HCl-equivalent and compare this value to the HBEL for acid gases. If the total facility maximum potential HCl-equivalent is greater than the HBEL, we are requiring that the owner or operator determine the maximum process rate for which the total facility maximum potential HCl-equivalent remains at or below the HBEL. If there are multiple kilns, the owner or operator must determine one or more combinations of maximum process rates that result in a total facility maximum potential HCl-equivalent that remains at or below the HBEL. The maximum process rate(s) becomes the operating limit(s) for process rate.

6. What are the continuous compliance requirements?

The final BSCP Manufacturing NESHAP requires that the owner or operator demonstrate continuous compliance with each emission limitation that applies. The owner or operator must follow the requirements in the operation, maintenance and monitoring (OM&M) plan and document conformance with the OM&M plan. The owner or operator must also operate a CPMS to monitor the operating parameters established during the initial performance test as described in the following paragraphs. The CPMS must collect data at least every 15 minutes, including at least three of four equally spaced data values (or at least 75 percent if there are more than four data values per hour) per hour to have a valid hour of data. The owner or operator must operate the CPMS at all times when the process is operating. The owner or operator must also conduct proper maintenance of the CPMS (including inspections, calibrations and validation checks) and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the recorded readings, the owner or operator must calculate and record the 3-hour block average values of each operating parameter. To calculate the average for each 3-hour averaging period, the owner or operator must have at least 75 percent of the recorded readings for that period.

For a DIFF or DLS/FF, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl/Cl_2) HBEL by maintaining free-flowing lime in the feed hopper or silo and to the APCD at all times. If lime is not flowing freely, according to load cell output, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator must also maintain the feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test and record the feeder setting once each shift.

The final rule provides the option to use either a BLD system or VE monitoring to demonstrate parametric compliance.

For the option of a BLD system, we are requiring that the owner or operator initiate corrective action within 1 hour of a BLD system alarm and complete corrective actions according to the OM&M plan. The owner or operator must also operate and maintain the FF such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating this operating time fraction, the owner or operator must not count any alarm time if inspection of the FF demonstrates that no corrective action is required. If corrective action is required, the owner or operator must count each alarm as a minimum of 1 hour. If corrective action is initiated more than 1 hour after an alarm, the owner or operator must count as alarm time the actual amount of time taken to initiate corrective action.

For the option of monitoring VE, we are requiring that if VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, the owner or operator must promptly conduct an opacity test, according to the procedures of Method 9 of 40 CFR part 60, appendix A–4. If opacity greater than 10 percent if observed, the owner or operator must initiate and complete corrective actions according to the OM&M plan. If no VE are observed in 30 consecutive daily Method 22 tests or no opacity greater than 10 percent is observed during any of the Method 9 tests for any kiln stack, the owner or operator may decrease the frequency of Method 22 testing from daily to weekly for that kiln stack. If VE are observed during any weekly test and opacity greater than 10 percent is observed in the subsequent Method 9 test, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan, resume testing of that kiln stack following Method 22 of 40 CFR part 60, appendix A–7, on a daily basis, and maintain that schedule until no VE are observed in 30 consecutive daily tests or no opacity greater than 10 percent is observed during any of the Method 9 tests, at which time the owner or operator may again decrease the frequency of Method 22 testing to a weekly basis.

If greater than 10 percent opacity is observed during any test conducted using Method 9 of 40 CFR part 60, appendix A–4, the owner or operator must report these deviations by following the requirements in 40 CFR 63.8485.

In lieu of conducting VE tests as described above, the owner or operator may conduct a PM test at least once every year following the initial performance test, according to the procedures of Method 5 of 40 CFR part 60, appendix A–3, and the provisions of 40 CFR 63.8445(e) and (f)(1).

For a stand-alone FF, we are requiring that the owner or operator use a BLD system or monitor VE as described above to demonstrate parametric compliance.

For a DLA, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl/Cl_2) HBEL by collecting and recording data documenting the DLA pressure drop and reducing the data to 3-hour block averages. The owner or operator must maintain the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test. Alternatively, the owner or operator may continuously monitor the bypass stack damper position at least once every 15 minutes during normal kiln operation. Any period in which the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA triggers corrective actions according to the OM&M plan. The owner or operator also must verify that the limestone hopper, storage bin (located at the top of the DLA) and DLA contain an adequate amount of limestone by performing a daily visual check of the limestone hopper and the storage bin. A daily visual check could include one of the following: (1) Conducting a physical check of the hopper; (2) creating a visual access point, such as a window, on the side of the hopper; (3) installing a camera in the hopper that provides continuous feed to a video monitor in the control room; or (4) confirming that load level indicators in the hopper are not indicating the need for additional limestone. If the hopper or storage bin does not contain adequate limestone, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator also must record the limestone feeder setting daily (on a per ton of fired product basis) to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test. The owner or operator also must use the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test and maintain records of the source and type of limestone. Finally, the owner or operator must monitor VE, as described in the previous paragraph.

For a wet scrubber, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber liquid pH and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber liquid pH at or above the minimum value established during the HF/HCl/Cl_2 performance test demonstrates compliance with the acid gas (HF/HCl/Cl_2) HBEL. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the lowest minimum value established during the PM/non-Hg HAP metals and HF/HCl/Cl_2 performance tests demonstrates compliance with all applicable emission limits by showing that the scrubber is in proper working order.

For an ACI system, we are requiring that the owner or operator demonstrate compliance with the Hg emission limit by continuously monitoring the activated carbon flow rate and maintaining it at or above the operating limit established during the Hg performance test.

For sources with no APCD, we are requiring that the owner or operator monitor VE as described above to demonstrate compliance with the PM/non-Hg HAP metals emission limit. In addition, if the last calculated total facility maximum potential HCl-equivalent was not at or below the HBEL for acid gases, then we are requiring that the owner or operator collect and record data documenting the process rate of the kiln and reduce the data to 3-hour block averages. The owner or operator must maintain the kiln process rate(s) at or below the kiln process rate operating limit(s) that enables the total facility maximum potential HCl-equivalent to remain at or below the HBEL.

7. What are the notification, recordkeeping and reporting requirements?

All new and existing sources are required to comply with certain requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 10 of subpart JJJJJ. The General Provisions include specific requirements for notifications, recordkeeping and reporting.

Each owner or operator is required to submit a notification of compliance status report, as required by 40 CFR 63.9(h) of the General Provisions. The final BSCP Manufacturing NESHAP requires the owner or operator to include in the notification of compliance status report certifications of compliance with rule requirements. Semiannual compliance reports, as required by 40 CFR 63.10(e)(3) of subpart A, are also required for each semiannual reporting period.

The final BSCP Manufacturing NESHAP requires records to demonstrate compliance with each emission limit and work practice standard. These recordkeeping requirements are specified directly in the General Provisions to 40 CFR part 63 and are identified in Table 8 of subpart JJJJJ.

Specifically, we are requiring that the owner or operator keep the following records:

- All reports and notifications submitted to comply with the final BSCP Manufacturing NESHAP.
- Records of performance tests.
- Records relating to APCD maintenance and documentation of approved routine control device maintenance.
- Continuous monitoring data as required in the final BSCP Manufacturing NESHAP.
- Records of BLD system alarms and corrective actions taken.
- Records of each instance in which the owner or operator did not meet each emission limit (*i.e.,* deviations from operating limits).
- Records of production rates.
- Records of approved alternative monitoring or testing procedures.
- Records of maintenance and inspections performed on the APCD.
- Current copies of the OM&M plan and records documenting conformance.
- Logs of the information required to document compliance with the periodic kiln work practice standard.
- Records of burner tune-ups used to comply with the dioxin/furan work practice standard for tunnel kilns.
- Logs of the information required to document compliance with the startup and shutdown work practice standards.
- Records of each malfunction and the corrective action taken.
- Records of parameters and procedures followed for work practice standards.

We are also requiring that the owner or operator submit the following reports and notifications:

- Notifications required by the General Provisions.
- Initial Notification no later than 120 calendar days after the affected source becomes subject to this subpart.
- Notification of Intent to conduct performance tests and/or other compliance demonstration at least 60 calendar days before the performance test and/or other compliance demonstration is scheduled.
- Notification of Compliance Status 60 calendar days following completion of a compliance demonstration that includes a performance test.
- Notification of Compliance Status 30 calendar days following completion of a compliance demonstration that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).
- Compliance reports semi-annually, including a report of the most recent burner tune-up conducted to comply with the dioxin/furan work practice standard and a report of each malfunction resulting in an exceedance and the corrective action taken.
- Results of each performance test within 60 calendar days of completing the test, submitted to the EPA by direct computer-to-computer electronic transfer via EPA-provided software for data collected using supported test methods (see section III.E of this preamble for more information).

B. What are the final rule requirements for Clay Ceramics Manufacturing?

1. What source category is affected by the final rule?

This final rule for Clay Ceramics Manufacturing applies to clay ceramics manufacturing facilities that are located at or are part of a major source of HAP emissions. The Clay Ceramics Manufacturing source category includes those facilities that manufacture pressed floor tile, pressed wall tile and other pressed tile; or sanitaryware (*e.g.,* toilets and sinks).

2. What are the affected sources?

The affected sources, which are the portions of each source in the category for which we are setting standards, are (1) each ceramic tile roller kiln; (2) each floor tile press dryer; (3) each ceramic tile spray dryer; (4) each ceramic tile glaze line using glaze spraying; (5) each sanitaryware tunnel kiln; (6) each sanitaryware shuttle kiln; and (7) each sanitaryware glaze spray booth.

The following clay ceramics process units are not subject to the requirements of the final rule: (1) Tunnel, roller or shuttle kilns that are used exclusively for refiring; (2) tunnel, roller or shuttle kilns that are used exclusively for setting glazes on previously fired products; (3) glaze spray operations that are used exclusively with those kilns listed in items 1 and 2 above; (4) process units listed in items 1 through 3 above that are permitted to, but do not, process first-fire ware, until such time as they begin to process first-fire ware; (5) refire shuttle kilns that fire no more than four batches per year of first-fire ware; (6) glaze spray operations that on average use wet glazes containing less than 0.1 (weight) percent metal HAP (dry weight basis) per spray booth over an entire calendar year; (7) raw material processing and handling; (8) wall tile press dryers; and (9) sanitaryware ware dryers. Sources regulated under the BSCP Manufacturing NESHAP or the Refractories Manufacturing NESHAP are not subject to the requirements of the Clay Ceramics Manufacturing NESHAP.

3. Does the final rule apply to me?

This final Clay Ceramics Manufacturing NESHAP applies to owners or operators of an affected source at a major source meeting the requirements discussed previously in this preamble. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 10 tpy or more of any HAP or 25 tpy or more of any combination of HAP.

4. What emission limitations and work practice standards must I meet?

Emission limitations. We are issuing emission limits for PM as a surrogate for total non-Hg HAP metals (in units of lb/ton) for all new and existing ceramic tile roller kilns, sanitaryware tunnel kilns and ceramic tile and sanitaryware glazing operations. We are issuing emission limits for Hg (lb/ton) for all new and existing ceramic tile roller kilns, ceramic tile glaze lines and sanitaryware tunnel kilns. We are issuing emission limits for dioxin/furan (nanograms of 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents (TEQ) per kilogram (ng/kg)) for all new and existing ceramic tile roller kilns, sanitaryware tunnel kilns, floor tile press dryers and ceramic tile spray dryers. We are also issuing an emission limit for HCl-equivalent for all existing and new roller and tunnel kilns at each facility to reduce the acid gases HF and HCl. The emission limits are presented in Table 5 of this preamble.

TABLE 5—EMISSION LIMITS FOR CLAY CERAMICS SOURCES

Subcategory	Acid gases (lb/hr HCl-equivalent) [a]	Hg (lb/ton)	PM [b] (lb/ton)	Dioxins/furans (ng/kg) [c]
Limits for existing sources				
Floor tile roller kilns	140	1.3 E–04	0.13	2.8
Floor tile press dryers				0.024
Floor tile spray dryers				19
Wall tile roller kilns	140	2.1 E–04	0.37	0.22
Wall tile spray dryers				0.058
Tile glaze lines		1.6 E–04	1.9	
First-fire sanitaryware tunnel kilns	140	2.6 E–04	0.34	3.3
Sanitaryware manual glaze application			35	
Sanitaryware spray machine glaze application			13	
Sanitaryware robot glaze application			8.9	
Limits for new sources				
Floor tile roller kilns	140	3.9 E–05	0.037	1.3
Floor tile press dryers				0.024
Floor tile spray dryers				0.071
Wall tile roller kilns	140	2.1 E–04	0.37	0.22
Wall tile spray dryers				0.058
Tile glaze lines		1.6 E–04	0.61	
First-fire sanitaryware tunnel kilns	140	1.3 E–04	0.095	0.99
Sanitaryware manual glaze application			3.9	
Sanitaryware spray machine glaze application			3.2	
Sanitaryware robot glaze application			2.3	

[a] Limit applies to collection of all kilns at facility.
[b] PM is a surrogate for non-Hg HAP metals.
[c] ng/kg = nanograms per kilogram.

Work practice standards. We are issuing work practice standards in lieu of emission limits for acid gases (HF and HCl), Hg and non-Hg HAP metals for sanitaryware shuttle kilns. The work practice standards require using natural gas (or equivalent) as kiln fuel except during periods of natural gas curtailment or supply interruption; developing and using a designed firing time and temperature cycle for each shuttle kiln; labeling each shuttle kiln with the maximum load (in tons) of throughput (greenware) that can be fired in the kiln during a single firing cycle; documenting the total tonnage of greenware placed in the kiln for each load to ensure that it is not greater than the maximum load; developing and implementing maintenance procedures for each kiln that specify the frequency of inspection and maintenance; and developing and maintaining records for each shuttle kiln, including logs to document the proper operation and maintenance procedures of the shuttle kilns. As discussed in section III.C.1.b of this preamble, we are also issuing work practice standards for periods of startup and shutdown.

5. What are the testing and initial compliance requirements?

We are requiring that owners or operators of all affected sources subject to emission limits conduct an initial performance test using specified EPA test methods to demonstrate initial compliance with all applicable emission limits. A performance test must be conducted before renewing the facility's 40 CFR part 70 operating permit or at least every 5 years following the initial performance test, as well as when an operating limit parameter value is being revised.

Under the final Clay Ceramics Manufacturing NESHAP, the owner or operator is required to measure emissions of HF, HCl, Hg, PM (as a surrogate for non-Hg HAP metals) and dioxins/furans. The owner or operator must measure HF and HCl from ceramic tile roller kilns and sanitaryware first-fire tunnel kilns using one of the following methods:

- EPA Method 26A, ''Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method,'' 40 CFR part 60, appendix A–8;
- EPA Method 26, ''Determination of Hydrogen Chloride Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–8, when no acid particulate (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a wet scrubber) is present;
- EPA Method 320, ''Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR'' 40 CFR part 63, appendix A, provided the test follows the analyte spiking procedures of section 13 of Method 320, unless the owner or operator can demonstrate that the complete spiking procedure has been conducted at a similar source; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Following the performance test, the owner or operator must calculate the HCl-equivalent for the kiln using Equation 4 in 40 CFR 63.8595(f)(4)(i). If there are multiple kilns at a facility, the owner or operator must sum the HCl-equivalent for each kiln using Equation 5 in 40 CFR 63.8595(f)(4)(ii) to get the total facility HCl-equivalent and compare this value to the HBEL.

We are requiring that the owner or operator measure PM emissions from ceramic tile roller kilns and sanitaryware first-fire tunnel kilns using one of the following methods:

- EPA Method 5, ''Determination of Particulate Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–3;
- EPA Method 29, ''Determination of Metals Emissions From Stationary Sources,'' 40 CFR part 60, appendix A–8; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Method 29 or any other approved alternative method may also be used to measure Hg emissions from ceramic tile roller kilns, ceramic tile glaze lines and sanitaryware first-fire tunnel kilns.

We are requiring that the owner or operator measure PM emissions from ceramic tile and sanitaryware glaze spray booths using EPA Method 5 or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

We are also requiring that the owner or operator measure dioxin/furan emissions from ceramic tile roller kilns and spray dryers, floor tile press dryers and sanitaryware first-fire tunnel kilns using EPA Method 23, ''Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources,'' 40 CFR part 60, appendix A–7 or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

The following paragraphs discuss the initial compliance requirements. Prior to the initial performance test, the owner or operator is required to install the CPMS equipment (as discussed in section III.B.6 of this preamble) to be used to demonstrate continuous compliance with the operating limits. During the initial test, the owner or operator must use the CPMS to establish site-specific operating parameter values that represent the operating limits.

For a DIFF or DLS/FF, we are requiring that the owner or operator ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the HF/HCl performance test and record the feeder setting (on a per ton of fired product basis) for the three test runs. If the lime feed rate varies, the owner or operator is required to determine the average feed rate from the three test runs. The average of the three test runs establishes the minimum site-specific feed rate operating limit. If there are different average feed rate values during the PM and HF/HCl tests, the highest of the average values becomes the site-specific operating limit. If a BLD system is present, the owner or operator is required to submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a stand-alone FF (*i.e.,* no dry sorbent injection or DLS) and a BLD system, we are requiring that the owner or operator submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a wet scrubber, we are requiring that the owner or operator continuously measure the scrubber liquid pH during the HF/HCl performance test and the scrubber liquid flow rate during both the PM and HF/HCl performance tests. For each wet scrubber parameter, the owner or operator is required to determine and record the average values for the three test runs and the 3-hour block average value. The average of the three test runs establishes the minimum site-specific liquid pH and liquid flow rate operating limits. If different average wet scrubber liquid flow rate values are measured during the PM and HF/HCl tests, the highest of the average values become the site-specific operating limits.

For an ACI system, we are requiring that the owner or operator measure the activated carbon flow rate during the Hg and dioxin/furan performance tests and determine the 3-hour block average flow rate. The average of the three test runs establishes the minimum site-specific activated carbon flow rate operating limit. If different average activated carbon flow rate values are measured during the Hg and dioxin/furan tests, the highest of the average values becomes the site-specific operating limit.

If the owner or operator intends to comply with the dioxin/furan emission limit without an ACI system, we are requiring that the owner or operator measure the stack temperature of the tunnel or roller kiln during the dioxin/furan performance test. The highest 4-hour average stack temperature of the three test runs establishes the maximum site-specific operating limit. The owner or operator must also measure the operating temperatures of the ceramic tile spray dryer and floor tile press dryer during the dioxin/furan performance test and determine the 3-hour block average temperature. The average of the three test runs establishes the site-specific operating limit.

For sources with no APCD installed, we are requiring that the owner or operator calculate the maximum potential HCl-equivalent using Equation 6 in 40 CFR 63.8595(g)(1)(i). The owner or operator must use the results from the performance test to determine the emissions at the maximum possible process rate. For example, if the design capacity of the tunnel or roller kiln is 10 tph and the production rate during the performance test was 9 tph, then the test results represent 90 percent of the maximum potential emissions. If there are multiple kilns at a facility, the owner or operator must sum the maximum potential HCl-equivalent for each kiln to get the total facility maximum potential HCl-equivalent and compare this value to the HBEL for acid gases. If the total facility maximum potential HCl-equivalent is greater than the HBEL, we are requiring that the owner or operator determine the maximum process rate for which the total facility maximum potential HCl-equivalent remains at or below the HBEL. If there are multiple kilns, the owner or operator must determine one or more combinations of maximum process rates that result in a total facility maximum potential HCl-equivalent that remains at or below the HBEL. The maximum process rate(s) becomes the operating limit(s) for process rate. We are also requiring that the owner or operator measure the stack temperature of the tunnel or roller kiln during the dioxin/furan performance test. The highest 4-hour average stack temperature of the three test runs establishes the maximum site-specific operating limit. The owner or operator must also measure the operating temperatures of the ceramic tile spray dryer and floor tile press dryer during the dioxin/furan performance test and determine the 3-hour block average temperature. The average of the three test runs establishes the site-specific operating limit.

6. What are the continuous compliance requirements?

The final Clay Ceramics Manufacturing NESHAP requires that the owner or operator demonstrate continuous compliance with each emission limitation that applies. The owner or operator must follow the requirements in the OM&M plan and document conformance with the OM&M plan. The owner or operator must also operate a CPMS to monitor the operating parameters established during the initial performance test as described in the following paragraphs. The CPMS must collect data at least every 15 minutes, including at least three of four equally spaced data values (or at least 75 percent if there are more than four data values per hour) per hour to have a valid hour of data. The owner or operator must operate the CPMS at all times when the process is operating. The owner or operator must also conduct proper maintenance of the CPMS, including inspections, calibrations and validation checks, and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the recorded readings, the owner or operator must calculate and record the 3-hour block average values of each operating parameter. To calculate the average for each 3-hour averaging period, the owner or operator must have at least 75 percent of the recorded readings for that period.

For a DIFF or DLS/FF, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl) HBEL by maintaining free-flowing lime in the feed hopper or silo and to the APCD at all times. If lime is found not to be free flowing via the output of a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator must also maintain the feeder setting (on a per ton of throughput basis) at or above the level established during the performance test and record the feeder setting once each shift.

For a DIFF or DLS/FF, the final rule provides the option to use either a BLD system or VE monitoring to demonstrate parametric compliance.

For the option of a BLD system, we are requiring that the owner or operator initiate corrective action within 1 hour of a BLD system alarm and complete corrective actions according to the OM&M plan. The owner or operator must also operate and maintain the FF such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating this operating time fraction, if inspection of the FF demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm must be counted as a minimum of 1 hour and if corrective action is initiated more than 1 hour after an alarm, the alarm time must be counted as the actual amount of time taken to initiate corrective action.

For the option of monitoring VE, we are requiring that the owner or operator perform daily, 15-minute VE observations in accordance with the procedures of EPA Method 22, ''Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares,'' 40 CFR part 60, appendix A–7. During the VE observations, the source must be operating under normal conditions. If VE are observed, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. If no VE are observed in 30 consecutive daily EPA Method 22 tests, the owner or operator may decrease the frequency of EPA Method 22 testing from daily to weekly for that source. If VE are observed during any weekly test, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan and the owner or operator must resume EPA Method 22 testing of that source on a daily basis until no VE are observed in 30 consecutive daily tests, at which time the owner or operator may again decrease the frequency of EPA Method 22 testing to a weekly basis.

For a stand-alone FF, we are requiring that the owner or operator use a BLD system or monitor VE as described above to demonstrate parametric compliance.

For a wet scrubber on a tunnel or roller kiln, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber liquid pH and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber liquid pH at or above the minimum values established during the HF/HCl performance test demonstrates compliance with the acid gas (HF/HCl) HBEL. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the lowest minimum value established during the PM and HF/HCl performance tests demonstrates compliance with all applicable emission limits by showing that the scrubber is in proper working order.

For an ACI system, we are requiring that the owner or operator demonstrate compliance with the Hg and dioxin/furan emission limits by continuously monitoring the activated carbon flow rate and maintaining it at or above the lowest minimum value established during the Hg and dioxin/furan performance tests.

If the owner or operator intends to comply with the dioxin/furan emission limit without an ACI system, we are requiring that the owner or operator demonstrate compliance by continuously monitoring the stack temperature of the tunnel or roller kiln and the operating temperature of the ceramic tile spray dryer and floor tile press dryer and maintaining it at or below the highest 4-hour average temperature during the dioxin/furan performance test for the tunnel or roller kiln, at or above the average temperature during the dioxin/furan performance test for the ceramic tile spray dryer, and at or below the average temperature during the dioxin/furan performance test for the floor tile press dryer.

For a wet scrubber on a spray glazing operation, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber pressure drop and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber pressure drop at or above the minimum value established during the PM performance test demonstrates compliance with the PM emission limit. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the minimum value established during the PM performance test demonstrates compliance with the PM emission limit by showing that the scrubber is in proper working order.

For a water curtain on a spray glazing operation, we are requiring that the owner or operator demonstrate compliance with the PM emission limit by conducting a daily inspection to verify the presence of water flow to the wet control system, conducting weekly visual inspections of the system ductwork and control equipment for leaks and conducting annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.

For baffles on a spray glazing operation, we are requiring that the owner or operator demonstrate compliance with the PM emission limit by conducting an annual visual inspection of the baffles to confirm the baffles are in place.

For a source with no APCD, we are requiring that, to demonstrate compliance with the PM emission limit, the owner or operator monitor VE as described above. We are also requiring that, to demonstrate compliance with the dioxin/furan emission limit, the owner or operator continuously monitor the stack temperature of the tunnel or roller kiln and operating temperature of the ceramic tile spray dryer and floor tile press dryer and maintain it at or below the highest 4-hour average stack temperature during the dioxin/furan performance test for the tunnel or roller kiln, at or above the average operating temperature during the dioxin/furan performance test for the ceramic tile spray dryer, and at or below the average operating temperature during the dioxin/furan performance test for the floor tile press dryer. In addition, if the last calculated total facility maximum potential HCl-equivalent was not at or below the HBEL for acid gases, then we are requiring that the owner or operator collect and record data documenting the process rate of the tunnel or roller kiln and reduce the data to 3-hour block averages. The owner or operator must maintain the kiln process rate(s) at or below the kiln process rate operating limit(s) that enables the total facility maximum potential HCl-equivalent to remain at or below the HBEL.

7. What are the notification, recordkeeping and reporting requirements?

All new and existing sources are required to comply with certain requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 11 of subpart KKKKK. The General Provisions include specific requirements for notifications, recordkeeping and reporting.

Each owner or operator is required to submit a notification of compliance status report, as required by 40 CFR 63.9(h) of the General Provisions. This final Clay Ceramics Manufacturing NESHAP requires the owner or operator to include in the notification of compliance status report certifications of compliance with rule requirements. Semiannual compliance reports, as required by 40 CFR 63.10(e)(3) of subpart A, are also required for each semiannual reporting period.

This final Clay Ceramics Manufacturing NESHAP requires records to demonstrate compliance with each emission limit and work practice standard. These recordkeeping requirements are specified directly in the General Provisions to 40 CFR part 63 and are identified in Table 9 of subpart KKKKK.

Specifically, we are requiring that the owner or operator must keep the following records:

- All reports and notifications submitted to comply with this final Clay Ceramics Manufacturing NESHAP.
- Records of performance tests.
- Records relating to APCD maintenance and documentation of approved routine control device maintenance.
- Continuous monitoring data as required in this final Clay Ceramics Manufacturing NESHAP.
- Records of BLD system alarms and corrective actions taken.
- Each instance in which the owner or operator did not meet each emission limit (*i.e.,* deviations from operating limits).
- Records of production rates.
- Records of approved alternative monitoring or testing procedures.
- Records of maintenance and inspections performed on the APCD.
- Current copies of the OM&M plan and records documenting conformance.
- Logs of the information required to document compliance with the shuttle kiln work practice standard.
- Logs of the information required to document compliance with the startup and shutdown work practice standards.
- Records of each malfunction and the corrective action taken.
- Records of parameters and procedures followed for work practice standards.

We are also requiring that the owner or operator submit the following reports and notifications:

- Notifications required by the General Provisions.
- Initial Notification no later than 120 calendar days after the affected source becomes subject to this subpart.
- Notification of Intent to conduct performance tests and/or other compliance demonstration at least 60 calendar days before the performance test and/or other compliance demonstration is scheduled.
- Notification of Compliance Status 60 calendar days following completion of a compliance demonstration that includes a performance test.
- Notification of Compliance Status 30 calendar days following completion of a compliance demonstration that does not include a performance test (*i.e.,* compliance demonstration for the work practice standard).
- Compliance reports semi-annually, including a report of each malfunction resulting in an exceedance and the corrective action taken.
- Report of alternative fuel use within 10 working days after terminating use of the alternative fuel.
- Results of each performance test within 60 calendar days of completing the test, submitted to the EPA by direct computer-to-computer electronic transfer via EPA-provided software for data collected using supported test methods (see section III.E of this preamble for more information).

C. What are the requirements during periods of startup, shutdown, and malfunction?

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some section 112 standards apply continuously.

1. Periods of Startup or Shutdown

Consistent with *Sierra Club* v. *EPA,* the EPA has established standards in this rule that apply at all times. In establishing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained in the preamble to the proposed rule and in sections IV.A.4 and IV.B.2 of this preamble, has established alternate standards for those periods.

a. BSCP Manufacturing

The EPA is issuing the work practice standards described in this paragraph for periods of startup and shutdown for BSCP tunnel kilns with APCD. As a first step, the owner or operator is required to determine the APCD minimum inlet temperature and the startup kiln car push rate of the product. For startup, the owner or operator is required to vent the exhaust from the kiln through the APCD at all times when the exhaust temperature is at or above the minimum inlet temperature. In addition, the owner or operator may not exceed the startup kiln car push rate until the kiln exhaust is vented to the APCD. For shutdown, the owner or operator is required to vent the exhaust from the kiln through the APCD until the kiln exhaust temperature falls below the APCD minimum inlet temperature. In addition, the kiln car push rate is to be steadily decreased to zero as the kiln cools. No additional loaded kiln cars may be introduced into the kiln once the kiln exhaust temperature falls below the APCD minimum inlet temperature. When the kiln exhaust is being vented through the APCD, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.A.6 of this preamble.

The EPA is issuing similar work practice standards for periods of startup and shutdown for BSCP tunnel kilns without an APCD as well. As a first step, the owner or operator is required to determine the product-specific kiln temperature profile and the startup kiln car push rate of the product. For startup, the startup kiln car push rate may not be exceeded until the kiln reaches the product-specific kiln temperature profile. For shutdown, the kiln car push rate is to be steadily decreased to zero as the kiln cools. No additional loaded kiln cars may be introduced into the kiln once the kiln falls below the product-specific kiln temperature profile. When the kiln production rate is greater than the startup kiln car push rate, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.A.6 of this preamble.

b. Clay Ceramics Manufacturing

The EPA is issuing the work practice standards described in this paragraph for periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns with APCD. As a first step, the owner or operator is required to determine the APCD minimum inlet temperature and the startup production rate of the product. For startup, the owner or operator is required to vent the exhaust from the kiln or dryer through the APCD at all times when the exhaust temperature is at or above the minimum inlet temperature. In addition, the owner or operator may not exceed the startup production rate of the product until the kiln or dryer exhaust is being vented through the APCD. For shutdown, the owner or operator is required to vent the exhaust from the kiln or dryer through the APCD until the exhaust temperature falls below the APCD minimum inlet temperature. In addition, the production rate is to be steadily decreased to zero as the kiln or dryer cools. No additional throughput may be introduced to the kiln, press dryer and spray dryer once the exhaust temperature falls below the APCD minimum inlet temperature. When the exhaust is being vented through the APCD, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.B.6 of this preamble.

The EPA is also issuing work practice standards for periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns without an APCD. As a first step, the owner or operator is required to determine the product-specific kiln or dryer temperature profile and the startup production rate of the product. For startup, the startup production rate may not be exceeded until the kiln or dryer exhaust temperature reaches the product-specific temperature profile. For shutdown, the production rate is to be steadily decreased to zero as the kiln or dryer cools. No additional throughput may be introduced to the kiln, press dryer and spray dryer once the kiln, press dryer or spray dryer falls below the product-specific temperature profile. When the kiln or dryer production rate is greater than the startup production rate, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.B.6 of this preamble.

2. Periods of Malfunction

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead they are by definition sudden, infrequent and not reasonably preventable failures of emissions control, process or monitoring equipment (40 CFR 63.2) (Definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. Under section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the DC Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the EPA to consider such events in setting section CAA 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. *See, e.g., Sierra Club* v. *EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.'") *See also, Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation."). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an APCD with 99-percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady state type unit that would take days to shut down, the source would go from 99-percent control to zero control until the APCD was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations. As a result, the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, sudden, infrequent, not reasonably preventable and was not instead caused in part by poor maintenance or careless operation. 40 CFR 63.2 (definition of malfunction).

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

D. What are the effective and compliance dates of the standards?

The NESHAP for BSCP Manufacturing and Clay Ceramics Manufacturing are effective on December 28, 2015.

If the initial startup of the affected source is after December 18, 2014, but before December 28, 2015, then the compliance date is no later than December 28, 2015. If the initial startup of the affected source is after December 28, 2015, then the compliance date is immediately upon initial startup of the affected source. The compliance date for existing affected sources is no later than December 26, 2018.

The initial performance test must be conducted within 180 calendar days after the compliance date specified in 40 CFR 63.8395 for affected sources of BSCP manufacturing and 40 CFR 63.8545 for affected sources of clay ceramics manufacturing, according to the provisions in 40 CFR 60.7(a)(2). The first of the 5-year repeat tests must be conducted no later than 5 years following the initial performance test, and thereafter within 5 years from the date of the previous performance test. The date to submit performance test data through the Electronic Reporting Tool (ERT) is within 60 calendar days after the date of completing each performance test.

E. What are the requirements for submission of performance test data to the EPA?

The EPA is requiring owners or operators of BSCP and clay ceramics facilities to submit electronic copies of certain required performance test reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). As stated in the proposed preamble, the EPA believes that the electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment and will ultimately result in less burden on the regulated community. Electronic reporting can also eliminate paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to the affected facilities, air agencies, the EPA and the public.

As mentioned in the preamble of the proposal, the EPA Web site that stores the submitted electronic data, WebFIRE, will be easily accessible to everyone and will provide a user-friendly interface that any stakeholder could access. By making the records, data and reports addressed in this rulemaking readily available, the EPA, the regulated community and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having reports readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time.

We anticipate fewer or less substantial information collection requests (ICRs) in conjunction with prospective CAA-required technology and risk-based reviews may be needed. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Air agencies could benefit from more streamlined and automated review of the electronically submitted data. Having reports and associated data in electronic format will facilitate review through the use of software "search" options, as well as the downloading and analyzing of data in spreadsheet format. The ability to access and review air emission report information electronically will assist air agencies to more quickly and accurately determine compliance with the applicable regulations, potentially allowing a faster response to violations which could minimize harmful air emissions. This benefits both air agencies and the general public.

For a more thorough discussion of electronic reporting required by this rule, see the discussion in the preamble of the proposal. In summary, in addition to supporting regulation development, control strategy development and other air pollution control activities, having an electronic database populated with performance test data will save industry, air agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

F. What materials are being incorporated by reference under 1 CFR part 51?

In this final rule, the EPA is including regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is incorporating by reference the following documents described in the amendments to 40 CFR 63.14:

- ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], (Issued August 31, 1981), IBR approved for Table 4 to subpart JJJJJ and Table 4 to subpart KKKKK. To correct an earlier, inadvertent error that exists in the CFR, we are also adding back in the IBR approval for Table 4 to subpart JJJJJJ.
- ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, (Approved October 1, 2010), IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- ASTM D6735–01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method, IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- EPA–454/R–98–015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, IBR approved for 40 CFR 63.8450(e)(1), (9), and (10) and 40 CFR 63.8600(e)(1), (9), and (10).

The EPA has made, and will continue to make, these documents generally available electronically through *www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the **ADDRESSES** section of this preamble for more information).

IV. Summary of Significant Changes Following Proposal and Rationale

The following sections summarize the significant changes made to the proposed BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP, including the rationale for those changes, to respond to public comments and to correct technical inconsistencies or editorial errors in the proposal. A detailed discussion of these and other public comments, as well as other changes not discussed in this section, can be found in the response-to-comments documents, available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing. All changes to the final rules, including the significant changes discussed in this section and all other changes not discussed in this section, can also be found in the redline comparison of the proposed and final regulatory text, available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing.

A. What are the significant changes since proposal for the BSCP Manufacturing NESHAP?

1. Changes to the Data Set

Following proposal, the EPA learned that two of the facilities in the inventory at proposal were closed and the kilns were demolished. In addition, the EPA learned that two of the synthetic area sources in the inventory at proposal were actually true area sources. These facilities were removed from the master inventory, and the test data from kilns at two of these facilities were also removed from the data set. The EPA learned that a new tunnel kiln had been constructed at a new facility, and that new facility was added to the inventory. The EPA also received additional HF, HCl, and PM test data for three kilns, which was added into the data set.

In addition, the EPA examined the PM test data more closely and found that a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. EPA Method 5 specifies that the temperature should be maintained at 248 ± 25 degrees Fahrenheit (°F) (*i.e.,* between 223 and 273 °F). Test runs with temperatures outside that range were removed from the data set. (See the memorandum ''Test Data Used in BSCP Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more information on this analysis.)

Several public commenters stated that the concentration limits for PM and Hg should not be corrected to 7-percent O_2 because BSCP kilns operate with a higher O_2 content; one commenter suggested that the EPA use data corrected to 17- percent O_2 instead. The EPA evaluated this comment and agrees that 17-percent O_2 is more representative of BSCP kiln operations. Specifically, the EPA evaluated the O_2 content of the run-by-run datasets of PM and Hg for BSCP tunnel kilns and found that for the PM data set, the oxygen content ranged from 9.5 to 20.5 percent, with an average of 16.8 and a mode of 17 when evaluating the run-by-run O_2 values rounded to whole numbers. For the Hg data set, the oxygen content ranged from 13.1 to 19.5 percent, with an average of 17.2 and a mode of 17 when evaluating the run-by-run O_2 values rounded to whole numbers. The EPA agrees that correcting concentration data to 17-percent O_2 rather than 7-percent, as proposed, provides more representative values of kilns' operating conditions and would not artificially inflate the values. Therefore, the EPA recalculated the oxygen-corrected PM and Hg test runs to be corrected to 17-percent instead of 7-percent O_2.

2. Changes to the MACT Floor Pool and Calculations

At proposal, the MACT floors for PM as a surrogate for total non-Hg HAP metals were based on kilns with FF-based APCD, as the EPA considered those to be the best performing sources in the industry. However, as noted in section IV.A.1 of this preamble, the EPA after proposal examined the PM test data in an effort to insure that the data were valid. We found a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. These out-of-range temperatures invalidated the test runs, and in some cases, invalidated entire PM tests, reducing the set of valid, available test data. Some of the PM test data removed from the data set were for kilns controlled with a DIFF. As a result, the EPA no longer has data on all the kilns with a FF-based APCD in the industry, which undercuts one of the bases for EPA's proposal to use the best performing FF-based kilns to set a MACT floor based on 12 percent of the kilns in the entire category.

In addition, at proposal the EPA requested more data to further substantiate that kilns with FF-based APCD actually represented the best performing sources in terms of PM emissions. For example, there were some data in the record at the time of the proposal suggesting that in some cases, uncontrolled kilns actually had emissions below the PM emissions of some kilns with FF-based APCD, which is contrary to what we would expect. The EPA requested information to explain these anomalies. However, information was not received during the comment period sufficient to explain why some kilns without FF-based APCD emitted at levels as low as or lower than some kilns with FF-based APCD.

For this reason, and because some of the emissions data on DIFF-controlled kilns had to be removed from the data pool as discussed above, the record does not support the conclusion that we have PM emissions data on all the best performing kilns in the industry. Given that, we are instead basing the PM MACT floor on 12 percent of the kilns for which we have emissions data. Therefore, the final MACT floor pools for PM as a surrogate for total non-Hg HAP metals are not based on the top 12 percent of the kilns in the industry (*i.e.,* the 27 best performing sources). Instead, the final MACT floor limits are based on the top 12 percent of the sources for which we have emissions data available in each of the kiln size subcategories, consistent with the approach described for the proposed alternate non-Hg HAP metals standards in section IV.Q.1 of the preamble to the proposed rule (79 FR 75649).

In addition, in response to public comments received on the proposed rule, and consistent with the proposed alternate approach in section IV.Q.1 of the preamble to the proposed rule, the EPA has decided to exercise its discretion to subcategorize for emissions of PM based on kiln size in the final rule. Section 112(d)(1) of the CAA allows the EPA to promulgate emission standards for either categories or subcategories of sources. Section IV.C of the preamble to the proposed rule (79 FR 75633) described the EPA's assessment of tunnel kiln size subcategories. When the EPA recalculated the MACT floor pools for PM as a surrogate for total non-Hg HAP metals as described in the previous paragraph, the EPA evaluated subcategorizing by kiln size and determined it is appropriate to exercise its discretion to subcategorize in this case. This subcategorization provides additional flexibility for small tunnel kilns, many of which are operated by small businesses. Therefore, the final MACT floor limits for PM as a surrogate for total non-Hg HAP metals are based on the best performing 12 percent of the sources in each of the kiln size subcategories with valid test data (*i.e.,* 12 percent of the data available).

The EPA also proposed two alternative equivalent limits, calculated based on the same best performing sources ranked by lb/ton, then using those units' concentration or lb/hr data to calculate the floor. During the public comment period, the EPA received comments that each alternative limit should be calculated according to a separate ranking based on the specific unit of measure. Upon further analysis of the data sets for each unit of measure, the EPA has found that there are some differences in the top ranked sources between each unit of measure data set and thus finds the alternative limits expressed on their own unit of measure data set ranking to be the most indicative of that data set's MACT floor. Therefore, the EPA re-ranked the data for each unit of measurement in each kiln size subcategory separately. The final alternative equivalent limits are based on the top 12 percent of the data available in each subcategory according to these revised rankings. In other words, the concentration floor is based on the ranking of the concentration data, and the lb/hr floor is based on the ranking of the lb/hr data. Each floor is based on the best performing units for that unit of measurement. In addition, the final lb/hr non-Hg HAP metals alternative limit is based on a ranking of the non-Hg HAP metals data rather than the use of conversion factors applied to the PM lb/ton floor limit, as was done at proposal.

3. Variability Calculation Based on Hg Raw Material Data

At proposal, the EPA developed Hg MACT floors based on the best performing 12 percent of sources (*i.e.,* the lowest emitting sources of Hg emissions from test data). However, commenters identified that the Hg comes from the raw materials used and the Hg content can vary by location, even within the same quarry. The EPA did not account for this inherent variability at proposal. The Brick Industry Association (BIA) coordinated with several BSCP facilities to test the Hg content of the raw materials used and provided the data to the EPA. The EPA mapped the facilities and quarry locations provided by BIA to identify two distinct quarry locations, an Oklahoma deposit and an Ohio deposit, for use in the development of a Hg raw material variability factor. The data from these two deposit locations were incorporated into the upper prediction limit (UPL) equation. Please see ''Mercury Content of Oklahoma and Ohio Shale Deposits Supplying the Brick Industry'' and ''Final Maximum Achievable Control Technology (MACT) Floor Analysis for Brick and Structural Clay Products'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more information about the data and variability factor.

4. Startup and Shutdown Procedures

The EPA proposed work practice standards during periods of startup and shutdown for tunnel kilns with and without APCD. These standards set a minimum temperature above which the exhaust must be vented through an APCD (if applicable) and below which no product could be introduced to the kiln (400 °F for startup and 300 °F for shutdown). Industry commenters indicated that the exhaust of some kilns never reaches the specific temperatures proposed by the EPA, and that some product must be introduced to the kiln during startup to heat the kiln enough for full production. The EPA evaluated these comments and agrees that the proposed standards do not actually represent the work practices representative of the best performing kilns. The intent of the proposed standards was to represent work practices of the best performing kilns to minimize emissions by limiting the amount of brick being fired before the kiln reaches full production and limiting the amount of time the exhaust is not being routed to the APCD, if applicable. As noted at proposal, the standards were based on information received through the 2010 EPA survey. The EPA received additional information following proposal on the procedures used during periods of startup and shutdown for BSCP tunnel kilns that are more representative of the best performing kilns.

Therefore, the EPA is finalizing work practice standards for periods of startup and shutdown that are based upon the same principles as the proposed standards but are representative of how kilns actually perform during startup. Instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln does not have an APCD, the owner or operator is required to determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. In addition, instead of specifying that no product can be introduced to the kiln during startup, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln. The final startup standards specify that this startup production rate cannot be exceeded until the kiln exhaust reaches the APCD minimum inlet temperature or the product-specific kiln temperature profile. The final shutdown standards specify that no additional product can be introduced once the kiln exhaust falls below the APCD minimum inlet temperature or the product-specific kiln temperature profile.

B. What are the significant changes since proposal for the Clay Ceramics Manufacturing NESHAP?

1. Changes to the Data Set

After proposal, a public commenter identified a transcription error in the production rate for the PM and Hg stack tests for one floor tile roller kiln. The production rate was corrected, and the PM and Hg lb/ton values were recalculated. In addition, the EPA examined the PM test data more closely and found that a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. EPA Method 5 specifies that the temperature should be maintained at 248 ± 25 °F (*i.e.,* between 223 and 273 °F). Test runs with temperatures outside that range were removed from the data set. (See the memorandum ''Test Data Used in Clay Ceramics Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0290 for more information on this analysis.)

During the public comment period, the sanitaryware manufacturing company that provided all of the data used for the sanitaryware tunnel kiln MACT floors clarified that the production rates they provided in their CAA section 114 survey response are in terms of ''greenware fired'' into the kiln rather than ''fired product'' coming out of the kiln (as requested in the section 114 survey). Therefore, to be consistent with the data, the final emission limits for PM as a surrogate for non-Hg HAP metals and Hg from sanitaryware tunnel kilns are in terms of lb/ton of greenware fired rather than lb/ton of product fired (as proposed).

Finally, in response to comments requesting a change in the format of the emission limits for dioxins/furans, the EPA recalculated the emissions for each test run in units of ng/kg of throughput (specifically, ''fired product'' for ceramic tile roller kilns, ''greenware fired'' for sanitaryware tunnel kilns, and ''throughput processed'' for ceramic tile press dryers and spray dryers). The MACT floors were then recalculated using those data, and the final emission limits for dioxins/furans for clay ceramics sources are in units of ng/kg rather than concentration as proposed.

2. Startup and Shutdown Procedures

The EPA proposed work practice standards during periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns with and without APCD. These standards set a minimum temperature above which the exhaust must be vented through an APCD (if applicable) and below which no product could be introduced to the kiln or dryer (400 °F for startup and 300 °F for shutdown). One industry commenter indicated that the exhaust of some dryers never reach the specific temperatures proposed by the EPA. The EPA evaluated the comment and agrees that the proposed standards are not actually representative of the best performing dryers.

Therefore, the EPA is finalizing work practice standards for periods of startup and shutdown that are based upon the same principles as the proposed standards but more accurately reflect the best performing sources. Instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln or dryer does not have an APCD, the owner or operator is required to determine the product-specific kiln or dryer temperature profile that must be achieved before the kiln or dryer can reach full production. In addition, instead of specifying that no product can be introduced to the kiln or dryer, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln or dryer. The final startup standards specify that this startup production rate cannot be exceeded until the kiln or dryer exhaust reaches the APCD minimum inlet temperature or the product-specific kiln or dryer temperature profile. The final shutdown standards specify that no additional throughput can be introduced once the kiln or dryer exhaust falls below the APCD minimum inlet temperature or the product-specific kiln or dryer temperature profile.

C. What are the changes to monitoring requirements since proposal?

A number of changes have been made to the monitoring requirements for the BSCP and Clay Ceramics Manufacturing NESHAP in response to comments on the proposed rule. These changes are summarized in Table 6 of this preamble. Further details about the basis for these changes are provided in the response-to-comments documents for the BSCP Manufacturing NESHAP and the Clay Ceramics Manufacturing NESHAP, available in Docket Nos. EPA–HQ–OAR–2013–0290 (Clay Ceramics Manufacturing) and EPA–HQ–OAR–2013–0291 (BSCP Manufacturing).

TABLE 6—SUMMARY OF CHANGES TO MONITORING REQUIREMENTS SINCE PROPOSAL

Sources	Monitoring requirements	
	Proposal	Promulgation
BSCP or clay ceramics kilns equipped with a wet scrubber.	To demonstrate compliance with acid gas standard: • Monitor scrubber liquid pH .... • Monitor scrubber chemical feed rate (if applicable). • Maintain at or above average pH/feed rate during acid gas test.	To demonstrate compliance with acid gas standard: • Monitor scrubber liquid pH • Maintain at or above highest average ph during acid gas test

TABLE 6—SUMMARY OF CHANGES TO MONITORING REQUIREMENTS SINCE PROPOSAL—Continued

Sources	Monitoring requirements	
	Proposal	Promulgation
	To demonstrate compliance with non-Hg HAP metals standard: • Monitor scrubber pressure drop. • Maintain at or above average pressure drop during PM/non-Hg HAP metals test.. To demonstrate compliance with non-Hg HAP metals and acid gas standards: • Monitor scrubber liquid flow rate. • Maintain at or above average flow rate during PM/non-Hg HAP metals and acid gas tests..	To demonstrate compliance with non-Hg HAP metals and acid gas standards: • Monitor scrubber liquid flow rate. • Maintain at or above highest average flow rate during PM/non-Hg HAP metals and acid gas tests.
BSCP kilns with no add-on control	To demonstrate compliance with non-Hg HAP metals standard: • Perform daily, 15-minute VE observations. • If VE are observed, initiate and complete corrective actions..	To demonstrate compliance with non-Hg HAP metals standard: • Perform daily, 15-minute VE observations • If VE are observed, promptly conduct an opacity test • If opacity greater than 10% are observed, initiate and complete corrective actions
Clay ceramics kilns with no add-on control, or intending to comply with dioxin/furan standard without an ACI system.	To demonstrate compliance with dioxins/furans standard: • Monitor kiln operating temperature. • Maintain at or above average operating temperature during dioxin/furan test..	To demonstrate compliance with dioxins/furans standard: • Monitor kiln stack temperature • Maintain at or below highest stack temperature during dioxin/furan test

V. Summary of Significant Comments and Responses

The EPA received a total of 52 public comment letters on the proposed BSCP Manufacturing NESHAP. (See Docket ID No. EPA–HQ–OAR–2013–0291 for the complete public comments.) The EPA received a total of seven public comment letters on the proposed Clay Ceramics Manufacturing NESHAP. (See Docket ID No. EPA–HQ–OAR–2013–0290 for the complete public comments.) The following sections summarize the major public comments received on the proposal and present the EPA's responses to those comments.

A. Health-Based Standards

Comment: Two commenters disagreed with setting standards under CAA section 112(d)(4) for emissions of HCl, HF, and Cl_2 from new and existing BSCP and clay ceramics sources. One commenter questioned whether the EPA has the authority to set CAA section 112(d)(4) standards for these acid gases. The commenter asserted that it would be arbitrary and capricious for the EPA to set risk-based standards for these pollutants when the EPA previously decided not to set CAA section 112(d)(4) standards for HCl, HF, and Cl_2 in air toxics rulemakings for industrial boilers and power plants. For power plants, the EPA stated that the agency ''does not have sufficient information to establish CAA section 112(d)(4) health-based emission standards and we did not receive such data during the comment period.''[1] The commenter noted that the EPA reached a similar conclusion with respect to industrial boilers, declining to set risk-based standards because of a lack of information on emissions.[2] The commenter asserted that the health and scientific data regarding emissions of acid gases from BSCP and clay ceramics plants similarly fail to provide justification for setting HBEL for these pollutants. The commenter asserted the EPA must instead set MACT standards.

Similarly, the second commenter expressed concern over using CAA section 112(d)(4) and health-based risk assessment for setting the HCl, HF and Cl_2 standards for BSCP Manufacturing and Clay Ceramics Manufacturing. The commenter noted that this would be the first time the EPA used the health-based risk assessment approach under CAA section 112(d)(4) to set emission standards for HF and Cl_2; although the EPA has used this approach in the past to establish health-based standards for other source categories, it was restricted to ''HCl emissions for discrete units within the facility'' (79 FR 75639).

The commenter supported focusing on pollutants that pose the greatest risks but expressed concern that the EPA has not adequately established that the approaches used are appropriate. The commenter asserted that the EPA's approach represented a far-reaching and significant change in the manner in which MACT standards are established under CAA section 112(d) and that it was inappropriate for the EPA to propose such changes in a rulemaking for individual source categories instead of discussing the approach with all affected parties. The commenter noted that Congress established section 112 of the CAA to rely on a technology-based approach to avoid the gridlock of the unsuccessful risk-based methods used before the adoption of the 1990 CAA Amendments. Accordingly, while the CAA includes language under section 112(d)(4) allowing the use of risk in the establishment of MACT, it should be used only under limited and very specific circumstances, and the commenter stated that the EPA's proposal did not adequately make the case for the use of CAA section 112(d)(4).

Conversely, two other commenters stated that the EPA has clear legal authority to set HBEL and ample justification to do so for the BSCP source category. The commenters stated that under the terms of this provision, the EPA may set an emission standard at a level higher than would be required by CAA section 112(d)(4), provided that: (1) The pollutant(s) being regulated is a threshold pollutant and (2) the standard provides an ample margin of safety. The

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[1] ''Responses to Public Comments on National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units.'' Docket Item No. EPA–HQ–OAR–2009–0234–20126.

[2] National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 75 FR 32006, 32031 (June 4, 2010).

commenters stated that both of these criteria are met in this case.

The commenters asserted that the proposed standard is consistent with Congress's expectations regarding the implementation of CAA section 112(d)(4). According to the Senate report accompanying the legislation, ''For some pollutants a MACT emission limitation may be far more stringent than is necessary to protect public health and the environment'' and in such situations, ''[t]o avoid expenditures by regulated entities which secure no public health or environmental benefit, the Administrator is given discretionary authority to consider the evidence for a health threshold higher than MACT at the time the standard is under review.'' [3] The commenters stated that for this rulemaking, MACT would result in emission standards that are far more stringent than are needed to protect health and the environment and asserted that Congress enacted CAA section 112(d)(4) to allow emission standards to be tailored to protect public health without imposing unreasonable and unnecessary standards on affected sources.

Response: The EPA disagrees with the commenters that we do not have the authority to establish CAA section 112(d)(4) standards in this rulemaking. The EPA also disagrees that the decision to establish CAA section 112(d)(4) standards is inconsistent with our decisions on other rulemakings. The commenters' more detailed arguments and the EPA's responses are provided in the remainder of this section.

1. Health Thresholds

Comment: One commenter stated that a pollutant is not a threshold pollutant under CAA section 112(d)(4) unless the EPA establishes that it cannot cause cancer at any level of exposure. The commenter asserted that HCl, HF, and Cl_2 do not have already-established safe health thresholds and the EPA's proposed standards would not provide ''an ample margin of safety.''

Conversely, two commenters agreed with the EPA that the available health data indicate that HCl, HF, and Cl_2 are all threshold pollutants. The commenters stated that the data show that each of these pollutants has a discernible exposure threshold below which adverse human health effects are not expected to occur; in addition, none of the available data suggest that these pollutants reasonably should be expected to act as a carcinogen or mutagen, or exhibit a mode of action that would result in non-threshold effects.

Response: The EPA disagrees with the first commenter regarding HCl, HF and Cl_2 not having thresholds accepted by the scientific community, and we acknowledge the support of the other two commenters. The EPA's conclusion that HCl, HF and Cl_2 are threshold pollutants is based on the best available toxicity database considered in hazard identification and dose response assessments. There is agreement on using a similar threshold approach for these chemicals across agencies, *i.e.,* the EPA's Integrated Risk Information System (IRIS) Program, Agency for Toxic Substances and Disease Registry (ATSDR) and the California Environmental Protection Agency (CalEPA). The toxicity assessments, which include noncancer and/or cancer toxicity assessments, provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published. In addition, the Science Advisory Board (SAB) has endorsed the use of the reference values derived by these sources to support the EPA's risk assessments in the residual risk and technology review (RTR) program.

Specifically, none of the compounds discussed here has been classified as a carcinogen or as ''suggestive of the potential to be carcinogenic,'' individually or in combination, by existing authoritative bodies, including EPA, CalEPA, International Agency for Research on Cancer (IARC), Organisation for Economic Co-operation and Development (OECD), and the European Community. In light of the absence of evidence of carcinogenic risk for any of these pollutants, and the evidence of an existing threshold below which HCl, HF and Cl_2 are not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA section 112(d)(4) for these pollutants. The existing health effects evidence on HCl, HF and Cl_2 that provide support for this determination is described below.

Potential health effects of HCl:

- There are limited studies on the carcinogenic potential of HCl in humans. The occupational data are limited to a couple of studies (Steenland *et al.,* 1988, Beaumont *et al.,* 1986)[4,5] where the subjects were exposed to a mixture of acid gases (mainly sulfuric acid)and other chemicals (including metals) that may have contained HCl. These studies failed to separate potential exposure of HCl from exposure to other substances shown to have carcinogenic activity and are therefore not appropriate to evaluate the carcinogenic potential of HCl. Another occupational study failed to show evidence of association between exposure to HCl and lung cancer among chemical manufacturing plant employees showing that there is no evidence that HCl is a human carcinogen.[6]
- Consistent with the human data, chronic inhalation studies in animals have reported no carcinogenic responses after chronic exposure to HCl (Albert et al., 1982; Sellakumar *et al.,* 1985).[7,8]
- Hydrogen chloride has not been demonstrated to be genotoxic. The genotoxicity database consists of two studies showing false positive results potentially associated with low pH in the test system (Morita et al., 1992; Cifone *et al.,* 1987).[9,10]
- Chronic exposure to HCl at concentrations below the current IRIS reference concentration (RfC) are not expected to cause adverse effects.

Potential health effects of HF:

- There are a limited number of studies investigating the carcinogenic potential of HF. These studies are unreliable on the issue of possible carcinogenicity of HF and/or fluorides, in general, because of many confounding factors (*e.g.,* exposure to multiple unknown chemicals and smoking habits not accounted for) and because no breakdown was done by type of fluoride exposure.[11]

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[3] S. Rep. No. 101–228, 101st Cong. 1st sess. at 171.

[4] Steenland, K., T. Schnorr, J. Beaumont, W. Halperin, T. Bloom. 1988. Incidence of laryngeal cancer and exposure to acid mists. Br. J. of Ind. Med. 45: 766–776.

[5] Beaumont, J.J., J. Leveton, K. Knox, T. Bloom, T. McQuiston, M Young, R. Goldsmith, N.K. Steenland, D. Brown, W.E. Halperin. 1987. Lung cancer mortality in workers exposed to sulfuric acid mist and other acid mists. JNCI. 79: 911–921.

[6] Bond G.G., Flores G.H., Stafford B.A., Olsen G.W. Lung cancer and hydrogen chloride exposure: results from a nested case-control study of chemical workers. 1991. J Occup Med; 33(9), 958–61.

[7] Albert, R.E., A.R. Sellakumar, S. Laskin, M. Kuschner, N. Nelson and C.A. Snyder. 1982. Gaseous formaldehyde and hydrogen chloride induction of nasal cancer in rats. J. Natl. Cancer Inst. 68(4): 597–603.

[8] Sellakumar, A.R., C.A. Snyder, J.J. Solomon and R.E. Albert. 1985. Carcinogenicity for formaldehyde and hydrogen chloride in rats. Toxicol. Appl. Pharmacol. 81: 401–406.

[9] Morita, T., T. Nagaki., I. Fukuda, K. Okumura. 1992. Clastogenicity of low pH to various cultured mammalian cells. Mutat. Res. 268: 297–305.

[10] Cifone, M.A., B. Myhr, A. Eiche, G. Bolcsfoldi. 1987. Effect of pH shifts on the mutant frequency at the thymidine kinase locus in mouse lymphoma L5178Y TK=/- cells. Mutat. Res. 189: 39–46.

[11] U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. Toxicological Profile for Fluorides, Hydrogen Fluoride and Fluorine. 2003. Available at *http://www.atsdr.cdc.gov/toxprofiles/tp11.pdf.*

- Chronic exposure at or below the current CalEPA reference exposure level (REL) is not expected to cause adverse effects.

Potential health effects of Cl_2:

- The existing studies of workers in the chemical industry have not found any evidence that Cl_2 is carcinogenic.
- Chronic bioassays in rodents and long-term studies in non-human primates have shown no evidence for carcinogenicity in respiratory tract as target tissue or other tissues.
- Chronic exposure to Cl_2 at concentrations below the current ATSDR minimal risk level (MRL) are not expected to cause adverse effects.

We disagree with the comment that the EPA's proposed HBEL does not provide an ample margin of safety, for the following reasons.

First, the limit is based on the facility in the source category with the highest potential exposure to nearby residents. The HBEL at this single facility reflects a ratio of exposure concentration over the reference value of up to 1 (at an exposure concentration below the RfC is considered to be health protective). As such, exposures will not exceed the established health threshold at this facility. In addition, the exposure estimate used to set the limit is very health protective in that it assumes constant exposure for 70 years. Actual exposures from emissions from this facility are expected to be lower (*i.e.,* because persons will spend time away from home). This conservative exposure scenario is consistent with the ''ample margin of safety'' requirement in CAA section 112(d)(4).

Second, the ratios at the other facilities (not the highest facility noted above) from this source category are lower and in most cases significantly lower, with approximately 90 percent of these facilities having a ratio of 0.5 or less, which provides a further increased margin of safety beyond the ample margin of safety established at the facility with the highest potential exposure.

Comment: One commenter stated that, according to the EPA, an RfC is merely ''an estimate (with uncertainty spanning perhaps an order of magnitude)'' of an exposure that is ''likely to be'' without health risks.[12] By definition, this ''estimate'' is not by itself a ''safe threshold'' of exposure that ''presents no risk'' of adverse health effects. The commenter stated the EPA cannot lawfully use a pollutant's RfC as a default ''safe threshold'' under CAA section 112(d)(4) because an RfC does not pose ''no'' health risks, as the commenter asserted the CAA requires.

The commenter stated that the EPA is authorized to set risk-based standards only where it has direct evidence of the level at which there are no adverse effects observed and that proceeding with HBEL without a no observed adverse effect level (NOAEL) is unlawful. Another commenter stated the use of health-based standards should only be considered for HAP that have been thoroughly evaluated by the EPA and are contained in the IRIS database with a high level of confidence in the RfC. With respect to HCl, the IRIS confidence levels are ''Low'' for the inhalation RfC. In ''Carcinogenicity Assessment for Lifetime Exposure,'' IRIS states, ''This substance/agent has not undergone a complete evaluation and determination under the EPA's IRIS program for evidence of human carcinogenic potential.'' [13] In the proposal, the EPA acknowledged that ''[t]he EPA has not classified HCl for carcinogenicity'' and ''[l]ittle research has been conducted on its carcinogenicity'' (79 FR 75639).

The commenter also stated that IARC concluded that ''[t]here is inadequate evidence for the carcinogenicity in humans of hydrochloric acid,'' that ''[t]here is inadequate evidence for the carcinogenicity in experimental animals of hydrochloric acid,'' and that HCl ''is not classifiable as to its carcinogenicity to humans.'' [14] The commenter stated that the EPA did not identify any evidence that HCl is not carcinogenic and noted that the only study the EPA referenced is ''one occupational study'' that ''found no evidence of carcinogenicity'' (79 FR 75639). Because the EPA did not provide a citation for the study or otherwise identify it or discuss it, the public are unable to adequately comment on it.

Response: The EPA's risk assessments are supported by the best available toxicity assessments from authoritative bodies including the EPA's IRIS Program, ATSDR and CalEPA. The SAB has endorsed the use of the reference values derived by these sources to support EPA's risk assessments in the RTR program. These authoritative bodies derive health protective reference values at or below which no adverse effects are expected to occur. As mentioned previously in this section, the toxicity assessments, which include noncancer and/or cancer toxicity assessments, provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published.

The commenter stated that there is not a NOAEL and that based on that, the EPA cannot set a HBEL for HCl. The EPA toxicity assessments consider the entire toxicity database for specific chemicals and are conducted following well-established EPA guidance on how to assess potential hazard of a chemical and conduct dose response assessments. These assessments include the derivation of an RfC, which is likely to be without appreciable risk of adverse health effects to the human population (including susceptible subgroups and all life stages) over a lifetime. According to EPA guidelines, RfCs can be derived from a NOAEL, lowest observed adverse effect level (LOAEL) or benchmark dose, with uncertainty factors applied to reflect the limitations of the data used. In particular for HCl, the point of departure for the RfC (15 milligrams per cubic meter (mg/m^3)) was selected from chronic inhalation studies in rodents and was adjusted to reflect a lifetime of exposure (2.7 mg/m^3) and extrapolated to a human equivalent concentration (6.1 mg/m^3) based on differences in the effects of a gas in the respiratory system between rats and humans. Uncertainty factors (total of 300, yielding an RfC of 0.02 mg/m^3) were applied to account for interspecies differences, intraspecies extrapolation and extrapolation from a LOAEL to NOAEL. It is important to note that in the IRIS assessment for HCl it is stated that a reasonable estimate of the NOAEL in humans is in the range of 0.3–3 mg/m^3. This estimate resulted from an expert review workshop and is based on examination of the HCl literature, a comparison with sulfuric acid toxicity, and the judgment of those in attendance at the review workshop. In addition, this value is generally consistent with identified NOAELs in subchronic animal studies (OECD, 2002). Based on this information, we are confident that the IRIS HCl RfC represents a conservative health protective benchmark below which adverse health effects are not expected to occur.

As part of the risk analysis conducted to support this rule, the EPA thoroughly evaluated all the available and relevant scientific evidence on HCl (discussed previously in this section) and concluded that there is no evidence that HCl is a carcinogen and that this information is sufficient for this regulatory determination. The 2002

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[12] U.S. EPA, Glossary, *http://www.epa.gov/risk_assessment/glossary.htm* (last updated Apr. 28, 2014).

[13] U.S. EPA, Integrated Risk Information System—Hydrogen chloride. *http://www.epa.gov/iris/subst/0396.htm#coninhal.*

[14] IARC, Hydrochloric Acid (Monograph), available at *http://monographs.iarc.fr/ENG/Monographs/vol54/mono54-8.pdf.*

OECD assessment of HCl drew similar conclusions:

> For genetic toxicity, a negative result has been shown in the Ames test. A positive result in a chromosome aberration test using Hamster ovary cells is considered to be an artifact due to the low pH. For carcinogenicity, no pre-neoplastic or neoplastic nasal lesions were observed in a 128-week inhalation study with SD male rats at 10 ppm hydrogen chloride gas. No evidence of treatment related carcinogenicity was observed in other animal studies performed by inhalation, oral or dermal administration. In humans, no association between hydrogen chloride exposure and tumor incidence was observed.[15]

Additionally, the EPA conducted a screening level literature review in 2003 and did not identify any critical studies that would change the conclusions in the 1995 HCl IRIS assessment. Based on the information available, the EPA concludes that this information is sufficient to support setting an HBEL under CAA section 112(d)(4) for HCl.

Comment: One commenter stated that the EPA proposed to base the HCl emission standards on the HCl RfC and argued it is unlawful to do so where the EPA has ''low confidence'' in the RfC. The commenter stated that it is arbitrary to claim there is an established, safe health threshold based on a reference value in which the EPA has low confidence. According to the commenter, having low confidence in the RfC is the same as admitting that the EPA has ''low confidence'' in the proposed emission standards. The fact that the EPA was unable to determine a no-effect level in a robust and reliable scientific study demonstrates concern that chronic exposure to even very low levels of HCl can compromise health, especially in sensitive subpopulations. Therefore, the EPA cannot state that HCl presents no risk of adverse health effects.

The commenter stated that the EPA used a non-cancer health threshold for HCl based on a chronic inhalation study on rats.[16] The EPA has determined the RfC to be 0.02 mg/m^3 (0.0134 part per million (ppm)), based on rat studies by Albert, *et al.,* demonstrating hyperplasia of the nasal mucosa (the protective cell lining of the nasal tract and cavities), larynx, and trachea.[17] The commenter asserted that because these rat studies failed to identify a NOAEL, the EPA based the RfC on a LOAEL (*i.e.,* the lowest dose in the study that induced a measurable adverse health effect in treated animals). The commenter asserted that CAA section 112(d)(4) does not permit risk-based standards where a NOAEL has not been determined; at a minimum, Congress required that a threshold be based on the '' 'no observable [adverse] effects level' (NOAEL) below which human exposure is presumably 'safe.' '' [18] The EPA has similarly recognized that ''the legislative history of CAA section 112(d)(4) indicates that a health-based emission limit under CAA section 112(d)(4) should be set at the level at which no observable effects occur'' (79 FR 75642). The commenter stated that, if there is no established non-zero threshold level at which it has been shown that the pollutant has no deleterious health effects, then the EPA cannot be certain that exposure to the pollutant at a given level presents no harm. The commenter stated that without a NOAEL, no established threshold can exist, and the EPA does not have the authority under CAA section 112(d)(4) to set an HBEL for HCl.

Response: The EPA's chemical-specific toxicity assessments are derived using the EPA's risk assessment guidelines and approaches that are well established and vetted through the scientific community, and follow rigorous peer review processes.[19] The RTR program gives preference to EPA values (*i.e.,* RfCs for noncancer assessments) for use in risk assessments and uses other values, as appropriate, when those values are derived with methods and peer review processes consistent with those followed by the EPA. The approach for selecting appropriate toxicity values for use in the RTR Program has been endorsed by the SAB.[20]

The EPA's RfCs are assigned confidence levels of high, medium and low based on the completeness of the supporting database. High confidence RfCs are considered less likely to change substantially with the collection of additional information, while low confidence RfCs are recognized as being based on less complete data and so may be subject to change if additional data is developed.[21] It is important to note that a ''low confidence'' label does not indicate that the EPA believes that the RfC is unreliable. For a given chemical, if there are not adequate or appropriate data with which to derive an RfC, one is not calculated. All RfCs, even those with low confidence, are appropriate for regulatory use.

We disagree with the comment that without a NOAEL, no established threshold can exist. The EPA toxicity assessments for specific chemicals are conducted using well-established EPA guidance on how to assess potential hazard of chemicals and how to conduct dose response assessments to arrive at a chemical concentration below which we do not expect adverse effects to occur (*i.e.,* threshold). These assessments include the derivation of a RfC which is likely to be without appreciable risk of adverse health effects to the human population (including susceptible subgroups and all life stages [*e.g.,* children]) over a lifetime. According to EPA guidelines, RfCs can be derived from a NOAEL, LOAEL or benchmark dose, with uncertainty factors applied to account for relevant extrapolations, including extrapolation from LOAEL to NOAEL, and to reflect additional limitations of the data used.[22] [23]

Comment: One commenter stated that the studies the EPA relied upon only investigated respiratory effects and did not consider other ways HCl could cause harm. The commenter noted the EPA has acknowledged that the RfC is an ''inhalation RfC'' and represents the health risk and toxicity associated with the inhalation pathway of exposure only (75 FR 32031). The commenter stated that the EPA identified no studies that indicate whether exposure to HCl—at 0.02 mg/m^3 or any other concentration—harms other bodily systems.

Response: The EPA disagrees with the comment that the agency investigated only respiratory effects and that it did not consider other ways in which HCl can cause harm. In the principal studies

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[15] United Nations Environment Programme 2002, Organisation for Economic Co-operation and Development (OECD), Screening Information Dataset (SIDS) Initial Assessment Report for SIAM 15, Hydrogen Chloride: CAS N°:7647–01–0. October 25, 2002. *http://www.inchem.org/documents/sids/sids/7647010.pdf.*

[16] EPA, Integrated Risk Information System: Hydrogen Chloride.

[17] Albert, R.E., *et al.,* Gaseous formaldehyde and hydrogen chloride induction of nasal cancer in rats, 68(4) J. Natl. Cancer Inst. 597 (1982).

[18] S. Rep. No. 101–228, at 171, 176.

[19] Integrated Risk Information System (IRIS). IRIS Guidance documents available at *http://www.epa.gov/iris/backgrd.html.*

[20] Science Advisory Board. Memorandum to Lisa Jackson, Administrator, U.S. EPA. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[21] U.S. EPA Air: Fate, Exposure, and Risk Analysis Web site. Air Toxics Assessment Reference Library, Volume 1. 2004. Available at *http://www2.epa.gov/sites/production/files/2013–08/documents/volume_1_reflibrary.pdf.*

[22] U.S. EPA. 1994. Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry. EPA/600/8–90/066F, Oct 1994. Docket Item No. EPA–HQ–OAR–2013–0291–0160.

[23] U.S. EPA. 2002. A Review of the Reference Dose and Reference Concentration Processes. EPA/630/P–02/002F, Dec 2002.

upon which the RfC is based, a complete necropsy was performed on all animals. Histologic sections were prepared from the nasal cavity, lung, trachea, larynx, liver, kidneys, testes, and other organs where gross pathological signs were present. Due to the reactive nature of HCl, however, portal of entry effects are anticipated to occur first and at lower exposure concentrations. The IRIS assessment [24] for HCl included a comprehensive review of all the available toxicity data for HCl. No effects are expected to occur at exposures of HCl at or below the level of the RfC.

Comment: One commenter stated that the RfC is an inadequate basis for establishing a threshold because it ''did not reflect any potential cumulative or synergistic effects of an individual's exposure to multiple HAP or to a combination of HAP and criteria pollutants'' and noted that the EPA recognized the potential for cumulative and synergistic effects was important in its consideration of risk-based standards in two recent rulemakings (see 75 FR 32031 and 76 FR 25050).

The commenter stated that there is no ''established'' threshold at the RfC for HCl, because the CalEPA has determined a lower and more health-protective value than the RfC. The EPA's chronic inhalation RfC is 0.02 mg/m^3, while California's chronic inhalation REL is 0.009 mg/m^3.[25] The commenter stated that CalEPA's REL is based on the same science as the IRIS RfC but was developed more recently than the EPA's RfC, which was last revised in 1995.[26] The REL is ''the concentration level at or below which no health effects are anticipated in the general human population,'' and the EPA's process for developing RELs ''is similar to that used by EPA to develop IRIS values and incorporates significant external scientific peer review.'' [27] The commenter asserted that the EPA and CalEPA disagree about the concentration of HCl exposure at which no health effects are expected and that the disagreement stems from how to account for uncertainty and variability in interpreting the study results.

The fact that two agencies have determined significantly different ''safe'' levels, the commenter contended, demonstrates as a matter of law that there is no ''established'' health threshold for HCl and precludes the EPA from lawfully setting CAA section 112(d)(4) standards for HCl. The commenter stated that the statute requires that a health threshold ''has been established'' and argued the legislative history indicates Congress intended for CAA section 112(d)(4) limits to be used only where there was a ''well-established'' level that presents ''no risk'' of adverse effects and about which there was no ''dispute.'' [28] The commenter asserted that Congress did not grant the Administrator the authority to establish the threshold itself and that the EPA does not have authority to set CAA section 112(d)(4) standards in situations where there is disagreement among expert agencies as to what the correct health threshold should be.

The commenter asserted that by failing to address the CalEPA REL, the EPA contravened its obligation under administrative law to address significant evidence that detracts from the agency's conclusion. The commenter stated that for the EPA to rely solely on the IRIS RfC, the EPA would need to explain why the CalEPA REL is incorrect and why the IRIS RfC reflects the best available science and risk assessment practices, particularly when the IRIS RfC and CalEPA REL thresholds are based on the same science and when the EPA relied upon CalEPA RELs at several other points in its proposal (*e.g.,* the EPA used the CalEPA REL for acute inhalation exposure to HCl as the basis for its CAA section 112(d)(4) standards). If the EPA considers CalEPA's acute REL for HCl to reflect a reliable value, then the commenter stated it is arbitrary to disregard CalEPA's chronic REL for HCl. The commenter further noted the EPA relied upon the CalEPA chronic REL for HF in order to determine a threshold for HF and argued that using the CalEPA REL for HF but not for HCl is arbitrary.

Response: At an initial point, with respect to the comment that different agencies have identified different thresholds and so ''as a matter of law'' there is no ''established'' health threshold for HCl, the EPA disagrees that the phrase ''has been established'' in CAA section 112(d)(4) means that there is universal agreement on the health threshold level and that differences between CalEPA and the EPA demonstrate that no health threshold ''has been established.'' The statute does not clearly identify who must establish the health threshold or how such threshold should be established. In the absence of such specificity in the statute, the EPA reads CAA section 112(d)(4) to authorize the EPA to set health-based limits where, in the EPA's expert judgment, there is a health threshold for the pollutant below which no adverse health effects are expected to occur.

Further, we disagree with the comment that there is no established threshold at the RfC because CalEPA developed a reference value at a lower concentration than the RfC. The approaches used by both agencies are similar and assume a threshold below which adverse health effects would not be expected; however, there are some differences between agencies in methods for deriving the estimate for a threshold that may affect the final resulting values. Both agencies use the best available science to support their risk assessments. The EPA has an approach for selecting appropriate health benchmark values and, in general, this approach places greater weight on the EPA derived health benchmarks than those from other agencies. The approach favoring EPA benchmarks (when they exist) has been endorsed by the SAB and ensures use of values most consistent with well-established and scientifically-based EPA science policy.[29]

Specifically for HCl, we selected the IRIS RfC for HCl as the most appropriate chronic noncancer health threshold to use for this rule. In the case of HF, there is not an EPA RfC available and the only chronic reference value from an authoritative source and appropriate for use in this rule is the California REL.

Comment: Several commenters disagreed with the EPA's decision to set a HBEL for HF. These commenters contended the EPA does not have the authority to set HF standards under CAA section 112(d)(4) because the scientific data supporting the EPA's findings regarding the carcinogenic potential of HF are insufficient and unreliable. Three commenters asserted that the EPA should not adopt HBEL for

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[24] IRIS Summary for Hydrogen Chloride. *http://www.epa.gov/iris/subst/0396.htm* (Accessed on July 24, 2015)

[25] California Office of Environmental Health Hazard Assessment (OEHHA), OEHHA Acute, 8-Hour and Chronic Reference Exposure Levels (REL)s, *http://www.oehha.ca.gov/air/Allrels.html* (last accessed Mar. 12, 2015).

[26] California OEHHA, Chronic RELs and Toxicity Summaries Using the Previous Version of the Hot Spots Risk Assessment Guidelines at 311 (1999), available at *http://oehha.ca.gov/air/hot_spots/2008/AppendixD3_final.pdf.*

[27] EPA, Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Brick and Structural Clay Products Manufacturing Source Category, May 19, 2014, Docket Item No. EPA–HQ–OAR–2013–0291–0132.

[28] S. Rep. No. 101–228, at 171.

[29] Science Advisory Board. Memorandum to Lisa Jackson, Administrator, U.S. EPA. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

HF due to uncertainty about the vulnerabilities of children, infants, and fetuses to HF exposures at the REL concentration used by the EPA to set the HF emissions standards. Two commenters noted that the proposal states, ''There is limited/equivocal evidence of the carcinogenic potential of HF'' (79 FR 75641) and ''[t]he EPA has not classified HF for carcinogenicity'' (79 FR 75640) and questioned how the agency could be confident that HF is eligible to be a threshold pollutant if its status as a non-carcinogen is uncertain.

One commenter noted that the EPA failed to identify an established, well-defined health-based threshold, below which HF does not cause cancer, that is based on reliable science and has a high level of certainty. The EPA has stated that ''carcinogenicity via inhalation of fluoride is not considered to be likely by most investigators reporting in the existing literature'' (79 FR 75641) and that the EPA ''has not classified HF for carcinogenicity'' (79 FR 75640). The commenter stated that it is possible that HF causes cancer because increased rates of cancer have been observed in workers exposed to a mixture of chemicals that included fluoride [30] and noted that the EPA acknowledged data suggesting that those with occupational exposure to HF have greater than normal occurrences of cancer.[31] The commenter stated that, because of the data showing possible carcinogenic effect, as well as the data showing mutagenic effect in animals, the EPA does not have enough evidence to classify HF as a threshold pollutant with any level of confidence. The commenter stated that the EPA failed to explain how it weighed the conflicting evidence of HF's carcinogenicity and considered EPA's conclusion to be arbitrary and capricious. Three commenters noted that the EPA does not consider HF in its IRIS database but noted that HF breaks down into fluorine, which is included in IRIS.[32] One commenter stated that IRIS indicates no data are available to determine an RfC for chronic inhalation exposure to fluorine.[33] This commenter further noted that IARC ''has determined that the carcinogenicity of fluoride to humans is not classifiable.'' [34] Another commenter stated that health-based standards should be considered only for HAP that are contained in IRIS with a high level of confidence in the RfC.

One commenter noted that although the National Air Toxics Assessment (NATA) database does not contain HF,[35] the database does provide evidence that HF has a mutagenic effect in animals. This conclusion was supported by other scientific reviews [36] and by the National Academy of Sciences (NAS), which states that ''the overall evidence from human animal studies is mixed'' on the question of whether fluoride is carcinogenic when inhaled.[37]

Four commenters questioned the EPA's reliance on a CalEPA risk assessment, noting that the CalEPA REL is based on a study of adults exposed to HF in the workplace [38] and therefore, did not include any children. Two commenters stated that a 10X ''intraspecies'' factor was applied to account for variability among humans, but noted that CalEPA expressed concern about ''the potentially greater susceptibility of children to the effects of inhaled fluorides, considering the rapid bone growth in early years.'' [39] One commenter recommended the EPA use an additional default factor of at least 10X to account for uncertainty regarding health risks to children, infants, and fetuses. The commenter stated that a 10X factor would be consistent with the NAS recommendation[40] and with the 10X factor enacted by Congress in the Food Quality Protection Act (FQPA).[41] Another commenter stated that recent science not considered at the time CalEPA adopted the REL provides further support for prior research showing that HF has neurodevelopmental effects on children and that children living in high-fluoride areas have been observed to have lower IQ scores than those living in low-fluoride areas.[42] The commenter asserted that the adverse effects of fluoride on children are likely to be more severe, and long-lasting, compared with effects on adults.

One commenter stated that the CalEPA REL is based on a study that only examined the increased bone density (skeletal fluorosis) endpoint and noted that CalEPA stated that ''[t]he primary uncertainty in the study was the lack of a comprehensive health effects examination.'' [43] The commenter stated that the EPA does not know whether neurodevelopmental harm, or other health effects, are more sensitive than skeletal harm; therefore, the EPA cannot lawfully set a ''safe'' threshold at a concentration that poses ''no risk'' of health effects with ''an ample margin of safety'' based on a study that lacks ''a comprehensive health effects examination.''

Another commenter asserted that the EPA has insufficient data showing exposure to HF at the REL value ''presents no risk'' of harm to other bodily systems. The commenter noted that HF is a possible reproductive toxin,[44] that occupational studies of women exposed to fluoride identified increased rates of menstrual irregularities,[45] and that animal studies have found that fluoride impairs reproduction and increases the rates of fetal bone and teeth malformation.[46] In addition, chronic inhalation of hydrofluoric acid can cause irritation and congestion of the nose and throat

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[30] Gallerani, M., *et al.,* Systemic and topical effects of intradermal hydrofluoric acid, 16 Am. J. Emer. Med. 521, 522 (1998).

[31] EPA, Technology Transfer Network Air Toxics Web site: Hydrogen Fluoride, *http://www.epa.gov/ttn/atw/hlthef/hydrogen.html* (last updated Oct. 18, 2013).

[32] EPA, Integrated Risk Information System: Fluorine (Soluble Fluoride) (CASRN 7782–41–4), *http://www.epa.gov/iris/subst/0053.htm* (last updated Oct. 31, 2014).

[33] Id.

[34] ATSDR, Toxicological Profile for Fluorides, Hydrogen Fluoride, and Fluorine at 8.

[35] EPA, National Scale Air Toxics Assessment Overview: The 33 Pollutants, *http://www.epa.gov/ttn/atw/nata/34poll.html* (last updated Jan. 6, 2015).

[36] See, *e.g.,* National Research Council of the National Academies, Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants vol.3 at 91–92, available at *http://www.ncbi.nlm.nih.gov/books/n/nap12741/pdf.*

[37] National Research Council of the National Academies, Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants vol.3 at 91–92, available at *http://www.ncbi.nlm.nih.gov/books/n/nap12741/pdf.*

[38] Derryberry O.M., *et al.,* Fluoride exposure and worker health-The health status of workers in a fertilizer manufacturing plant in relation to fluoride exposure, 6 Arch. Environ. Health. 503 (1963).

[39] OEHHA Chronic RELs and Toxicity Summaries, at 280.

[40] National Research Council of the National Academies, Science and Decisions: Advancing Risk Assessment, at 190–93 (2009).

[41] 21 U.S.C. 346a(b)(2)(C) (requiring that, in establishing, modifying, leaving in effect, or revoking a tolerance or exemption for a pesticide chemical residue, ''for purposes of clause (ii)(I) an additional tenfold margin of safety for the pesticide chemical residue and other sources of exposure shall be applied'' to protect infants and children).

[42] See Choi, A.L., *et al.,* Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis, 120 Envtl. Health Perspect. 1362 (Oct. 2012), *http://ehp.niehs.nih.gov/1104912/* (reviewing and discussing findings from over 20 studies); Choi, A.L., *et al.,* Association of Lifetime Exposure to Fluoride and Cognitive Functions in Chinese Children: A Pilot Study, 47 Neurotox. & Teratology 96 (Jan.–Feb. 2015).

[43] OEHHA, Chronic RELs and Toxicity Summaries, at 280.

[44] Massachusetts Toxics Use Reduction Institute, Massachusetts Chemical Fact Sheet: Hydrofluoric Acid, at 1, available at *http://www.turi.org/content/download/3663/44840/file/Fact_Sheet_Hydrofluoric_Acid.pdf.*

[45] EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds, EPA/600/8–89/002F (1988).

[46] ATSDR, Toxicological Profile for Fluorides, Hydrogen Fluoride and Fluorine; EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds.

and bronchitis,[47] and animal studies found increased rates of kidney and liver damage from hydrofluoric acid inhalation.[48] Further, HF readily penetrates the skin, causing deep tissue layer destruction,[49] and ingestion of HF may result in vomiting and abdominal pain, with painful necrotic lesions, hemorrhagic gastritis, and pancreatitis reported after significant exposure.[50]

The commenter stated the CalEPA REL was developed by CalEPA using an outdated version of CalEPA's Hot Spots Risk Assessment Guidelines (1999) that has been ‘‘superseded’’ by the more recent guidelines released in February 2015.[51] The commenter noted the 1999 version required updating in part because it did not include sufficient consideration of ‘‘infants and children in assessing risks from air toxics.’’

Response: The EPA has not reviewed HF in the IRIS program. However, we concur with the two recent authoritative assessments by ATSDR (2003) [52] and the European Union (2002) [53] that the available evidence does not support classifying HF as ‘‘Carcinogenic to Humans,’’ ‘‘Likely to Be Carcinogenic to Humans’’ or as having ‘‘Suggestive Evidence of Carcinogenic Potential’’ (U.S. EPA Guidelines for Carcinogen Risk Assessment (2005)).

All of the studies cited by the commenter are from exposure to fluoride and not from inhalation exposures to HF. Neurodevelopmental effects may be relevant to high fluoride exposures, but the existing evidence shows these effects may occur at fluoride exposure levels beyond those that would cause respiratory effects if HF were the sole source of exposure. In the study of Lund (1997),[54] plasma fluoride concentrations were shown to increase in the nanogram per milliliter (ng/ml) range from exposures to HF in the mg/m^3 level (*e.g.,* elevations of approximately 20 nanograms fluoride per milliliter in plasma resulted from 1-hour exposure to 2 mg/m^3 HF, with notable respiratory and eye irritation effects). Reproductive and developmental effects in rats have been noted from experiments [55] with plasma F levels in the 150 ng/ml range maintained for over 4 months. The primary issue in causing neurodevelopmental effects (which have yet to be quantified) is likely associated with aggregate and cumulative exposure from multiple sources of fluorides (*e.g.,* water, food, toothpaste) which are greater contributors to total fluoride body burden and uncontrollable variables in establishing this rule, which deals with exposures to HF only.

The EPA also disagrees with the comment that a children's default safety factor of 10 should be added to the CalEPA REL for HF. In response to the 10X factor enacted by Congress in the FQPA (1996)[56] to the EPA non-cancer reference value derivation, the agency evaluated its methods for considering children's risk in the development of reference values. As part of its response, the EPA (*i.e.,* the Science Policy Council and Risk Assessment Forum) established the RfD/RfC Technical Panel to develop a strategy for implementing the FQPA and examine the issues relative to protecting children's health and application of the 10X safety factor. One of the outcomes of the Technical Panel's efforts was an in depth review of a number of issues related to the RfD/RfC process (U.S. EPA 2002). The most critical aspect in the derivation of a reference value pertaining to the FQPA has to do with variation between individual humans and is accounted for by a default uncertainty factor when no chemical-specific data are available. The EPA reviewed the default UF for inter-human variability and found the EPA's default value of 10 adequate for all susceptible populations and lifestages, including children and infants. The EPA also recommends the use of chemical-specific data in preference to default uncertainty factors when available (U.S. EPA, 1994, 2011) and is developing Agency guidance to facilitate consistency in the development and use of data-derived extrapolation factors for RfCs and reference doses (RfDs) (U.S. EPA, 2011).[57] [58] In agreement with the recommendations of the RfC review, CalEPA chronic REL for HF was derived using an inter-individual uncertainty factor of 10, which is considered adequate by the EPA for accounting for all susceptible populations and lifestages, including children and infants.

Regarding the comment that CalEPA's Hot Spots Risk Assessment Guidelines

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[47] CalEPA, Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels.

[48] EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds.

[49] Burgher, Francois, *et al.,* Experimental 70% hydrofluoric acid burns: histological observations in an established human skin explants ex vivo model, 30.2 Cutaneous & Ocular Toxicology 100 (2011).

[50] CDC, National Institute for Occupational Safety and Health (NIOSH): Hydrogen Fluoride/Hydrofluoric Acid, *http://www.cdc.gov/niosh/ershdb/emergencyresponsecard_29750030.html.*

[51] OEHHA Chronic RELs and Toxicity Summaries at 1; CalEPA, OEHHA, Air Toxics Hot Spots Program: Guidance Manual for Preparation of Health Risk Assessments (Feb. 2015), available at *http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.*

[52] Agency for Toxic Substances and Disease Registry (2003)—‘‘Although elevated cancer rates have been reported in some occupational groups exposed to hydrogen fluoride and fluoride dusts, these studies were not controlled for the multiple substance exposures to which industrial workers are generally exposed. Because of these multiple exposures and the problem inherent in all occupational studies in identifying appropriate reference populations, only limited evidence from such studies is specifically relevant to the investigation of possible carcinogenic effects of long-term dermal exposure to hydrofluoric acid and inhalation exposure to hydrogen fluoride and/or fluoride dusts in human beings. As noted previously, IARC has determined that the carcinogenicity of fluoride to humans is not classifiable.’’

[53] European Union Risk Assessment Report (2001)—‘‘Carcinogenicity studies, in which HF has been tested, are not available. Studies with NaF may provide insight in the carcinogenicity of HF, especially for systemic tumours. With the latter substance 4 animal studies have been performed, 2 in which NaF was supplied in the drinking water to rats and mice, and two in which NaF was administered via the diet, again to rats and mice . . . .In the rat drinking water study, equivocal indications for osteosarcomas in males were obtained, but the rat diet study was negative, despite clear indications of fluoride intoxication. The mouse drinking water study was also negative. The mouse diet study was confounded by the presence of a retrovirus which may have (co)-induced the growth of benign osteomas thus thwarting the interpretation of the study. In the diet studies (Maurer et al. 1990; Maurer et al. 1993) bone fluoride levels were higher than in the drinking water studies (NTP 1990), while in the diet studies no indications for osteosarcomas were obtained. Furthermore, the osteomas were considered to be reminiscent of hyperplasias rather than true bone neoplasms. It was concluded that the available data is sufficient to suggest that fluoride is not a carcinogenic substance in animals (Janssen and Knaap 1994) . . . Based on epidemiological data IARC (1982) concluded that the evidence for carcinogenicity of orally taken fluoride in humans is inadequate. Recent studies (cited in CEPA 1993; Janssen and Knaap 1994) did not supply evidence of a relationship between fluoride in drinking water and cancer mortality, either. US–EPA, reviewing the epidemiological data for fluoride, stated that no conclusion can be drawn as to the carcinogenicity of fluoride after inhalatory exposure, because in all studies available, humans were exposed to other substances as well (Thiessen 1988).’’

[54] Lund K, Ekstrand J, Boe J, Søstrand P, and Kongerud J. (1997) Exposure to hydrogen fluoride: an experimental study in humans of concentrations of fluoride in plasma, symptoms, and lung function. Occup Environ Med. 54(1):32–37.

[55] Oencue, M, Kocak, A, Karaoz, E; Darici, H; Savilk, E; and Gultekin, F (2007) Effect of long-term fluoride exposure on lipid peroxidation and histology of testes in first- and second-generation rats. Biological Trace Element Research 118:260–268.

[56] U.S. Environmental Protection Agency, Pesticide: Regulating Pesticides. The Food Quality Protection Act (FQPA). 1996. Available at *http://www.epa.gov/pesticides/regulating/laws/fqpa/backgrnd.htm.*

[57] U.S. EPA (1994). *Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry.* (EPA/600/8–90/066F). Research Triangle Park, NC. Docket Item No. EPA–HQ–OAR–2013–0291–0160.

[58] U.S. EPA (2011). Office of the Science Advisor, Risk Assessment Forum. *Recommended Use of Body Weight$^{3/4}$ as the Default Method in Derivation of the Oral Reference Dose.* February 2011. EPA/100/R11/0001.

(1999) have been ''superseded'' by the more recent guidelines released in February 2015, the EPA reviewed the February 2015 Guidelines information provided by the commenter and concluded that this information does not include methods for conducting hazard identification and dose response assessments, which are the analyses that preclude the derivation of a reference value. Therefore, the information provided by the commenter does not apply to the CalEPA REL derivation methods.

The commenter's assertion that the NATA database does not contain HF is incorrect; NATA 2005 (cited above by the commenter) does include noncancer risk estimates for HF. The HF cancer risks are not included in NATA because a quantitative cancer analysis for HF does not exist.

Comment: Several commenters disagreed with the EPA's decision to set a HBEL for Cl_2 and stated the EPA does not have the authority to set Cl_2 standards under CAA section 112(d)(4) because the EPA does not have reliable scientific data demonstrating a ''safe'' threshold for Cl_2 and has not demonstrated Cl_2 presents no cancer risk. Two commenters noted that in the proposal, the EPA stated that, ''the agency presumptively considers Cl_2 to be a threshold pollutant.'' The commenters asserted that a presumption is not adequate for EPA to justify setting a health-based standard for Cl_2 under CAA section 112(d)(4).

One commenter stated that it is possible that Cl_2 is carcinogenic and noted that Cl_2 has not undergone a complete evaluation and determination of human carcinogenic potential under the IRIS program.[59] The IARC and the Department of Health and Human Services (DHHS) have not classified Cl_2 gas for human carcinogenicity. The commenter stated that the absence of data showing carcinogenicity is not the same as data demonstrating that a substance is not carcinogenic.

According to the commenter, Congress authorized CAA section 112(d)(4) standards only where a threshold ''has been established.'' In other words, there must be an already-established threshold for which there is direct evidence that the pollutant presents ''no'' harm at the threshold level of exposure, and the law requires ''well-established'' factual evidence.[60] The commenter asserted that the EPA is not authorized to set risk-based standards based on a ''presumption'' of the existence of a safe level of exposure and that by doing so, the EPA would violate the law and fail to ensure adequate protection from the health risks of hazardous pollution.

The commenter stated that the EPA cannot set a health threshold for Cl_2 based on a chronic inhalation study on monkeys because that study did not determine a NOAEL. The commenter asserted that CAA section 112(d)(4) does not permit risk-based standards where a NOAEL has not been determined. The commenter stated that, at a minimum, Congress required that a threshold be based on the '' 'no observable [adverse] effects level' (NOAEL) below which human exposure is presumably 'safe.' ''[61] If there is no established non-zero ''threshold'' level at which it has been shown that the pollutant has no deleterious health effects, then the commenter asserted that the EPA cannot be certain that exposure to the pollutant at a given level presents ''no'' harm.

Two commenters stated that IRIS contains ''no data'' on an RfC for chronic inhalation exposure.[62] The ATSDR MRL on which the proposed Cl_2 threshold is based is a ''screening value[] only'' and ''[is] not [an] indicator[] of health effects.''[63] According to the ATSDR, ''Exposures to substances at doses above MRLs will not necessarily cause adverse health effects and should be further evaluated,'' ''MRLs are intended to serve only as a screening tool to help you decide if you should more closely evaluate exposures to a substance found at a site,'' and ''uncertainties are associated with [the] techniques'' used to derive MRLs.[64]

One commenter stated that the MRL does not account for the potentially greater susceptibility of children, infants, and fetuses to Cl_2 exposures[65] and noted that CalEPA has recognized that Cl_2 is a toxic air contaminant ''that may disproportionately impact infants and children'' because it can exacerbate asthma.[66] Therefore, the commenter asserted the MRL does not reflect an ''established'' safe health threshold at which exposure presents ''no'' adverse effects and that it is unlawful for the EPA to set CAA section 112(d)(4) standards for Cl_2.

Response: The EPA disagrees with the comment. As part of the risk analysis conducted to support this rule, the EPA thoroughly evaluated all the available and relevant scientific evidence on Cl_2 (as discussed in detail previously in this section) and concluded that there is no evidence that Cl_2 is a carcinogen and that this information is sufficient to support this regulatory decision. The MRL for Cl_2 was developed using the benchmark dose analysis method, which has been widely adopted across the risk assessment community and by the EPA's Risk Assessment Forum[67] as a more reliable estimate of a threshold for an effect than a NOAEL or LOAEL. As a result, the REL for Cl_2 does define a threshold.

Regarding the assertion that the MRL does not take into consideration the potential for greater potential effects in children, in the development of the Toxicological Profile for Chlorine,[68] ATSDR performed an exhaustive review of all of the relevant health effects data available at the time. Until new information becomes available, the Cl_2 MRL is the most credible, scientifically grounded toxicity assessment for Cl_2 and the most appropriate reference value to use in this regulatory action.

In the light of the absence of evidence of carcinogenic risk from Cl_2 exposure and the evidence of an existing threshold below which Cl_2 is not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA section 112(d)(4) for Cl_2.

Comment: One commenter referenced an NAS review of chemical health evaluations in the United States that concluded improvements in both chemical testing and risk assessment are needed to assure current risk evaluations protect people from toxic chemicals.[69] The NAS recommended the EPA use ''A consistent, unified

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[59] EPA, Integrated Risk Information System: Chlorine, *http://www.epa.gov/iris/subst/0405.htm* (last updated Oct. 31, 2014).

[60] S. Rep. No. 101–228, at 171.

[61] S. Rep. No. 101–228, at 171, 176.

[62] EPA, Integrated Risk Information System: Chlorine.

[63] ATSDR, Public Health Assessment Guidance Manual (2005 Update): Appendix F, *http://www.atsdr.cdc.gov/hac/PHAManual/appf.html* (last updated Nov. 30, 2005).

[64] ATSDR, Toxicological Profile for Chlorine, at 14.

[65] ATSDR, Toxicological Profile for Chlorine at 20–21 (observing that a value similar to the MRL could be calculated using the lowest observed adverse effect level (LOAEL) approach if an uncertainty factor of only 3 for human variability is used and no child-safety uncertainty factor is used).

[66] CalEPA, Prioritization of Toxic Air Contaminants Under the Children's Environmental Health Protection Act, at 27–28.

[67] U.S. EPA (2012) Benchmark Dose Technical Guidance. Risk Assessment Forum, Washington, DC 20460. EPA/100/R–12/001, June 2012. Available online at *http://www2.epa.gov/sites/production/files/2015-01/documents/benchmark_dose_guidance.pdf.*

[68] Agency for Toxic Substances and Disease Registry (ATSDR). 2010. Toxicological profile for Chlorine. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

[69] See National Research Council of the National Academies, Toxicity Testing in the Twenty-First Century: A Vision and a Strategy (2007); National Research Council of the National Academies, Phthalates and Cumulative Risk Assessment: The Tasks Ahead (2008); NAS, Science and Decisions.

approach for dose-response modeling that includes formal, systematic assessment of background disease processes and exposures, possible vulnerable populations, and modes of action that may affect a chemical's dose-response relationship in humans; that approach redefines the RfD or RfC as a risk-specific dose that provides information on the percentage of the population that can be expected to be above or below a defined acceptable risk with a specific degree of confidence.'' The NAS also observed that ''[n]oncancer effects do not necessarily have a threshold, or low-dose nonlinearity'' and found that ''[b]ecause the RfD and RfC do not quantify risk for different magnitudes of exposure but rather provide a bright line between possible harm and safety, their use in risk-risk and risk-benefit comparisons and in risk-management decision-making is limited.''[70]

The commenter stated that there may be no safe threshold in the human population for many chemicals and that newer studies show many chemicals increase the risk of various noncancer health effects—such as reproductive harm and neurological effects—at low doses, without any scientifically identifiable threshold.[71] The commenter noted that even if a threshold is established for an individual, when risk is assessed across a diverse population, it is unlikely the same threshold applies to all individuals because some people are more vulnerable than others.

The commenter stated that, to address the fact that very low levels of non-carcinogen exposures can pose health risks, NAS recommended that cancer and chronic non-cancer risk assessment use the same approach.[72] The commenter noted that the use of RfCs for dose-response risk assessment of chronic non-cancer health effects may significantly underestimate risk: ''For these health effects, risk assessments focus on defining the reference dose (RfD) or reference concentration (RfC), which is defined as a dose 'likely to be without an appreciable risk of deleterious effects' over a lifetime of exposure. In actual fact, these levels may pose appreciable risks.''[73]

The commenter asserted that the EPA ignored the best available, current science showing that pollutants have health effects at low doses in its evaluation of health thresholds for HCl, HF, and Cl_2 and ignored NAS's recommendation that the EPA use similar approaches for chronic non-cancer as for cancer risk assessment, which presumes deleterious health effects for any amount of exposure. According to the commenter, the EPA lacked sufficient data to demonstrate that these pollutants do not cause harm at low levels of exposure over time and cannot be certain that there exists an established, safe health threshold at the proposed thresholds. The commenter also stated that, because it must be assumed that these pollutants cause harm at low doses, it is impossible for the EPA to meet the CAA's requirement for an ''ample margin of safety.'' The commenter concluded the EPA's use of CAA section 112(d)(4) standards for HCl, HF, and Cl_2 is indefensible because the EPA determined the thresholds based on studies that did not identify a level at which no health effects were observed (*i.e.,* a NOAEL) and the EPA itself has low confidence in the proposed thresholds.

Response: The NAS has recognized that many of the recommended changes for the IRIS Program will need to be incorporated over a number of years and further recommended that assessments continue to be developed as the recommendations are implemented (*i.e.,* the regulatory process should not be halted until all recommendations can be enacted). Improvements will thus be made over time and the best science available will be used in the interim. Further, the EPA has a legal obligation to proceed with regulatory action based on the best, currently available tools.

The EPA's conclusion that HCl, HF and Cl_2 are threshold pollutants is based on the best available toxicity database considered in hazard identification and dose response assessments. There is agreement on using a similar threshold approach for these chemicals across agencies, *e.g.,* the EPA's IRIS Program, ATSDR and CalEPA. The toxicity assessments (which may include noncancer and/or cancer toxicity assessments) provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published. In addition, the SAB has endorsed the use of the reference values derived by these sources to support EPA's risk assessments in the RTR program.

Specifically, none of the compounds discussed here has been classified as carcinogenic or suggestive of the potential to be carcinogenic, individually or in combination by existing authoritative bodies including the EPA, CalEPA, IARC, OECD, and the European Community. In light of the absence of evidence of carcinogenic risk for any of these pollutants, and the evidence of an existing threshold below which HCl, HF and Cl_2 are not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA 112(d)(4) for these pollutants.

2. Co-Benefits

Comment: One commenter stated that the EPA's proposal not to set MACT standards for acid gases did not fully consider the co-benefits of controlling criteria pollutants. The commenter noted that the legislative history makes clear that employing a CAA section 112(d)(4) standard rather than a conventional MACT standard ''shall not result in adverse environmental effect which would otherwise be reduced or eliminated.''[74] The EPA asserted that where there is an established health threshold, the agency may weigh additional factors in making a judgment as to whether to set CAA section 112(d)(4) standards or MACT standards, including ''[c]o-benefits that would be achieved via the MACT standard, such as reductions in emissions of other HAP and/or criteria pollutants'' (79 FR 75622). The commenter asserted that it is impossible to make this assessment without evaluating the full collateral benefits of a MACT standard.

The commenter noted that the EPA has recognized that MACT standards for HCl in other source categories resulted in reductions in emissions of PM, hydrogen cyanide, and other criteria and HAP pollutants and has relied upon the co-benefits of these reductions as a basis for not setting risk-based standards for those other source categories.[75]

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[70] Janssen, S., *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health (2012), available at *http://www.nrdc.org/health/files/strengthening-toxic-chemical-riskassessments-report.pdf* (citing NAS, Science and Decisions).

[71] Janssen *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health.

[72] NAS, Science and Decisions, at 8–9, 265–66.

[73] Janssen, S., *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health at 10.

[74] S. Rep. No. 101–228, at 171.

[75] See, *e.g.,* National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants, 75 FR 54970, 54984 (Sept. 9, 2010) (''Setting technology-based MACT standards for HCl . . . would likely also result in additional reductions in emissions of mercury, along with condensable PM, ammonia, and semi-volatile compounds.''); *id.* at 54,985 (''Setting an HCl standard under 112(d)(2) and (3) allows the Agency to also address'' HCN, ammonia, and other pollutants.); National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, 74 FR 21136, 21160 (May 6, 2009) (''[S]etting a MACT standard for HCl is anticipated to result in a significant amount of control for other pollutants emitted by cement kilns, most notably SO_2 and other acid gases, along with condensable PM, ammonia, and semi-volatile compounds.''); 75 FR 32030

Continued

However, for BSCP and clay ceramics plants, the EPA only considered the co-benefits of reductions in sulfur dioxide (SO_2). The commenter argued the EPA should have considered the significant reductions in PM, hydrogen cyanide, and other pollutants that would likely result from MACT standards for HCl, HF, and Cl_2, as these are the same reductions that the EPA considered in its past rulemakings. The commenter stated that these reductions will provide enormous health and environmental benefits that would not occur if CAA section 112(d)(4) standards are finalized instead.

Response: Although not explicitly stated in the preamble to the proposed rule, the EPA agrees with the commenter that MACT standards for acid gases for BSCP manufacturing facilities are associated with additional reductions of PM emissions (approximately 460 tpy in the third year following promulgation of the standards) and non-Hg HAP metals emissions. No additional PM or non-Hg HAP metals emission reductions would be expected from sanitaryware tunnel kilns because it is anticipated that all sanitaryware tunnel kilns could meet the MACT floor emission limits for HF and HCl without additional APCD. The EPA has no information suggesting that HCN is emitted from BSCP or clay ceramics manufacturing facilities, so no reduction in HCN would be expected from MACT standards for HF, HCl, and Cl_2.

For the past rulemakings in which the EPA considered co-benefits as part of a CAA section 114(d)(4) evaluation, the EPA did not quantify the PM emissions reductions associated with MACT standards (see 79 FR 75641, footnote 27), so a direct comparison of the co-benefits of the BSCP Manufacturing NESHAP and the Clay Ceramics Manufacturing NESHAP with the co-benefits of these other rules for PM is not possible. The only pollutant with quantified emissions reductions in the co-benefits analyses for these other rulemakings was SO_2, so that was the pollutant highlighted in the co-benefits analysis for BSCP and clay ceramics at proposal. The additional nationwide reductions of SO_2 that would be attributable to MACT standards for acid gases in the BSCP Manufacturing NESHAP are estimated to be only 4,700 tpy in the third year following promulgation of the standards. No additional nationwide reductions of SO_2 would be attributable to MACT standards for acid gases in the Clay Ceramics Manufacturing NESHAP because it is anticipated that all sanitaryware tunnel kilns could meet the MACT floor emission limits without additional APCD. As noted at proposal, these reductions are substantially lower than the co-benefits from MACT standards for other industries for which the EPA has decided not to set a HBEL, and it would not be expected to provide a significant public health benefit.

3. Ecosystem Impacts

Comment: One commenter expressed concern about the ecological impacts of the proposed HBEL for acid gases. The commenter stated that federal, state and local agencies have struggled for years to reduce emissions of SO_2 and other acid gases to prevent the devastating effects of acid rain on large ecosystems and noted the proposed standards would likely result in the acidification of the ecosystems in close proximity to BSCP and clay ceramics manufacturing sources. The commenter asserted the ecological impact analysis of the emissions standards for this proposal is inadequate.

Response: The EPA disagrees with the commenter that the ecological analysis is inadequate. The environmental screening analysis evaluated potential damage and reduced productivity of plants due to chronic direct exposure to HCl and HF emitted by clay ceramics manufacturing facilities and BSCP manufacturing facilities into the air. The chronic 90-day benchmarks used in the environmental risk screen for the acid gases are shown in Table 7 of this preamble and discussed in the following section.

TABLE 7—ACID GAS BENCHMARKS INCLUDED IN THE ENVIRONMENTAL RISK SCREEN

Acid gas	Chronic 90-day benchmark in $\mu g/m^3$ [a]
Hydrochloric acid—LOEL	[b]50
Hydrofluoric acid—Plant Community LOEL	0.5
Hydrofluoric acid—Plant Community LOEL	0.4

[a] Micrograms per cubic meter.

[b] Note that the human health RfC is 20 $\mu g/m^3$, which is lower than the ecological benchmark.

For HCl, the EPA identified chronic benchmark concentrations as described in a 2009 EPA document on RTR risk assessment methodologies.[76] The chronic benchmark for HCl was based on a lowest observed effects level (LOEL) from a short-term exposure (20 minutes) that related HCl concentration to ''changes'' in the leaves of 7 out of 8 plant species as reported by Lerman *et al.*[77] It was the lowest exposure concentration at which effects of any type were seen (visible injury to some proportion of leaves). Haber's law was used to extrapolate the 1.5 mg/m^3 LOEL concentration (20-minute exposure) to a 0.5 mg/m^3 concentration expected to produce the same effect after 1 hour. The 1-hour estimated LOEL was extrapolated to a chronic benchmark by dividing by a factor of ten to yield 0.050 mg/m^3, or 50 $\mu g/m^3$.

For HF, the EPA used two chronic benchmark concentrations for plants in the environmental screening analysis. The value of 0.5 μg HF/m^3 is based on the Washington State criterion for gaseous HF and represents a LOEL. The value of 0.4 μg HF/m^3 is based on the Environment Canada criteria and also represents a LOEL.

To protect vegetation from adverse effects resulting from HF exposure, the Canadian Council of Ministers of the Environment [78] recommends that HF concentrations not exceed 0.4 $\mu g/m^3$ over a 30- to 90-day period; HF concentrations can be higher for shorter exposures). Environment Canada [79] defined the effect represented by the level of 0.4 μg HF/m^3 as:

> The level above which there are demonstrated effects on human health and/

(''[S]etting conventional MACT standards for HCl as well as PM . . . would result in significant reductions in emissions of other pollutants, most notably SO_2, non-condensable PM, and other non-HAP acid gases (*e.g.,* hydrogen bromide) and would likely also result in additional reductions in emissions of mercury and other HAP metals (*e.g.,* selenium).''); 76 FR 25051 (''[S]etting conventional MACT standards for HCl as well as PM . . . would result in significant reductions in emissions of other pollutants, most notably SO_2, PM, and other non-HAP acid gases (*e.g.,* hydrogen bromide) and would likely also result in additional reductions in emissions of Hg and other HAP metals (*e.g.,* Se).'').

[76] U.S. EPA, 2009. Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing. EPA–452/R–09–006. Docket Item No. EPA–HQ–OAR–2013–0291–0044.

[77] Lerman, S., O.C. Taylor, and E.F. Darley, 1976. Phytotoxicity of Hydrogen Chloride Gas with a Short-Term Exposure. Atmospheric Environment, Vol. 10, pp. 873–878.

[78] CCME. 1999b. Canadian National Ambient Air Quality Objectives: Process and Status. In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg. Publication No. 1299, ISBN 1–896997–34–1. Available at *http://ceqg-rcqe.ccme.ca/download/en/133/.*

[79] EC. (Environment Canada). 1996. National Ambient Air Quality Objectives for Hydrogen Fluoride (HF). Science Assessment Document. A Report by the CEPA/FPAC Working Group on Air Quality Objectives and Guidelines. July. ISBN 0–662–25641–7, Catalogue En42–17/6–1997. Available online at: *http://www.bape.gouv.qc.ca/sections/mandats/ap50_rio_tinto_alcan/documents/DQ3.1.1.pdf.*

or the environment. It is scientifically based and defines the boundary between the lowest observed adverse effect level (LOAEL) and the no observed adverse effect level (NOAEL). It is considered to be the level of exposure just below that most likely to result in a defined and identifiable but minimal effect. The reference levels have no safety factors applied to them, as they are related directly to the LOAEL, and are the most conservative estimates of the effect level.

High concentrations of HF in the air have also been linked to fluorosis in livestock. However, the HF concentrations at which fluorosis in livestock occur are higher than those at which plant damage begins. Therefore, the benchmarks for plants are protective of both plants and livestock.

For Clay Ceramics Manufacturing facilities, the environmental risk screen indicated that the area-weighted average modeled concentration of HCl around each facility (*i.e.,* the area-weighted average concentration of all offsite data points in the modeling domain) did not exceed the ecological benchmark. In addition, the ecological benchmark was not exceeded at any offsite receptor location for any facility. For HF, the environmental risk screen indicated that the area-weighted average modeled concentration of HF around each Clay Ceramics Manufacturing facility did not exceed the ecological benchmark. There were multiple facilities with modeled concentrations of HF at offsite receptor locations that exceeded the ecological benchmark, but the area over which the value was exceeded was no greater than 1 percent of the offsite modeling domain for each facility, indicating that there would not be any significant or widespread environmental effects.

For BSCP Manufacturing facilities, the environmental risk screen indicated that the area-weighted average modeled concentrations of HCl and HF around each facility (*i.e.,* the area-weighted average concentration of all offsite data points in the modeling domain) did not exceed the ecological benchmarks. In addition, the area over which the HCl or HF benchmarks were exceeded was less than 1 percent of the offsite modeling domain for each facility in the category, indicating that there would not be any significant or widespread environmental effects.

The EPA did not conduct an assessment of the potential for emissions of HCl to cause acidification in close proximity to the sources in this category. Acid deposition, more commonly known as acid rain, primarily occurs when emissions of SO_2 and nitrogen oxides (NO_X) react in the atmosphere (with water, oxygen, and oxidants) to form various acidic compounds.[80] Although some studies indicate that HCl emissions could contribute to acidification around emission sources in certain environments,[81] its overall effect relative to NO_X and SO_2 emissions would be small. In addition, the commenter did not provide any data to support their assertion that the proposed standards would result in the acidification of the ecosystems in close proximity to BSCP and structural clay products manufacturing facilities.

4. Cumulative Effects

Comment: One commenter expressed concern that the EPA did not fully consider the cumulative effects of exposure to HAP when proposing the health-based standard under CAA section 112(d)(4). The commenter asserted that the agency assumed there are no cumulative health and environmental impacts of concern and argued the EPA cannot ensure that its proposed standards include an ample margin of safety without properly accounting for the additive and/or synergistic effects of multiple pollutants and the cumulative effects of nearby emissions.

Another commenter stated that the EPA made no adjustments to the HBEL it selected to account for the potential for harm from exposures other than to the amounts of HCl, HF, and Cl_2 it proposed to allow. Specifically, the EPA must consider emissions of HCl, HF, and Cl_2 and other pollutants with biologically similar endpoints (*i.e.,* that cause respiratory harm) from sources in the source category as well as from any co-located sources and other stationary or mobile sources located such that their emissions affect people who are also exposed to the emissions subject to the NESHAP. The commenter asserted that the EPA cannot lawfully set limits ''with an ample margin of safety'' when it ignores other sources of exposure and cumulative health effects. The commenter asserted that, to protect exposed populations, the regulated sources must reduce their emissions to a level that ensures the total concentration of pollutants will remain below the pollutants' respective health thresholds. The commenter asserted that the EPA's decision to ignore the impact of other emissions and background concentrations in the implementation of the HBEL is therefore arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law.

If the ambient concentration of a particular pollutant is already at or near the health threshold, the commenter asserted that an additional source of that pollutant or another pollutant with a biologically similar endpoint can push the exposure over the threshold, even if the additional source emits the pollutant at low concentrations. The total risk that is unacceptable for the most-exposed person in each source category must be reduced to consider the cumulative effect of these additional exposures and to create a total risk from all regulated source categories. The commenter stated that EPA's assessment of cumulative risks posed by HCl, HF, and Cl_2 emissions ignored emissions from co-located sources (for BSCP kilns), nearby sources and all other potential sources that could contribute to background levels. The commenter noted that the EPA has emissions information about co-located and nearby sources in its own databases but failed to evaluate whether cumulative exposures would exceed the health thresholds and to consider combined exposures. The commenter reviewed reports from the EPA's Enforcement and Compliance History Online (ECHO) Web site for a number of BSCP and clay ceramics facilities and provided notes on other major source facilities in close proximity. The commenter stated that the EPA's justifications regarding cumulative nearby emissions are legally inadequate and factually inaccurate. The commenter stated that general assertions that other operations are not ''commonly'' co-located with BSCP and clay ceramics facilities, that such facilities are ''typically'' located on large tracts of land, and that facilities are set back from property lines in rural areas are insufficient to set the emissions standard at a level that protects all people living near such facilities.

The commenter stated that information in the EPA's own databases demonstrates that BSCP and clay ceramics facilities are not predominantly located in rural, sparsely populated areas, as the EPA assumes. Many of the BSCP facilities are located in urban areas, including Boral Bricks in Terre Haute, Indiana; Hanson Brick in Columbia, South Carolina; General Shale Brick in Denver, Colorado; and Cherokee Brick & Tile in Macon, Georgia.[82] Similarly, in the clay

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[80] National Acid Precipitation Assessment Program Report to Congress, 2005. Also see—*http://www.epa.gov/acidrain/reducing/index.html.*

[81] Hydrochloric Acid: An Overlooked Driver of Environmental Change. Environmental Science and Technology 2011, 45, 1187–1894.

[82] U.S. Census Bureau, 2010 Census Urban and Rural Classification and Urban Area Criteria: Lists of 2010 Census Urban Areas, *http://www2.census.gov/geo/docs/reference/ua/ua_list_all.xls.*

ceramics source category, only two of the sources are located in areas considered ''rural'' by the United States Census Bureau: American Marazzi Tile in Sunnyvale, Texas, and the Kohler Wisconsin Plant outside of Sheboygan, Wisconsin.[83]

The commenter stated that the EPA's assessment of cumulative risks does not meet generally accepted good practices in risk assessment. The SAB recommended in May 2010 that the EPA incorporate ''aggregate and cumulative risks, including background concentrations and contributions from other sources in the area'' into its risk analysis.[84] The commenter stated that the EPA must assess the total and cumulative risk burden, rather than only looking at each type of risk in a discrete, separate way, and the EPA should be integrating its assessments and performing a ''comprehensive risk assessment'' as the NAS has emphasized. After first assessing the total cancer, chronic non-cancer, and acute risks, for both inhalation and multipathway exposure, the EPA also must assess the total risks.[85] The EPA must aggregate health risk for each pollutant, and each type of health risk, to create a cumulative risk determination for an individual with maximum exposure. Without a combined health risk metric, the EPA cannot make an ample margin of safety determination that is based on the full picture of health risk for these source categories.

Finally, the commenter stated that this proposal is contrary to the EPA's recent conclusion in its regulation of power plant electric generating units that ''the potential cumulative public health and environmental effects of acid gas emissions'' did not allow for CAA section 112(d)(4) standards.[86] In that rulemaking, the EPA did not receive facility-specific emissions information for all the acid gases from units in the source category, co-located sources, and all nearby sources. The EPA concluded that ''cumulative impacts of acid gases on public health were not assuaged by the comments received.'' The commenter stated that the EPA did not consider that information in this rulemaking either, and just as in the power plant rulemaking, HBEL are not lawful.

Response: The EPA disagrees with the commenter that the EPA did not consider the potential impacts of nearby BSCP and clay ceramics facilities or other nearby facilities in the determination of the HBEL for each source category. The limit reflects the impacts of all facilities in the source category. While the risk assessment did not perform a detailed modeling analysis of other nearby facilities, based on a proximity analysis of sources emitting acid gases, the EPA concludes that the emissions from these facilities would not have significantly impacted the analysis for several reasons. First, the limit reflects a hazard index (HI) less than or equal to one at the highest impacted receptor at each facility. For source categories like BSCP and clay ceramics where emission release heights are low, the highest impacted receptor is always very near (*e.g.,* shares a common fenceline) the facility, and ambient concentrations fall quickly with distance from the source. Because of this, other facilities would have to be very near a BSCP or clay ceramics facility and have relatively high emissions to have any significant impact on the receptor with the highest estimated concentration from the BSCP or clay ceramics emissions. As in risk assessments performed under the Risk and Technology Review program, the EPA did not model the nearby sources in the National Emissions Inventory (NEI) because that inventory has not received the same level of review and quality assurance that the BSCP emissions have for the purposes of this rulemaking.

Although the EPA did not model the other nearby facilities, the EPA did compare the location of all sources emitting acid gases with the locations of the BSCP and clay ceramics facilities. The EPA found that only four facilities emitted acid gases within 1 kilometer of any BSCP facility. Beyond 1 kilometer, we would expect very little coincidental impacts from multiple low level sources emitting the same pollutants. The largest of these facilities emitted less than 12 tpy of HCl-equivalent emissions, or less than 5 percent of the emissions limit. The estimated HI for this BSCP facility was 0.6, so an increase of 5 percent in emissions would result in an increase in HI of at most 5 percent and, thus, not increase the HI above a value of 1. There are no other sources emitting acid gases within 1 kilometer of any clay ceramics facility.

Also, for the BSCP plant with the highest estimated HI, there are no other acid gas emissions indicated in the NEI within 5 kilometers of the facility. For the clay ceramics plant with the highest estimated HI, there are no other acid gas emissions indicated in the NEI within 10 kilometers of the facility. Thus, we would not expect emissions of acid gases from other sources to contribute significantly at the receptors where the maximum HI occurs due to BSCP or clay ceramic emissions, and the HI at these receptors would not exceed 1.

5. Risk Assessment

Comment: One commenter stated that the Human Exposure Model (HEM–3) meteorological data used for dispersion calculations was insufficient because it included data for only 1 year (2011) from only 824 meteorological stations. The commenter asserted that this provides a very limited snapshot of air quality data and, therefore, is insufficient to determine with confidence that exposures at the proposed emissions standards pose ''no risk'' of adverse health effects. The commenter stated that it is unlawful and arbitrary to set CAA section 112(d)(4) standards without more extensive air quality information.

Response: The EPA disagrees with the commenter that the meteorological data were insufficient to perform the risk assessment. Although 5 years of meteorological data are preferred for assessing chronic exposures and risks, we use a single year (2011) of meteorological data in our risk assessments because of model run times for the Human Exposure Model (HEM–3) air dispersion model (AERMOD). Because we frequently run AERMOD for an entire source category with many individual emissions points and for many receptors, using 5 years of meteorological data would increase already significant model run times by a factor of five compared to a single year. In a sensitivity analysis of the impact of using a single year of meteorological data compared to 5 years,[87] we found that modeled concentrations differed by less than 10 percent on average and, thus, the use of

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[83] U.S. Census Bureau, 2010 Census Urban and Rural Classification and Urban Area Criteria, *https://www.census.gov/geo/reference/ua/urban-rural-2010.html* (revised Feb. 9, 2015) (searching plant location by city listed in address).

[84] Memorandum from Science Advisory Board, U.S. EPA, to Lisa Jackson, Adm'r, U.S. EPA re: Review of EPA's Draft, EPA–SAB–10–007 at 6 (May 7, 2010).

[85] CalEPA, OEHHA, Cumulative Impacts at 19–21, 25 (describing total ''pollution burden'' as sum of exposures, public health effects, and environmental effects); EPA, Concepts, Methods and Data Sources for Cumulative Health Risk Assessment of Multiple Chemicals, Exposures and Effects, at 4–42 to 4–46 (Aug. 2007).

[86] Responses to Public Comments on EPA's National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, vol. 1. Docket Item No. EPA–HQ–OAR–2009–0234–20126.

[87] U.S. EPA, 2009. Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing. EPA–452/R–09–006. Docket Item No. EPA–HQ–OAR–2013–0291–0044.

1 year of meteorological data is not likely to appreciably affect the results of the risk assessment.

The meteorological data we used were obtained from the Automated Surface Observing Systems (ASOS) program, which is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). The ASOS serves as the nation's primary surface weather observing network and is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. With the largest and most modern complement of weather sensors, ASOS has significantly expanded the amount of available meteorological information. The ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year. The ASOS is installed at more than 900 airports across the country, and our meteorological library for the year 2011 includes all of these that are without a significant number of missing hours (824 stations).

Comment: Two commenters stated that the EPA's modeling understates chronic health risk by assuming that chronic exposure to HAP from BSCP and clay ceramic manufacturing sources occurs at the census block centroid and not at the facility fence or property line. The commenters stated that exposures are likely to be higher for people living closest to the plants, especially because census blocks can cover a large area and the center of a census block is almost always farther away from the facility than the facility's property line. One commenter noted that even if the area near the property line is not developed, over time homes and businesses could locate closer to the facility. While it is possible that population distribution is homogenous over a census block, the commenter stated this assumption is not necessarily accurate in considering the predicted impacts from the location of a source.

One commenter stated that no effort was made to move receptor points closer to the facility to assess chronic or cancer risk, even in those instances where local residents live nearer to a facility than the geographic centroid of the census block. This conflicts with the recommendation of the SAB, which has urged the EPA to consider "specific locations of residences."[88] The commenter stated that the EPA failed to adjust receptor points for residents living on the fence-line even though the HEM–AERMOD system allows for such an adjustment, and that such an adjustment was appropriately made for the estimation of acute health risks (see, *e.g.,* 79 FR 75644). The commenter stated that the EPA cannot justify failing to analyze chronic health effects in a similar manner.

Another commenter agreed and stated that the EPA can use HEM–3 to identify the maximum individual risk at any point in a census block that is within a 50-kilometer radius from the center of the modeled facility. The commenter recommended the EPA not use the predicted chronic exposures at the census block centroid as a surrogate for the exposure concentrations for all people living in that block; instead, the EPA should use the maximum individual risk in its risk assessments, irrespective of its location in the census block.

Response: The EPA disagrees with the commenters' assertion that we relied solely on the census block centroids as receptors for human exposure. As we have noted in the development of RTR regulations, in a national-scale assessment of lifetime inhalation exposures and health risks from facilities in a source category, it is appropriate to identify exposure locations where it may be reasonably expected that an individual will spend a majority of his or her lifetime. Further, in determining chronic risks, it is appropriate to use census block information on where people actually reside, rather than points on a fenceline, to locate the estimation of exposures and risks to individuals living near such facilities.

Census blocks are the finest resolution available as part of the nationwide population data (as developed by the U.S. Census Bureau); each is typically comprised of approximately 50 people, or about 20 households. In the EPA risk assessments, the geographic centroid of each census block containing at least one person is used to represent the location where all the people in that census block live. The census block centroid with the highest estimated exposure then becomes the location of maximum exposure, and the entire population of that census block is assumed to experience the maximum individual risk. In some cases, because actual residence locations may be closer to or farther from facility emission points, this may result in an overestimate or underestimate of the actual annual concentrations (although there is no systematic bias for average levels). Given the relatively small dimensions of census blocks in densely populated areas, there is little uncertainty introduced by using the census block centroids in lieu of actual residence locations. There is the potential for more uncertainty when census blocks are larger, although there is still no systematic bias. The EPA concludes that the most appropriate locations at which to estimate chronic exposures and risks are the census block centroids because: (1) Census blocks are the finest resolution available in the national census data, (2) facility fencelines do not usually represent locations where chronic exposures are likely and (3) there is no bias introduced into the estimate of the MIR by using census block centroid locations. In addition, in its peer review of the methodologies used to estimate risks as part of the RTR rulemaking efforts, the EPA's SAB endorsed this approach.

In addition to the approach described above, the EPA recognizes that where a census block centroid is located on industrial property or is large and the centroid is less likely to be representative of the block's residential locations, the block centroid may not be the appropriate surrogate. For BSCP facilities, in cases where a census block centroid was within 300 meters of any emission source (and therefore possibly on facility property), we viewed aerial images of the facility to determine whether the block centroid was likely located on facility property. Likewise, we examined aerial images of all large census blocks within 1 kilometer of any emission source. If the block centroid did not represent the residential locations within that block, we relocated it to better represent them and/or we added additional receptors for residences nearer to the facility than the centroid. For this source category, we relocated 14 census blocks that appeared to be on facility property or were otherwise not representative of the population within the block, and we modeled an additional 15 receptors in cases where the single block centroid was inadequate to characterize the population within the census blocks.

Comment: One commenter stated that the EPA's risk assessment did not account for the synergistic health effects from the potential exposure to multiple acid gas pollutants. Specifically, the EPA did not demonstrate that no health effects would occur if a person is chronically exposed to a combination of

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[88] Memorandum from Science Advisory Board, U.S. EPA, to Lisa Jackson, Administrator, U.S. EPA re: Review of EPA's Draft entitled, "Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing" at 4. May 7, 2010.

HCl, HF, and Cl_2, even if the sum of the exposures (converted into ''equivalent'' units) does not exceed the ''HCl-equivalent'' limit. The commenter also argued the EPA failed to provide evidence showing that the acid gases would not have synergistic effects that could cause harm at a chronic exposure concentration that is lower than the RfC, REL, or MRL of each pollutant. The commenter asserted the EPA did not seek outside peer review by the SAB or other body or request public comment on its use of dose-response values to exchange exposures of one acid gas pollutant for another prior to proposing use of ''HCl-equivalents'' standards.

The commenter stated that since the EPA based the ratio for comparing HF and Cl_2 emissions to HCl emissions on the RfC, REL or MRL values, and those values are uncertain and flawed (see previous comments in this section V.A, explaining that values were not based on a NOAEL, and the EPA has ''low'' confidence in the HCl RfC), the HCl-equivalent method cannot assure ''an ample margin of safety.'' The commenter asserted that CAA section 112(d)(4) requires the EPA to set separate standards for HCl and HF, and the EPA's decision to set a HCl-equivalent emissions standard is unlawful and arbitrary.

Response: The EPA believes that groups of chemicals can behave antagonistically or synergistically, such that combined exposure can either cause less or more harm, depending on the chemicals. To address pollutant mixtures in the determination of the HBEL, the EPA generally used the same methodology used in RTR assessments, which is to follow the EPA's mixture guidelines.[89] [90] This methodology has been formally peer reviewed by the SAB.[91] Following the mixture guidelines, the EPA aggregated noncancer hazard quotients (HQs) of HAP that act by similar toxic modes of action or that affect the same target organ. This process creates, for each target organ, a target-organ-specific hazard index (TOSHI), defined as the sum of HQs for individual HAP that affect the same organ or organ system. All TOSHI calculations were based exclusively on effects occurring at the ''critical dose'' (*i.e.,* the lowest dose that produces adverse health effects). The EPA actually calculated the HBEL conservatively by including HF in the calculation of equivalent emissions even though it affects a different target organ than HCl and Cl_2, thereby allowing the development of a single emissions limit for all acid gases. The conservatism in the limit due to the inclusion of pollutants with different target organ systems would have the effect of ameliorating potential synergism of the acid gases.

6. Ample Margin of Safety

Comment: One commenter disagreed with the EPA's decision to set an HCl-equivalent HBEL, rather than set separate HBEL for HCl, HF, and Cl_2. The commenter stated that, by setting one ''HCl-equivalent emissions'' limit at 250 tpy (57 lb/hr) for BSCP tunnel kilns and 600 tpy (140 lb/hr) for clay ceramics sources, each source is free to emit whatever combination of HCl, HF, and Cl_2 it would like, provided the aggregate of the ''HCl-equivalent emissions'' does not exceed the limit. The commenter also noted that the HCl-equivalent HBEL for clay ceramics does not include Cl_2 and requested that the EPA explain how it converted Cl_2 into HCl-equivalent emissions.

The commenter stated that CAA section 112(d)(2) mandates that the EPA ''shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section.'' The commenter asserted that it is unlawful for the EPA not to set an emissions limit for a CAA section 112-listed pollutant (*Nat'l Lime Ass'n,* 233 F.3d at 634) and concluded that even if the EPA believes the health risks posed by HF and Cl_2 emissions can be translated into HCl-equivalent units, the proposed ''HCl-equivalent'' limit contravenes the EPA's obligation to set CAA section 112(d) standards for each pollutant.

The commenter also stated that the EPA's approach raises questions about whether the use of ''HCl-equivalents'' results in limits that protect people against all of a pollutant's health risks with ''an ample margin of safety,'' as required by CAA section 112(d)(4). The commenter argued that because pollutants cause different adverse health effects, they are not ''equivalent'' pollutants that cause ''equivalent'' health effects at ''equivalent'' concentrations of exposure. The commenter further argued the RfC for HCl is based on a study of respiratory toxicity and is meant to protect individuals against respiratory harms from chronic exposures, while the REL used for HF is based on a study of skeletal fluorosis (increased bone density) and is meant to protect individuals against skeletal harm from chronic exposures.[92] The commenter noted that the EPA focused only on the respiratory harm caused by the pollutants, when skeletal harm is the most sensitive effect for HF, and the EPA failed to explain why skeletal harm caused by a certain quantity of HF can be converted into respiratory harm caused by HCl.

The commenter also noted that the EPA does not claim to be using HCl as a surrogate for HF or Cl_2. The commenter stated that the EPA previously stated that HCl cannot act as a surrogate for the other acid gases because pollutants that act on humans in different manners, at different doses, cannot stand in for one another (see 76 FR 25049 and 75 FR 32031).

Another commenter expressed concern the HCl-equivalent emissions limit could mask exposures or emissions of concern for the most toxic gas because the comparison would be dominated by a higher concentration pertinent to the less toxic gases. The commenter asserted that there is no analysis that justifies this combined metric and noted it would be more justifiable if the substances were in the same order of magnitude for potential potency. The commenter recommended that the EPA consider whether these gases could contribute to the acid component of ambient air that is thought to potentially contribute to cancer and other effects because these impacts appear not to have been considered by the EPA.

Response: The EPA disagrees with the commenters' assertion that the HBEL cannot be based on equivalent emissions of a single pollutant. For the BSCP Manufacturing rulemaking, the EPA used an approach specific for this NESHAP to set health-protective emissions limits that would account for the multiple acid gas pollutants emitted by the BSCP facilities. By converting the emissions of each acid gas or combination of acid gases (HCl, Cl_2 and

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[89] U.S. EPA, 1986. Guidelines for the Health Risk Assessment of Chemical Mixtures. EPA–630–R–98–002. September 1986.

[90] U.S. EPA, 2000. Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. August 2000.

[91] U.S. EPA Science Advisory Board, 2010. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[92] OEHHA, Chronic RELs and Toxicity Summaries, at 278. CalEPA made it clear that its REL is for ''[i]ncreased bone density (skeletal fluorosis),'' that the NOAEL was for ''chronic skeletal fluorosis,'' and that ''[c]hanges in bone density . . . appear[s] to be the most sensitive health effect for chronic exposure.'' OEHHA, Chronic RELs and Toxicity Summaries at 272, 278–79. The principal study on which the REL is based did observe an increase in the incidence of acute respiratory disease, too, *id.* at 271, but the REL was not primarily based on that health effect.

HF) to an HCl-equivalent emission, the EPA can estimate a single exposure concentrations for comparison with the HCl reference value (RfC). If the ratio of HCl exposure concentration to the HCl RfC value remains at or below 1, the HBEL (HCl-equivalent emissions) would ensure that the threshold values for any individual or combination of acid gases would not be exceeded (*i.e.,* remain at or below 1). The EPA used the same approach to convert emissions of HF to an HCl-equivalent and determine the HBEL for the Clay Ceramics Manufacturing NESHAP; the only difference is that there are no valid Cl_2 emissions data for clay ceramics facilities, so Cl_2 is not included in the HBEL.

Comment: Two commenters generally supported the proposed HBEL and stated that the EPA has conclusively demonstrated that the proposed HBEL would provide an ample margin of safety for HCl, HF, and Cl_2 emissions from affected facilities. As the EPA explained in the proposal, the analysis was based on site specific data from each tunnel kiln, and the proposed HBEL was developed at a level that would result in an HQ of 1 at the worst-case facility. Because the potential risks at facilities other than the worst-case facility are predicted to be well below 1, the commenters stated that this analysis assures that an ample margin of safety will be provided for the ''worst case'' facility in the industry and more than an ample margin will be provided for all other affected facilities.

Conversely, another commenter contended that the EPA's proposed HBEL under CAA section 112(d)(4) does not include ''an ample margin of safety.'' The commenter disagreed with the approach the EPA used to determine the CAA section 112(d)(4) limits. Specifically, the commenter stated that by setting the limits at precisely the same level as the threshold value, the EPA proposed to allow plants to emit acid gas pollution that would expose people to amounts of pollution that reach threshold levels.

The commenter stated that these limits do not include any ''margin of safety,'' let alone an ''ample'' one, as the EPA is required to include for CAA section 112(d)(4) standards. The commenter expressed concern that under the EPA's approach, even the slightest uncertainty in the EPA's estimates or low background levels of pollution can place health at risk because plants can emit at the health threshold. The commenter stated that the EPA did not explain how these limits would protect public health with ''an ample margin of safety.''[93] The commenter asserted that a margin of safety is supposed to provide additional safety and account for uncertainty and variability that might result in harm to individuals below the threshold. The commenter further stated that an ''ample'' margin of safety must assure not only extra room for safety, but a ''generous'' margin for safety.[94]

The commenter noted that a TOSHI (which is the sum of the HQs) of ''one'' does not necessarily represent a safe level of exposure. The commenter asserted the EPA characterizes a TOSHI or HQ of ''one'' or less as exposures that ''are not likely to cause adverse health effects'' (79 FR 75643), but did not provide any explanation why this level would meet the statutory standard. According to the commenter, Congress intended the standard to be set at a level at which there is ''no risk'' of ''adverse health effects,'' plus ''an ample margin of safety (and not considering cost).''[95] For these reasons, the commenter concluded that the proposed limits do not comply with the CAA and could put public health at risk.

The commenter also expressed concern that the EPA did not take steps to adjust the limits to reflect the uncertainties regarding health exposures and effects. The EPA has factored in uncertainties and vulnerability factors in other rulemakings, such as when determining a Target Margin of Exposure under the FQPA, where the EPA considered whether risks below the Target Margin of Exposure warranted increased scrutiny and changes to allowable exposures.[96] The commenter also stated that the EPA's proposed limits would allow human exposures to exceed the level that CalEPA has identified is the safety minimum. Allowing human exposure to HCl concentrations above a threshold a state agency determined may cause respiratory harm, the commenter contended, would not provide the ample margin of safety required by law.

The commenter further stated that the ''ample margin of safety'' language in CAA section 112(d)(4) requires that any standard that is set under this authority must be sufficient to protect against significant unforeseen consequences.[97] The commenter stated that because the ''ample margin of safety'' requirement is meant to protect against risks that have not yet been identified in research, a CAA section 112(d)(4) standard cannot be justified on grounds that the EPA does not have sufficient evidence about the health risks posed by a HAP or does not have the time or inclination to review the evidence that is available.

Response: For several reasons, the EPA disagrees with the commenter who stated that the HBEL does not include an ample margin of safety. First, the limit is based on the single facility in the source category with the worst-case combination of meteorology and distance to nearest residential receptor that leads to the highest ambient concentrations. While the EPA estimates that the limit reflects an HI of one at this facility, the HI at most other facilities would be significantly lower, with approximately 90 percent of the facilities having an estimated HI less than or equal to 0.5. Further as the standard is based on a 1-hour emission limit, in determining chronic impacts, the analysis conservatively assumes that each plant emits at the 1-hour HBEL for an entire year (8,760 hours). Also, the limit is based on estimated ambient concentrations and not exposure concentrations. Exposure concentrations are typically lower than ambient concentrations because they reflect that people's activities (*e.g.,* work, school) remove them from their residential exposure locations for significant amounts of time. For these reasons, the EPA concludes that the emission limit is health protective (*i.e.,* exposures will remain below the threshold values) and this conservative exposure scenario is consistent with the ''ample margin of safety'' requirement in CAA section 112(d)(4).

Comment: One commenter expressed concern that the EPA underestimated acute health risks in the evaluation of the risk of acute harm from short-term exposures by ignoring variability in short-term emissions. The commenter noted that the EPA calculated the 1-hour emissions estimates for its modeling of acute harm by dividing the annual emissions level by 8,760 hours per year instead of using a default factor or emissions multiplier to account for higher-than-average short-term

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[93] *Mountain Commc'ns* v. *FCC,* 355 F.3d 644, 648–49 (D.C. Cir. 2004) (agency must ''explain how its position can be reconciled'' with statutory requirements).

[94] Webster's Seventh New Collegiate Dictionary (1971) defines ''margin'' as ''a spare amount or measure or degree allowed or given for contingencies or special situations'' and ''ample'' as ''generous or more than adequate in size, scope, or capacity.''

[95] S. Rep. No. 101–228, at 171.

[96] See, *e.g.,* EPA, Sulfuryl Fluoride; Proposed Order Granting Objections to Tolerances and Denying Request for a Stay, Proposed Rule, 76 FR 3422, 3427 (Jan. 19, 2011) (explaining use of MOE).

[97] *See, e.g., Envtl. Def. Fund* v. *EPA,* 598 F.2d 62, 81 (D.C. Cir. 1978) (holding that the phrase 'ample margin of safety' in the Clean Water Act's toxic provisions required the EPA to protect against as yet unidentified risks to human health, including those ''which research has not yet identified'').

emissions. The commenter noted actual emissions over a 1-hour period will at times exceed the average hourly emissions level used in the modeling. The commenter asserted the EPA did not explain how this approach captures peak short-term emissions levels or adequately protects people from short-term exposures at levels above the average.

The commenter stated that the EPA has used emissions multipliers to scale up average hourly emissions in air dispersion modeling for other risk assessments.[98] The commenter asserted that although emission multipliers in risk assessments still underestimate risk, these assessments show the EPA recognizes the need to use multipliers in assessing health risks from short-term emissions. The commenter stated that it is unlawful and arbitrary for the EPA not to use an emissions multiplier for estimating risk for this rulemaking.

The commenter also stated that the EPA's calculation of 1-hour emissions assumed plants are operating (and generating emissions) 24 hours per day, 365 days per year. The commenter noted that averaging hourly emissions over the full calendar year produces lower hourly emissions than if the EPA had used each plant's actual operating hours. The EPA has information about each plant's operating hours and these data show many units are not operating over the full calendar year. By calculating the 1-hour emissions based on 8,760 operating hours, the commenter asserted the EPA underestimated the risks of acute exposures over shorter spans of time.

The commenter stated that because the EPA used short-term emissions that are neither conservative nor realistic, the EPA cannot conclude the standard assures ''an ample margin of safety.'' The commenter stated that in two other recent rulemakings, the EPA found information on short-term HCl emissions was insufficient to allow the EPA to evaluate ''whether a chronic health-based emission standard for HCl would ensure that acute exposures will not pose any health concerns.'' (75 FR 32031; 76 FR 25050). In these rulemakings, the commenter stated, the EPA did not proceed with risk-based standards due to the lack of this information. The commenter stated that the EPA is incorrectly proceeding with the proposed health-based standards without accounting for or quantifying peak short-term emissions.

Response: The use of an emissions multiplier to convert annual emissions to peak 1-hour emissions (determination of peak emissions for comparison with 1-hour health benchmarks) for acute (short-term) risk calculations was not necessary for this analysis, because the HBEL determined for the category is being promulgated as a mass of HCl-equivalent emitted per hour. Similarly, plant hours of operation need not be considered because the HBEL determined for the category is an hourly limit. As noted in the preamble to the proposed rule for BSCP, ''To assure that no source emits more than the 250 tpy HCl-equivalent limit in a single hour, we propose setting the emissions limit at the hourly equivalent of 250 tpy (57 lb/hr of HCl-equivalent emissions)'' (79 FR 75644). Similarly, for clay ceramics manufacturing, ''to assure that no source emits more than the 600 tpy HCl-equivalent limit in a single hour, we propose setting the emissions limit at the hourly equivalent of 600 tpy (140 lb/hr of HCl-equivalent emissions)'' (79 FR 75661).

The EPA concludes the risk analysis and subsequent standard meet an ''ample margin of safety'' in accordance with the CAA. The proposed HBEL for the entire source category is based on an emissions level corresponding to a maximum noncancer HI of one at the highest impacted facility. All other facilities would have a lower risk than the highest risk facility. Further, as the standard is based on a 1-hour emission limit, in determining chronic impacts, the analysis conservatively assumes that each plant emits at the 1-hour HBEL for an entire year (8,760 hours).

Comment: One commenter disagreed with the EPA's evaluation of acute health risks, stating that the approach is inadequate and does not assure standards are based on a safe health threshold and include ''an ample margin of safety.'' Specifically, the commenter expressed concern that the proposed HBEL are based on the chronic dose-response information and not on thresholds for acute health risks. The commenter noted the EPA approximated exposures, used those estimates to develop HQ values, and concluded ''there is low potential for acute risk'' when the HQ values are less than or equal to one. If values above one were identified, then the EPA examined additional information to determine whether there was a potential for ''significant acute risks'' for those living near the facility. The commenter noted that the EPA did not explain why this method satisfies the CAA section 112(d)(4) requirement that health-based standards be set at a level that ensures ''an amply margin of safety'' for people living near the facility. The EPA's evaluation is designed to determine whether any facilities pose ''significant acute risks''; however, the commenter stated that this is not the statutory standard, and such a determination would not signify that an ''ample margin of safety'' is included.

The commenter stated that for HF, the EPA's evaluation identified numerous plants at which there were potential acute health risks. Specifically, the EPA found 23 BSCP facilities exceeded the HQ value for HF, with nearly half of those facilities exceeding the value by four- or five-fold. For the clay ceramics category, the EPA found that eight facilities exceeded the HQ value for HF. The additional analysis the EPA performed to determine whether these facilities posed ''significant acute risks'' did not rule out the possibility of such ''significant acute risks.'' For these facilities, the EPA focused its analysis on maximum offsite HQ values; however, the commenter noted that many of the maximum offsite HQ values exceed one, thereby indicating the potential for ''significant acute risks'' remained. The commenter asserted that the EPA provided no support for why values above one means there is no potential for ''significant acute risks.''

The commenter disagreed with the EPA's assertion that there is no potential for ''significant acute risks'' because the risk assessment assumes there is a person present at the location and time where the maximum HQ value occurs and stated that relaxing conservative assumptions about exposure in individual instances is arbitrary and defeats the purpose of the evaluation. The EPA cannot pretend that the person is not present and ignore the potential for harm. The EPA's statement that a facility is not likely to emit only HF similarly provides no assurance of safety. According to the commenter, the EPA relaxed an assumption in the model because the model predicted an outcome the EPA did not like. The

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[98] See, *e.g.,* National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins; Pesticide Ingredient Production; and Polyether Polyols Production; Proposed Rule, 77 FR 1268, 1279 (Jan. 9, 2012) (finalized at 79 FR 17340 (Mar. 27, 2014); see also National Emission Standards for Hazardous Air Pollutants: Ferroalloys Production, 79 FR 60238, 60252 (Oct. 6, 2014) (applying ''an emission adjustment factor'' to ''average annual hourly emission rates . . . to account for emission fluctuations due to normal facility operations''); National Emissions Standards for Hazardous Air Pollutants Residual Risk and Technology Review for Flexible Polyurethane Foam Production, 78 FR 66108, 66122 (Nov. 4, 2013) (applying ''a conservative default emissions multiplier of 10 to estimate the peak hourly emission rates from the average rates'' as part of EPA's screening of ''worst-case acute impacts''); National Emissions Standards for Hazardous Air Pollutants: Mineral Wool Production and Wool Fiberglass Manufacturing, 76 FR 72770, 72785 (Nov. 25, 2011) (applying an ''emissions multiplier of 3 to estimate the peak hourly emission rates from the average rates'').

commenter stated the EPA provided no basis for its assertion that a facility is unlikely to emit only HF or explain why a combination of HF (for which the EPA found a potential for ''significant acute risks''), HCl, and Cl_2 emissions would not still pose ''significant acute risks.''

The commenter stated that the EPA's use of acute exposure guideline levels (AEGLs) and emergency response planning guidelines (ERPGs) to assess acute risks cannot assure that exposure presents ''no risk'' of health effects at those concentrations. The AEGL and ERPG values were created for emergency exposure scenarios. The commenter stated that levels defined for ''once-in-a-lifetime, short-term exposures'' and ''emergency'' chemical releases or accidents are not appropriate for measuring acute exposure risk. According to the SAB, indicated ''AEGL–2 and ERPG–2 values should never be used in residual risk assessments because they represent levels that if exceeded could cause serious or irreversible health effects.''[99]

The commenter stated that because the AEGL and ERPG numbers would underestimate risk to the maximum exposed individual, AEGL and ERPG values do not indicate ''safe'' thresholds that protect health with ''an ample margin of safety.'' For these reasons, the commenter contends AEGL and ERPG values should not be used to set CAA section 112(d)(4) standards.

Response: The EPA disagrees with the commenter that the EPA's acute assessment includes arbitrary decision-making and does not reflect an ample margin of safety. The EPA is not required to regulate based solely on the results of a conservative acute screening scenario which assumes that a person will be present at a specific location and during worst-case meteorological conditions. Rather, this initial screening scenario is used as a starting point in the assessment of the potential for acute effects.

For HCl and Cl_2, the acute REL values for the pollutants are not estimated to be exceeded even when using the screening scenario, and the acute REL for HF is estimated to be exceeded only by a factor of two for seven facilities using the screening scenario. The other cases of higher exceedances mentioned by the commenter are situations where the locations of the exceedances are on facility property and, therefore, not considered for public health. The acute REL is defined by CalEPA as ''the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration. RELs are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. RELs are designed to protect the most sensitive individuals in the population by the inclusion of uncertainty factors which are incorporated to address data gaps and uncertainties.

Regarding the use of AEGL and ERPG values, the EPA does not rely exclusively upon these values for assessment of acute exposures. Rather, the EPA's approach is to consider various acute health effect reference values, including the California REL, in assessing the potential for risks from acute exposures. To better characterize the potential health risks associated with estimated acute exposures to HAP, and in response to a key recommendation from the SAB's peer review of the EPA's RTR risk assessment methodologies, we generally examine a wider range of available acute health metrics (*e.g.,* RELs, AEGLs) than we do for our chronic risk assessments. This is in response to the SAB's acknowledgement that there are generally more data gaps and inconsistencies in acute reference values than there are in chronic reference values. In some cases, when Reference Value Arrays[100] for HAP have been developed, we consider additional acute values (*i.e.,* occupational and international values) to provide a more complete risk characterization. Because HCl, HF, and Cl_2 all have 1-hour REL values, the maximum estimated 1-hour concentrations were compared to these values to assess the potential for acute health effects.

Comment: One commenter expressed concern that the EPA's risk analysis ignored exposures from emissions of HCl, HF, Cl_2, and other pollutants with similar biological endpoints from units subject to the proposed work practice standards, including emissions during startup and shutdown, and emissions from BSCP periodic kilns and sanitaryware shuttle kilns. The commenter asserted that even though the EPA stated that the work practice standards are intended to minimize emissions, these sources are not included in the calculation of the CAA section 112(d)(4) standards, and exposures to emissions from these other sources will contribute to an individual's cumulative health risks. The commenter asserted that the EPA does not know whether the proposed HBEL will provide ''an ample margin of safety'' once emissions from periods of startup and shutdown and emissions from BSCP periodic kilns and sanitaryware shuttle kilns are added to the levels of pollution permitted by the proposed standards. For this reason, the commenter stated that the proposed CAA section 112(d)(4) standards are unlawful and arbitrary.

The commenter also stated that emissions during startup and shutdown are expected to be uncontrolled, because the EPA did not propose to require that BSCP and clay ceramics plants use APCD or other methods to reduce emissions (such as mandating the use of clean fuels) during these periods. The proposed work practice standards for periodic and shuttle kilns do not require control technology and, according to the commenter, are not anticipated to reduce emissions.

Finally, the commenter stated that the only reason startup and shutdown periods and periodic and shuttle kilns are not subject to the proposed CAA section 112(d)(4) limits is because the EPA exempted them from CAA section 112(d). The commenter stated that it is arbitrary to exclude those emissions from the health analysis solely because the EPA proposed to regulate those sources of emissions under a different subsection of the CAA. The commenter argued all exposures contribute to the risk of harm, regardless of whether they are CAA section 112(d)-regulated emissions or section CAA 112(h)-regulated emissions.

Response: The EPA disagrees that emissions during periods of startup and shutdown and emissions from BSCP periodic kilns and sanitaryware shuttle kilns will exceed the numerical HBEL. Regarding the standards for periods of startup and shutdown, as noted in the preamble to the proposed rule and further documented in Docket ID No. EPA–HQ–OAR–2013–0291,[101] temperature is the main factor affecting full production at BSCP plants. The kiln cars should be introduced into the kiln at a steadily increasing push rate to facilitate development of that specific kiln's firing temperature profile. Since emissions are generated from the firing of the bricks and the fuel combusted, the EPA has concluded that the maximum magnitude of emissions will occur when all kiln cars have been

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[99] Memorandum from Science Advisory Board re: Review of EPA's Draft at 6.

[100] U.S. EPA. (2009) Chapter 2.9 Chemical Specific Reference Values for Formaldehyde in Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R–09/061, and available on-line at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003.*

[101] Email from Susan Miller, BIA, to Sharon Nizich and Keith Barnett, EPA. ''Additional documents.'' Dated June 25, 2015.

loaded with the maximum number of bricks and the maximum amount of fuel is used. During startup, kiln operators will limit production until the kiln has heated enough to begin normal operation. This is the point whereby the standard transitions from a work practice to a numeric limit. The opposite process occurs during shutdown. Fuel use will decrease significantly so as to cool the kiln, and kiln operators will slow production to a stop. Since emissions will be lower below this point of maximum loading and fuel use, emissions will not rise above the emission limit for all pollutants, including the acid gas limits.

The owner or operator of each kiln will be required to determine the startup production rate for the kiln. For kilns with an APCD, the owner or operator will determine the minimum inlet temperature for the APCD. For kilns that, through compliance testing once the compliance date has been reached, have shown they are emitting under the emission limits and thus do not have an APCD, the owner or operator will determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. The startup standards will be tied to the startup production rate never being exceeded until the kiln reaches the minimum inlet temperature for the APCD or the product-specific kiln temperature profile, whichever is applicable. During shutdown, once the kiln falls below the minimum inlet temperature for the APCD or the product-specific kiln temperature profile, whichever is applicable, no additional product can be introduced. These temperature limits will be required to be included in the facility's records and kept on site. Thus, for periods of startup and shutdown, the HBEL set for HCl, HF, and Cl_2 will not be surpassed during startup and shutdown.

In the case of sanitaryware shuttle kilns, the commenter is mistaken that we did not mandate the use of clean fuels. The rule does limit the fuels used to natural gas or equivalent, and also outlines work practice standards relative to temperature cycles and maintenance procedures designed to minimize HAP emissions (see Table 3 to subpart KKKKK). The use of clean fuels applies for all times the kiln is running, not just startup and shutdown. Therefore, the commenter is incorrect that we are not requiring the use of clean fuels for startup and shutdown relative to the operation of shuttle kilns.

The EPA also disagrees that just because the proposed work practice standards for periodic and shuttle kilns do not reflect the use of any control technology, they are not anticipated to reduce emissions. As the commenter has stated elsewhere, control technologies are not the only means of limiting emissions. Control of parameters such as fuel, operating temperature, combustion conditions, and throughput are also effective means of limiting emissions, and these are the types of parameters the EPA considered when finalizing the work practice standards for periodic and shuttle kilns.

As discussed in the proposal at 79 FR 75662, CAA section 112(h)(1) states that the Administrator may prescribe a work practice standard or other requirements, consistent with the provisions of CAA sections 112(d) or (f), in those cases where, in the judgment of the Administrator, it is not feasible to enforce an emission standard. Section 112(h)(2)(B) of the CAA further defines the term ''not feasible'' in this context to apply when ''the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations,'' which is the case here. There are fewer BSCP periodic kilns and first-fire sanitaryware shuttle kilns compared to tunnel kilns, and they tend to be low-emitting sources compared to tunnel kilns,[102] so their emissions will not cause an exceedance of the health threshold. The work practice standards we are finalizing will serve to ensure that emissions from these sources continue to remain low.

Comment: One commenter stated that, to create standards that assure ''an ample margin of safety,'' the EPA is required to build a margin into the HBEL for exposures to HCl, HF, Cl_2, and other pollutants with similar biological endpoints resulting from (a) exceedances of the HCl, HF, and Cl_2 standards, (b) violations of the work practice standards applicable during startup and shutdown, and (c) exceedances of other standards (*e.g.,* MACT standards for non-Hg HAP metals) that restrict pollutants with similar biological endpoints. The commenter also stated that estimating short-term emissions by averaging annual emissions does not reflect emissions spikes that occur during plant malfunctions or upsets. The commenter stated that malfunctions and upsets increase emissions and thereby pose increased health risks that the EPA must consider.

The commenter stated that relevant chronic exposures include exposures from exceedances and violations and noted that many exceedances, such as those from malfunctions and upsets, are likely to contribute significant emissions that can elevate an individual's total exposures over time. The commenter also stated that the EPA explains malfunction events can be significantly higher than emissions at any other time of source operation (79 FR 75626). The commenter stated that these emissions pose much higher short-term risks and can accumulate and combine to increase public health impacts and risk and that guarding against the health risks of releases of large amounts of HF (for example) must be built into the HBEL through the margin of safety. The commenter stated that HF exhibits characteristics in some circumstances that can make it uniquely hazardous over large areas. For example, HF molecules may associate with one another (*i.e.,* form larger molecules like H_4F_4, H_6F_6, H_8F_8) via hydrogen bonding and such molecules may form a cloud that is heavier than air, therefore less likely to disperse.

The commenter stated that, by not accounting for exposures from exceedances, the EPA assumed that such exceedances will be zero and built in no additional protections in case exceedances do occur. The commenter claimed that there is no factual basis for assuming that 100 percent of BSCP and clay ceramics facilities will comply with each of the relevant emissions limits 100 percent of the time. Over the long term and across the population of regulated facilities, the commenter noted that it is predictable that a number of exceedances will occur at facilities. The commenter stated it is unlawful to ignore emissions and the resulting health risks from those exceedances and argued the additional risk from exceedances should not be ignored in risk assessments.

The commenter stated that EPA regularly uses statistical methods and probability factors to assess health risk due to exceedances and to set clean air standards, and the EPA has data available to calculate representative factors to assess the health risk from

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[102] For example, even assuming that lb/ton emissions are similar for BSCP periodic and tunnel kilns, a comparison of annual kiln design capacities (ton product/yr) for model BSCP periodic kilns and tunnel kilns indicates that annual capacities for periodic kilns are on average only 5 percent of annual capacities for tunnel kilns. (For the basis of this calculation, see the memorandum ''Updated Inventory Database and Documentation for Brick and Structural Clay Products Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0291 and the memorandum ''Final Rule: Documentation of Database and Responses to the 1997 Information Collection Request for Brick and Structural Clay Products'' in Docket ID No. A–99–30.) In addition, in the BSCP industry, there are currently 120 periodic kilns located at 15 facilities, compared to 168 tunnel kilns at 84 facilities. In the sanitaryware industry sector, there are currently five first-fire shuttle kilns, compared to 11 first-fire tunnel kilns.

malfunctions or can collect information on major sources' malfunction and violation histories.[103] If the EPA needs more refined data regarding these emissions, the commenter suggested the EPA may request additional data from sources.

The commenter stated that it is irrelevant that exceedances are a result of a failure to comply with the law when the EPA is setting CAA section 112(d)(4) standards, which must be set at a level that protects health. It does not matter to a person whether the pollution he or she is breathing is a result of a permitted or unpermitted release; the commenter argued the EPA cannot turn a blind eye to the reality that compliance with its standards is not perfect.

Response: The HBEL was determined based on the assessment of acute affects at the worst-case facility with respect to meteorology and distance to receptor and is protective of most facilities even if they had SSM event emissions. Even for the worst-case facility, the SSM emissions event would need to be coincident with the worst-case meteorological conditions, which is not likely if SSM events are not frequent. For chronic risk, SSM emissions are not significant compared to the HBEL level, and most facilities are well below an HI of one with emissions at the HBEL level.

The commenter is correct that the EPA did not include malfunctions and upsets emissions in setting emissions limits. As noted in the preamble to the proposed rule (79 FR 75626), malfunctions ''are, by definition sudden, infrequent and not reasonably preventable failures of emissions control, process or monitoring equipment.'' The preamble also stated that ''accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree and duration of various malfunctions that might occur. For these reasons, the performance of units that are malfunctioning is not 'reasonably' foreseeable.'' It should also be noted that sources cannot conduct performance tests during periods of malfunction (40 CFR 63.8445(e) and 40 CFR 63.8595(d)) and there are no continuous emissions monitoring systems (CEMS) in place in the BSCP industry.

The EPA disagrees that it is required to evaluate the ample margin of safety provided by a CAA section 112(d)(4) standard based on the level of emissions that could occur during an exceedance of the standard caused by a malfunction or any other cause. When the EPA establishes a standard under CAA section 112(d)(4), the EPA evaluates the ample margin of safety based on what sources will emit when they are meeting the standard (which applies at all times including periods of malfunction) and does *not* include some additional margin of safety to compensate for periods of time that sources may violate the standard. This is consistent with how the EPA evaluates standards under CAA section 112(f)(2) (in that the EPA's evaluation of the ample margin of safety under that review looks at the emissions allowed under the standard, not emissions that might occur when the standard is exceeded).

Regarding the comment that the standard is not health protective for emissions of HF, the proposed rule determined the HCl equivalent emissions for HF by the ratio of the RfC value for each pollutant, such that a 250 tpy emission of HCl is equivalent to 175 tpy emissions of HF. By performing a risk analysis for each facility/kiln, the EPA demonstrated that these emissions limits are protective of both chronic and acute risks.

Regarding the comment that HF exhibits release characteristics that may make it uniquely hazardous over large areas, the EPA notes that the commenter did not include data or information supporting their assertion that plumes of acid gases from BSCP facilities could become heavier than air. The commenter's example case of the formation of dense clouds of acid gases is from studies performed on the vaporization of liquefied gaseous fuels from spills, and the commenter did not explain how this scenario is relevant to the emission of acid gases formed in BSCP kilns. In the absence of evidence suggesting that clouds of dense gases are formed from BSCP facilities, and without a suggested alternate modeling methodology, the EPA used its preferred model AERMOD for dispersion for BSCP facilities.

7. Other Issues

Comment: One commenter stated that the EPA must account for the variability in emissions measured by compliance testing to measure whether each plant's emissions meet the HBEL because that testing does not capture a source's variance in emissions performance over time. The commenter noted that the EPA already recognizes this fact for stack tests for technology-based standards. The EPA has stated that it lacks a high degree of confidence that stack tests capture variation in emissions over time, and the commenter noted that as a result of this variance, it can be expected that the compliance tests would not be accurate. The commenter asserted that if the EPA believes that measurement variability needs to be corrected for, then it is irrational and arbitrary to correct for it with one set of standards (MACT standards) and not another (health-based standards), when they both rely upon emissions data from stack tests. The commenter noted that the EPA's proposal to account for variability for MACT standards but not for compliance with the HBEL would result in weaker and less-protective standards in both cases.

Response: Variability in emissions would not have a significant impact on the estimated risks associated with the HBEL. For chronic exposures and risks, the estimates are based on long-term (annual) emissions, so short-term emissions variability would not impact the estimates of chronic risks as long as the annual emissions, on average, do not exceed the limit. For acute exposures and risks, short-term emissions variability that causes emissions to exceed the 1-hour HBEL would increase the potential for acute health effects, but the likelihood of such effects is low because the emissions variability would have to occur at the small number of facilities we estimated as having the highest acute HQs based on the emissions limits, and the emissions variability would have to coincide with worst-case meteorological conditions even at those facilities to result in acute HQs higher than those we estimated based on the HBEL. Most facilities have acute HQ estimates significantly below one, so short-term emissions variability would have to be high (approximately 60 percent higher for the median facility) for the estimated HQs to approach a value of one.

The EPA also notes that the HBEL was not established using emissions data from stack tests. Therefore, there was no need to account for variability in setting the HBEL as was done for the Hg and non-Hg HAP metals standards. Instead, the standard was established at a conservative level to ensure that the HQs remain below one for all facilities. The EPA agrees that there would be variability in the test results used to demonstrate compliance with the rule, but as already noted in this response, short-term emissions variability would have to be high for the estimated HQs to approach a value of one. In addition,

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[103] See, *e.g.,* EPA, Enforcement and Compliance History Online (ECHO), *www.epa.gov/echo.*

variability is not considered when comparing compliance testing results to any other emissions limit, so it would be inconsistent for the EPA to require owners and operators to adjust their test results before comparing those results to the HBEL.

Comment: One commenter suggested that the EPA should require fence-line ambient air quality monitoring that measures multiple pollutants in real-time or near real-time to ensure that people are not being exposed to ambient pollutant concentrations that exceed the proposed HBEL. The commenter recommended the EPA also require real-time public reporting of the monitoring data.

In addition, the commenter suggested that the EPA should require facilities to submit monitoring plans, data, and corrective action plans for agency review and public comment. These requirements would ensure concerned community members have the ability to review and recommend improvements to monitoring plans before they are implemented and would enable the EPA to consider community concerns when deciding whether to approve a plan.

Response: The EPA disagrees with the commenter. Because stack emissions can travel for long distances and are at heights above where a fence-line monitors would measure, it is inappropriate to use fence-line monitoring for stack emissions. Fence-line monitoring is performed for fugitive emissions (see discussion of fence-line monitoring use on fugitive emissions at 79 FR 36919, Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards; Proposed Rule). In response to the comment that the EPA should require all facilities to submit monitoring plans, data, and corrective action plans for agency review and public comment, the EPA notes that these requirements are indeed in the rule, as facilities are required to submit monitoring plans, data and corrective actions for the regulatory agency review. However, in most cases, these submissions are required to be sent to the delegated authority, and the follow-up to that review, is left to the discretion of the delegated authority.

B. BSCP Manufacturing NESHAP

1. MACT Floors

a. Sources in MACT Floor Pool

One commenter stated that the DC Circuit held that the BSCP Manufacturing NESHAP published on May 16, 2003 (68 FR 26690) violated the CAA in a number of ways (*Sierra Club* v. *EPA,* 479 F.3d 875 (D.C. Cir. 2007)). The court held that, in setting MACT floors for brick tunnel kilns, the EPA's exclusion of kilns employing non-DLA controls from its ranking and identification of the best performing sources was unlawful because CAA section 112(d)(3) ''requires floors based on the emission level actually achieved by the best performers (those with the lowest emission levels).'' *Id.* In addition, the court recognized that factors other than pollution control technology affect performance (*e.g.,* clay type), and the EPA cannot ignore such factors, even where the EPA finds that floors based on those factors would be unachievable.

The commenter noted that the EPA is once again excluding best performing sources from its floor analysis and basing floors on a group of kilns using the EPA's preferred control technologies, in contravention of the holding of *Sierra Club,* which is the decision to which this rulemaking is intended to be a response. In the proposed rule, prior to ranking the best performing sources for the BSCP tunnel kiln floors for PM (as a surrogate for non-Hg HAP metals) for existing and new sources, the EPA removed all kilns without a FF-based APCD. Once removed, those kilns were not included in the ranking of best performing sources, and hence they were not considered for inclusion among the best performing 12 percent of sources (for the existing source floor) or the best controlled similar source (for the new source floor). The commenter asserted that the agency's reprisal of a floor approach that the DC Circuit has already rejected repeatedly is not just unlawful, but amounts to contempt for the court's authority.

Response: The EPA disagrees with the commenter's assertion that the EPA's proposed approach to calculating PM surrogate MACT floors for kilns was illegal in that it impermissibly excluded certain kilns. However, at proposal, we asked for comment on this approach and requested additional data to support this approach, and we did not receive any such additional data. In addition, some of the test data for sources with FF-based APCD could not be used in the final rulemaking because it was discovered that the testing was not carried out in accordance with the appropriate test method. Therefore, we can no longer assert that we have emissions data for all BSCP kilns with FF-based APCD. Thus, the EPA did not use the approach challenged by the commenter to establish the MACT floors in the final rule.

The EPA has amended the approach to developing PM surrogate MACT floors for reasons explained in section IV.A.1 of this preamble, so these comments are now moot. However, the EPA still believes the approach to identify the best performing sources has merit. When the EPA has data on every single controlled source in the category, and these data support that these sources are the best performing, then basing the MACT floor on the top 12 percent of the total number of sources is appropriate.

b. Equivalent Limits

Comment: One commenter stated that, in addition to the lb/ton MACT floors for emissions of Hg and PM (as a surrogate for non-Hg HAP metals), the EPA developed two ''equivalent limits.'' The EPA used its ranking of the sources based on their ''average'' lb/ton emissions to identify the best performing source or sources for the floor pool. To develop the PM and Hg ''equivalent'' limits, the EPA took the best performing source or sources the EPA had selected and retrieved data on those sources' emission performance as measured by gr/dscf at 7-percent O_2 for PM and Hg and lb/hr for Hg. For non-Hg HAP metals, the EPA proposed to set an additional standard that would limit the pounds of non-Hg HAP metals emitted per hour. For this additional limit, the EPA again used the ranking of the sources based on their ''average'' lb/ton emissions and also (without any explanation) no longer used PM as a surrogate for non-Hg HAP metals, but instead set the limit in terms of total non-Hg HAP metals. The commenter stated that the EPA acknowledged that the available data on non-Hg HAP metals is incomplete, so to develop this proposed limit, the EPA simply took the final pounds of PM per ton of fired product floor limit that it had derived and applied a set of ''conversion factors'' it invented to put that standard in terms of pounds of non-Hg HAP metal emissions per hour. The commenter stated the EPA used completely different ''conversion'' methodologies for the new and existing standards because the EPA lacks even the limited data it used for the existing source methodology on new sources.

The commenter stated the ''equivalent'' limits the EPA proposed are not ''equivalent'' and Congress did not give the EPA the authority to set multiple limits and allow sources to comply with whichever limit they choose. The commenter stated the EPA's use of different measures of performance to identify the top sources on the one hand and to evaluate their performance on the other is inconsistent, irrational, and unexplained; the same metric should apply for purposes of identifying the best performers and identifying those sources' actual performance. The commenter also stated the EPA did not use the best performing 12 percent of existing sources ''for which the Administrator has emissions information'' for the non-Hg HAP metals lb/hr limit.

Another commenter supported the EPA's inclusion of multiple formats for both PM/non-Hg HAP metals and Hg. The commenter stated that the inclusion of each of these formats, as well as the inclusion of small and large kiln subcategories, provides needed flexibility to numerous BSCP facilities, including a large number of small businesses, to find that standard that best suits their operations while still ensuring that the CAA requirements are met. The commenter asserted that the inclusion of three alternate compliance formats is so critical to the development of this standard that the EPA must re-propose this rule if it maintains numeric limits but deletes any of these alternative formats for the final rule.

Response: The EPA appreciates all comments regarding the alternative limits. The EPA is retaining the alternative limits in the final rule but is revising the ranking methodology as described in section IV.A.2 of this preamble. For the final rule, the concentration floor is based on the ranking of the concentration data, and the lb/hr floor is based on the ranking of the lb/hr data. Each floor is based on the best performing units for that unit of measurement.

c. Oxygen Correction

Comment: One commenter stated, regarding the concentration compliance limits, that the use of the equation to correct measured concentrations to 7-percent O_2 could be problematic when used to correct concentrations measured in stacks with high O_2 content, which is typical of the brick industry. The commenter stated because the correction term is in the denominator of the equation for the correction to 7-percent O_2, the overall correction factor increases exponentially as O_2 concentrations approach 20.9 percent. As a result, any variances in the O_2 measurement are greatly magnified in the correction factor for kilns with high stack O_2 content. The commenter suggested that the correction factor should be the average O_2 content represented in the respective floors, 17-percent O_2 (based on a range of O_2 stack contents for BSCP kilns from 13 to 20 percent). The commenter asserted that the correction to an average of 17-percent will minimize the artificial inflation of the results for the industry.

Response: The EPA evaluated the O_2 content of the run-by-run datasets of PM and Hg for BSCP tunnel kilns as described in section IV.A.1 of this preamble and agrees that correcting concentration data to 17-percent O_2 rather than 7-percent, as proposed, provides more representative values of kilns' operating conditions and would not artificially inflate the values. For the final rule, the EPA has taken the O_2 percent analysis into consideration and revised the equivalent concentration based limits to be developed from 17-percent O_2-corrected concentration data.

2. Startup and Shutdown

Comment: Numerous commenters supported the use of work practice standards for periods of startup and shutdown but asserted that the startup and shutdown procedures listed in the proposed rule cannot be met by all BSCP kilns and must be modified. Commenters requested that the final language allow a more basic construct for the work practice requirements in the final rule and require facilities to develop site-specific temperatures as part of their permitting process.

Multiple commenters specifically stated that the requirement for an exhaust temperature of 400 °F at startup is not workable because the kiln exhaust temperature in some kilns never reaches 400 °F. Commenters also noted that kilns must have product at startup. Therefore, commenters requested that the startup provisions apply to the introduction, or charging, of new brick or structural clay product through a kiln and not impact the initial staging of kiln cars in a kiln before start-up. Commenters suggested revisions to the proposed language to ''not put any bricks into the kiln'' below specified temperatures.

Multiple commenters agreed with the language that requires a kiln to vent to an APCD before the exhaust gas reaches 400 °F, because it can vent at any time up to that temperature. Multiple commenters stated that for a controlled kiln, it is acceptable to require that no new product is allowed to be introduced to the controlled kiln until the kiln is vented to an APCD. One commenter stated that a feasible work practice standard would be for the exhaust gases to be vented through the APCD during the startup process, with the reagent feed started on an intermittent basis during this period and then brought up to full feed rate once the exhaust temperature has reached the normal operating temperature range.

A few commenters also requested specific revisions to the production requirements for periods of shutdown. One commenter stated that during shutdown, a kiln operator would not be pushing any cars in the kiln after reaching a range of 250 to 300 °F in the exhaust stack (depending on the type of kiln and its operating parameters). The commenter asked that a minimum operating range be allowed during a shutdown cycle. Another commenter noted that a limitation for a kiln to cease charging in new product before a kiln stops venting to an APCD may be a reasonable alternative to temperature requirements.

Response: The EPA evaluated the comments and additional information received following proposal as described in section IV.A.4 of this preamble. As a result, the EPA has revised the work practice standards for periods of startup and shutdown for BSCP tunnel kilns to provide requirements that are more representative of the best performing kilns. Specifically, instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln does not have an APCD, the owner or operator is required to determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. In addition, instead of specifying that no product can be introduced to the kiln during startup, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln. The final startup standards specify that this startup production rate cannot be exceeded until the kiln exhaust reaches the APCD minimum inlet temperature or the product-specific kiln temperature profile, whichever is applicable. The final shutdown standards specify that no additional product can be introduced once the kiln exhaust falls below the APCD minimum inlet temperature or the product-specific kiln temperature profile, whichever is applicable.

C. Clay Ceramics Manufacturing NESHAP

1. Authority

Comment: Two commenters argued that the EPA has no legal authority to finalize major source NESHAP for the ceramic tile manufacturing industry[104]

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[104] There are three distinct sectors within the clay ceramics manufacturing industry: ceramic floor tile manufacturing, ceramic wall tile manufacturing, and sanitaryware manufacturing. These comments

Continued

because there are currently no existing major sources in that industry sector that will be subject to the standards. Specifically, they argued that CAA section 112(d)(1) only provides the EPA authority to regulate a category or subcategory if it has major sources. Commenters contended that, here, ceramic tile manufacturing facilities that emit HAP have all become synthetic area sources and so are subject to the ''area source'' NESHAP regulation. Thus, they argue, the law does not allow the EPA to proceed with a major source standard for these subcategories. Both commenters also stated that the CAA does not give the EPA the authority to regulate ''just-in-case'' there is a major source in the future, and the EPA may only regulate categories and subcategories that currently have major sources in them.

One commenter stated that the EPA should not devote resources to finalizing these regulations when those regulations would apply to no one, and, thus, will have no environmental benefits. The commenter stated that it is the EPA's duty to responsibly steward the public resources with which it has been entrusted to use in fulfillment of its mission, and using these resources to issue regulations that will regulate no one fails to satisfy that responsibility. Issuing such regulations is expensive for the regulated community and has the real potential to create unintended, inaccurate impressions of the industry, its emissions and its products. It serves no public purpose, and will impose short and long term costs on the EPA, and long term costs on delegated states as an unfunded mandate and on the tile manufacturing industry, 79 FR 75671 (Dec. 18, 2014).

The commenter argued that, because the EPA's promulgation of standards for the ceramic tile industry is not authorized by the CAA, finalizing such standards would violate Articles I and II of the U.S. Constitution because it is an attempt by the EPA to rewrite portions of the CAA when the power to enact laws is reserved to Congress. The commenter stated that Congress provided clear instructions to the EPA, in the unambiguous numerical definition of ''major source,'' as to which industry categories or subcategories could be regulated by major source NESHAP standards. The commenter noted that the Supreme Court very recently stated: ''An agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate.'' *Util. Air Regulatory Grp.* v. *EPA,* 134 S.Ct. 2427, 2446 (2014). Further, the Court stated: ''We are not willing to stand on the dock and wave goodbye as EPA embarks on a multiyear voyage of discovery.'' 134 S.Ct. at 2446. The commenter asserted that the Supreme Court's concerns in the *UARG* case are instructive here because, as in the *UARG* case, the statute creates unambiguous numeric thresholds defining a major source: the emission of 10 tpy any one HAP or the emission of 25 tpy in the aggregate of all HAP, 42 U.S.C. 9612(a)(l). The commenter contended that the Supreme Court supported the commenter's position when it stated that ''[i]t is hard to imagine a statutory term less ambiguous than the precise numerical thresholds . . .'' *Id.* at 2445.

The commenter argued that the *Sierra Club* consent decree is irrelevant to the EPA's statutory authority and its limitations. The consent decree entered in the case of *Sierra Club* v. *EPA,* 850 F.2d 300 (D.D.C. 2012) (hereafter the ''consent decree'') is germane to the timing of this rulemaking, but it does not, and legally could not, expand CAA section 112(d) to grant the EPA legal authority to regulate on the just-in-case basis the EPA has proposed. The withdrawal of the proposed NESHAP does not preclude the EPA from meeting its statutory obligations, fulfilling the requirements of the consent decree, and continuing its existing precedent. The EPA may issue final NESHAP for those subcategories within this category in which a major source exists. The ceramic tile manufacturing industry is not among them.

The commenter argued that the proposed NESHAP would, if finalized as proposed, be arbitrary and capricious because the proposed NESHAP is based on hypothetical or imaginary manufacturing and air emissions control strategies, flawed data from an invalidated stack test method, and on statistically created emissions data. The EPA even proposed in places not to use actual emissions data.

According to the commenter, the EPA's proposal, if finalized, would create an economic hurdle so high that no one in the industry would expand their business to the point of becoming a NESHAP major source. Further, a substantial number of these entities meet the definition of a ''small business'' as defined by the U.S. Small Business Administration (SBA). The result of this regulation, if finalized, would be to hand non-market-based economic advantages to foreign producers to grow their presence in the U.S. market by importing their competing ceramic tile. Financing of capital projects will be adversely affected by the costs imposed by the NESHAP, further raising the economic hurdle. Major source domestic manufacturing capacity will not be built, and the jobs and tax base that go along with that capacity will not be created.

Response: Under CAA section 112(c)(1), the EPA first lists all categories and subcategories of major sources. It is at this first step that the EPA determines that a given category or subcategory contains major sources of HAP. Then, the EPA sets standards for those listed categories and source categories. Both CAA section 112(c)(2) and CAA section 112(d)(1) make clear that the EPA is to regulate all listed categories and subcategories. As CAA section 112(c)(2) states: ''For the categories and subcategories the Administrator lists, the Administrator shall establish standards . . .'' As CAA section 112(d)(1) states: ''The Administrator shall promulgate regulations establishing emissions standards for each category and subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section . . .'' In short, once a category or subcategory of major sources is listed under CAA section 112(c), it must be regulated. If commenters believe that the major source ceramic tile subcategories should not be regulated, they may seek to delete these subcategories from the list, which is a process that Congress established in CAA section 112(c)(9) and which the DC Circuit has held is the EPA's sole authority for removing a listed category or subcategory from the list. *New Jersey* v. *EPA,* 517 F.3d 574, 581–583 (D.C. Cir. 2008).

In interpreting the relevant provisions here, the EPA is mindful of the recent and longstanding instructions from the Supreme Court that statutory provisions must be read to further rather than undermine Congress's statutory intent. *King* v. *Burwell,* 2015 U.S. Lexis 4248, *29 (2015)(''We cannot interpret federal statutes to negate their own stated purposes.'')(citing and quoting *New York State Dept. of Social Servs.* v. *Dublino,* 413 U. S. 405, 419–420, 93 S. Ct. 2507, 37 L. Ed. 2d 688 (1973)); *E.I. Du Pont De Nemours* v. *Train,* 430 U.S. 112, 132 (1977)(''We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purposes for which it has acted.'')(quoting Permian Basin Area Rate Cases, 390 U.S. 747, 777 (1968)). In this context, it is unreasonable to read

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address the regulation of HAP emissions from ceramic floor tile manufacturing and ceramic wall tile manufacturing.

CAA section 112(d)(1) as limiting the EPA's authority to set standards that will be applicable to the highest emitting sources in a category or subcategory and creating a loophole by which major sources can evade regulation. Without suggesting that the following is the commenters' intent, the effect of the commenters' interpretation of CAA section 112 would be that major sources would be able to evade regulation by, first, becoming synthetic area sources during the rulemaking process (which, under the commenters' view, would preclude the EPA from finalizing standards for major sources) and then, after the EPA withdraws the proposed standards, reconverting to be major sources and thus not subject to any standard. Consideration of this scenario is particularly appropriate in the circumstances here, because there are standards in place for area sources in the ceramic tile subcategories. It is not reasonable to interpret CAA section 112 to create a structure where an area source (whether a natural area source or a synthetic area source) has an incentive to increase emissions to become a major source, and by doing so is no longer subject to emissions limitations.

Further, the issue of whether there are major sources in the ceramic tile subcategories is not as clear as the commenters presume. Even if, as the commenters contend, all of the existing major sources in these subcategories have successfully completed the process of becoming synthetic area sources, then these sources are not subject to the requirements imposed on major sources but that does not equate to a conclusion that they are no longer major sources in any respect. The EPA's view is that synthetic area sources, though subject to area source requirements rather than major source requirements, are still major sources in certain respects. For example, synthetic area sources are considered to be major sources when the EPA identifies the best performing major sources as part of a MACT floor calculation under CAA section 112(d). Further, CAA section 112(a)(1) defines a major source as ''any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.'' The reference to a source's ''potential to emit considering controls'' in this definition allows the interpretation that a source's potential to emit before and after controls is relevant, such that synthetic area sources may be considered within the meaning of this definition.

With respect to the commenter's argument that CAA section 112 does not authorize ''just in case'' regulation, that is both not correct and off point. First, CAA section 112 clearly provides that the EPA will set standards for new sources in the listed categories and subcategories notwithstanding that the EPA can never know whether there will actually be any new sources. As required under CAA section 112, the EPA establishes new source standards ''just in case'' (to use commenter's phrasing) new sources come into existence. Second, as discussed above, it is reasonable for the EPA to promulgate major source standards where, as here, there are synthetic area sources that could revert to major sources just in case that happens.

With respect to the commenters' argument that it is a poor use of agency resources for the EPA to finalize standards for the ceramic tile subcategories, the EPA has considered whether it is better to complete the current rulemaking with respect to the ceramic tile subcategories (and have them in place in the event that there are new major sources or a synthetic area source reverts to major source status) or to take no action now and re-do this rulemaking with respect to these subcategories in the event that there are major sources in the future. The EPA's conclusion is that, having gotten this far along in the rulemaking process, it is a better use of agency resources to finalize requirements for the ceramic tile subcategories now. Given the options, finalizing these requirements in this rulemaking requires only a modest amount of additional resources, and is a much more efficient use of agency resources than restarting and repeating the rulemaking process at some point in the future. Even if one considers that there may not be any major sources that become subject to these requirements and that such a rulemaking might not ever be done, the EPA's judgment is still that it is more efficient and a more cost-effective use of agency resources to finalize these requirements now. Finally, on the issue of how likely it is that major sources will be built in the future, the EPA notes that the commenters' own arguments suggest they will be. Specifically, the commenters stated that having a major source standard in place will dissuade companies from expanding small facilities into major sources and will impede financing for new major sources. The premise of such a comment is that, in the absence of a standard, there will be such expansions and new major sources.

The document ''National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0290 addresses additional comments on this topic.

Comment: According to one commenter, the EPA failed to demonstrate that the benefits of this proposed arbitrary and capricious NESHAP justify the costs. As stated in Executive Order 13563, ''Improving Regulation and Regulatory Review,'' issued by President Obama on January 18, 2011 to reaffirm Executive Order 12866, ''[e]ach agency must . . . propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs.'' The preamble to the proposed NESHAP provides cost information (which the commenter noted elsewhere is erroneous) but did not discuss the benefits. The EPA only articulated the benefits of the BSCP Manufacturing NESHAP. With respect to costs, the EPA's cost analysis failed to account for costs to the agency and delegated states to promulgate and implement the regulations. There are no benefits to justify any of these costs. Further, ''[i]n deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating.'' The EPA did not assess the alternative of not regulating—a path that would have exactly the same result, as there are no major sources to be regulated or not regulated. Therefore, the commenter stated that the EPA failed to meet its burden; the proposed NESHAP does not have benefits justifying its costs, and therefore such a regulation cannot be adopted.

Response: We disagree with the commenter. First, CAA section 112 clearly states that the EPA is obligated to regulate emissions of HAP from listed source categories. There is no benefits test in the statutory requirement. The language in Executive Order 12866 does not supersede a clear legal requirement in the CAA. Second, because there are no major sources that will be regulated by this rule at the present time, there will be no implementation costs for the rule. If at a later date a major source is constructed, or a non-major source becomes major, then there will be implementation costs, but this rule will result in emission reduction requirements compared to the emissions that would be expected to occur in the absence of a rule. Therefore, at the point where this rule actually results in costs, it will also have corresponding benefits. In the absence of any current major sources that will be covered by this rule, we simply cannot calculate the benefits.

2. MACT Floors

Comment: One commenter disagreed with the inclusion of emissions data from Kohler's South Carolina facility tunnel kiln with the wet scrubber in the sanitaryware tunnel kiln existing source data pool for MACT floor determination. The commenter stated that Kohler installed a new tunnel kiln at the South Carolina facility in 2005 under the Clay Ceramics Manufacturing NESHAP promulgated in 2003, which, according to the commenter, required the installation of APCD on any new first-fire tunnel kilns to meet the HF and HCl emission limitations. The APCD that Kohler installed, a wet scrubber, was written into the facility's air permit at the time, and so its use at that time was federally enforceable. The court vacated the Clay Ceramics Manufacturing NESHAP in 2007, and the South Carolina Department of Health and Environmental Control revised the facility's air permit in March 2009, removing any reference to the Clay Ceramics Manufacturing NESHAP and any requirement to operate the scrubber. Kohler then permanently shut down the scrubber in March 2009, though they continued to operate the tunnel kiln per permit requirements. Due to cost considerations, the scrubber was abandoned in place and not demolished/removed.

The commenter noted that, when the EPA issued the information collection request (ICR) for clay ceramics emissions test data in 2010, the EPA required that Kohler make operational that wet scrubber for emissions testing of that tunnel kiln, even though the APCD was not listed in any permit nor required under any rule and had not been operated in 17 months. Initially, Kohler agreed to test the kiln as an existing source per operational requirements in the facility's air permit (*i.e.,* without the wet scrubber). However, the EPA demanded that Kohler restart and operate the abandoned scrubber during the kiln's emissions testing. The commenter noted that Kohler cooperated with the EPA and tested emissions with the scrubber operating, but the scrubber was immediately shut down after testing. This scrubber has operated for a total of 1 week in the past 6 years, and that short period of operation was only to comply with the EPA's ICR testing demand.

The commenter acknowledged that the EPA has the authority require operation of any permitted source for emissions testing under rulemaking and ICR protocol. The commenter agreed with the EPA that the ''kiln'' in question is an existing source but disagreed that the non-operating wet scrubber qualifies as part of an existing source. The commenter contended that the EPA is arbitrarily penalizing Kohler for not spending the money to demolish and remove the wet scrubber back in 2009 when it was removed from the facility's air permit. The commenter asserted that the test data from the wet scrubber are not representative of any existing source and were not actually achieved in practice over time. Therefore, using the test data in the MACT floor analysis is inconsistent with the EPA's expressed intent to determine MACT floors for existing sources based on the average emissions actually achieved in practice by the best performing sources with consideration for variability in emissions over time. The commenter asserted that all emissions data from the wet scrubber should be excluded from the existing source data pool for MACT floor analysis, and the existing source floors should be recalculated for the remaining existing sources.

Response: Data from the APCD the commenter refers to was considered in developing both the new and existing MACT floors for sanitaryware kilns. As stated by the commenter, the APCD was installed to comply with the previously promulgated Clay Ceramics Manufacturing NESHAP and thus was an available data point for collection through the CAA section 114 data collection process for this rulemaking. Because this source had an operational APCD (even though it was not being operated), we believe that testing with the APCD operating would be most representative of the source's best performance as defined in the CAA. Having collected the emissions data for the source with the APCD operating, the EPA considered the data consistent with section 112(d)(3)(B) of the CAA, under which the Administrator is required to calculate ''the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.'' Since it is appropriate to include the data in the database available to determine MACT floors, it is appropriate to use these data in floor calculations, if it is actually part of the best performing facilities. We note, however, that the data from this device was only significant for the existing source dioxin/furan MACT floor, for reasons that are dependent on each regulated pollutant and discussed as follows.

For both new and existing PM MACT floors, the final limit was unaffected by use of these data, since the data from the APCD was not ranked in the top five sources with data.

For both new and existing Hg MACT floors, the data from the APCD were not ranked because the data were invalidated. The data were removed from the dataset because of errors in the analytical procedures surrounding the digestion process as dictated by Method 29. See Section 4.1: Analytical discrepancy of the Test Report ''Kohler Co., Spartanburg, SC: Tunnel Kilns and Glaze Spray Booths 08/11–17/2010 Stack Test,'' Docket Item No. EPA–HQ–OAR–2013–0290–0069.

For dioxin/furan, the data from the APCD are in the top five but is not the best performing unit based on the dioxin/furan ng/kg ranking. (Note the units of measure for dioxin/furan ranking have changed from the proposed ng/dscm at 7-percent O_2 to ng/kg.) For the existing source floor, the result of the calculation of the best performing five sources is 3.3 ng/kg with the data point, and would have been 4.0 ng/kg without the data point, which we consider a nominal difference. The difference does not result in any source having to add controls. The calculation of the new source floor was not affected by the data from the APCD because, as stated above, the source was not the best performing unit, and the new source floor is based on the best performing unit.

Comment: Three commenters questioned EPA's decision to propose the dioxin/furan emission limits for ceramic tile manufacturing and sanitaryware manufacturing in concentration format only. Two commenters stated that the final dioxin/furan standards should provide the option to comply with a limitation expressed in units of nanograms per milligram of tile produced, in addition to or in lieu of the proposed standard stated in ng/dscm. A mass-based production-related standard effectively removed the issues around O_2 correction created by use of a standard based only on concentration. Further, the commenters asserted that it is a more universally appropriate adjustment for comparison of emissions from large kilns having high air flow rates to emissions from small kilns with low air volumes. The third commenter agreed and noted that the proposed limits for PM and Hg are expressed as lb/ton fired product. The commenter asked EPA to explain how the concentration format for the emission limit is more appropriate for dioxins/furans than a mass throughput limit. If it is not, the commenter suggested using a mass throughput format for the dioxin/furan emission limit.

Response: The dioxin/furan limits provided in the final rule for clay ceramics are in units of ng TEQ/kg of throughput fired or processed. The EPA agrees that this change in format eliminates the questions surrounding the O_2 correction for concentration values and is more consistent with the other units of measure provided in the Clay Ceramics Manufacturing NESHAP. To demonstrate compliance with the limits, the owner or operator will determine the mass TEQ for each test run (using the toxic equivalency factors in Table 5 to subpart KKKKK), divide the mass TEQ by the production rate during the test run, and average the test runs.

The production-based dioxin/furan limits are provided in lieu of the proposed concentration limits. The compliance flexibility provided to the BSCP Manufacturing source category (including alternative compliance options for PM and Hg) was solely related to concerns under the Small Business Regulatory Enforcement Fairness Act (SBREFA), specifically reducing the regulatory burden of the numerous small entities in the BSCP category. There are no small businesses expected to be subject to the Clay Ceramics Manufacturing NESHAP, so the EPA determined that no additional compliance flexibility was necessary or warranted for the Clay Ceramics Manufacturing source category.

3. Startup and Shutdown

Comment: One commenter challenged the proposed startup and shutdown regulations for ceramic tile manufacturing. The commenter asserted that these standards are based conceptually on the desire to minimize the time during which ceramic tile manufacturing process units operate in a temperature range that is ‘‘conducive’’ to the formation of new dioxins/furans (*i.e.,* 200–450 degrees Celsius). The commenter stated that this concern is moot because there are no new dioxins/furans formed in the ceramic tile industry sector, based on the emissions data the EPA proposed to use to set MACT floors for ceramic tile sources and on the fact that ceramic tile dioxin/furan congener profiles are different from the profile of the dioxins/furans created as a product of combustion.

The commenter also challenged the EPA's startup and shutdown proposal for spray dryers relative to dioxins/furans. The input to the spray dryer experiences no more than 212 °F because the operational purpose of the spray dryer is to cause the excess moisture suspended or attached to the ball clay matrix to evaporate. If any spray dryer operating temperature is relevant to the EPA's concern about temperatures in a spray dryer conducive to dioxin/furan formation, this is the correct focus.

For ceramic tile floor tile and wall tile roller kilns, the commenter stated that the proposed temperature requirements for startup and shutdown reflect good kiln production practices; therefore, the proposed startup and shutdown standards are unnecessary.

The commenter noted that the standards are based only on data from the BSCP subcategory, and the proposed temperatures are not appropriate for all sources. For example, ceramic tile dryers uniformly operate below 400 °F, so product could never be introduced to a tile dryer. The commenter also noted that the startup provisions require startup of APCD at 400 °F. However, ceramic tile dryers do not have APCD because they burn only natural gas, their normal operating temperature is less than 400 °F, and their resulting emissions are minimal. For these reasons, the proposal effectively constitutes a ban on the operation of tile dryers. If tile dryers are not an available manufacturing process, ceramic tile manufacturing as it is currently conducted in the United States would effectively cease at major sources. The commenter stated that the EPA lacks the legal authority to implement a de facto shut down of major sources, or to bar the possibility of the proposal of a major source, in this industry.

For all the above reasons, the commenter asserted that the EPA must withdraw the startup and shutdown proposal from any final NESHAP for this subcategory. The commenter contended that, as proposed, these standards are arbitrary and capricious.

Response: The CAA requires that NESHAP emissions limitations under section 112 must apply continuously, including during periods of startup and shutdown. As noted in the preamble to the proposed rule, we recognize that it is not feasible to conduct emission testing during periods of startup and shutdown; therefore, owners and operators would be unable to demonstrate compliance with the final numeric MACT standards during those periods. Therefore, the EPA is finalizing work practice standards for periods of startup or shutdown to ensure that the Clay Ceramics Manufacturing NESHAP includes continuous CAA section 112-compliant standards.

The commenter is correct that the specific startup and shutdown work practice standards proposed were based on information from the BSCP industry. In absence of any data on specific startup and shutdown procedures from the clay ceramics CAA section 114 survey, the EPA used the only data available for a similar industry. The EPA has not received any additional information from clay ceramics manufacturers on specific procedures, and in light of that lack of data, the EPA maintains that the less prescriptive startup and shutdown work practices being finalized for the BSCP industry are appropriate for the clay ceramics industry. First, one of the commenter's main points is that the specific temperatures that were proposed are not appropriate for all the types of units to which the standards were proposed to apply, which is consistent with comments received on the BSCP proposal. Second, the commenter did note that the proposed standards reflect good kiln production practices for one type of process unit for which the specific temperature was appropriate. Therefore, the EPA is finalizing work practice standards that are based on best practices but are less prescriptive than the proposed standards.

As a final note, the EPA is clarifying in this response that the startup and shutdown standards are not intended to minimize only emissions of dioxins/furans. Instead, the standards are intended to minimize emissions of all pollutants by limiting the amount of throughput being processed before the unit reaches full production and limiting the amount of time the exhaust is not being routed to the APCD, if applicable. In addition, the proposed startup and shutdown work practice requirements did not require the use of an APCD, nor do the final standards. The standards only specify the requirements for routing exhaust to an APCD if one is present. The EPA has reviewed the language in the final rule to ensure the standards are clear.

VI. Summary of the Cost, Environmental, Energy and Economic Impacts

A. What are the cost and emissions reduction impacts?

Table 8 of this preamble illustrates the costs and emissions reductions for existing sources under the final BSCP Manufacturing NESHAP and final Clay Ceramics Manufacturing NESHAP. The costs include the costs of installing APCD as well as the costs for the testing and monitoring needed to demonstrate compliance.

TABLE 8—SUMMARY OF COSTS AND EMISSIONS REDUCTIONS FOR BSCP AND CLAY CERAMICS EXISTING SOURCES [a]
[2011 dollars]

Industry	Cost (million)		Emissions reductions (tpy)							
	Capital	Annual	HF	HCl	Cl_2	Non-Hg HAP metals [b]	Hg	PM	$PM_{2.5}$ [c]	SO_2
BSCP	$64.6	$24.6	344	22.1	2.04	7.08	0.0733	643	309	205
Clay Ceramics	0.267	0.0924	0	0	0	0	0	0	0	0

[a] Includes costs for APCD, testing and monitoring.

[b] Includes antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel and selenium.

[c] $PM_{2.5}$ = particulate matter with particles less than 2.5 micrometers in diameter.

The nationwide capital and annual costs of the APCD, testing, and monitoring needed to comply with the final BSCP Manufacturing NESHAP are expected to total $64.6 million and $24.6 million, respectively (2011 dollars). The nationwide HAP emissions reductions achieved under the final BSCP Manufacturing NESHAP are expected to total 375 tpy. The methodology used to estimate the nationwide costs and emissions reductions of the final BSCP Manufacturing NESHAP is presented in the technical memoranda titled ''Development of Cost and Emission Reduction Impacts for the Final BSCP Manufacturing NESHAP'' and ''Monitoring and Testing Requirements and Costs for the Final BSCP Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

It is anticipated that all sanitaryware emission points will meet the MACT floor emission limits in the final Clay Ceramics Manufacturing NESHAP, so no emission control costs or emissions reductions are expected for these sources. However, these facilities are expected to incur $92,400 annually in monitoring and testing costs to demonstrate compliance with the final Clay Ceramics Manufacturing NESHAP. These costs are documented in the technical memorandum titled, ''Monitoring and Testing Requirements and Costs for the Final Clay Ceramics Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0290.

There are no major sources producing ceramic floor tile or ceramic wall tile. The five facilities that were major sources at the time of the 2008 and 2010 EPA surveys have already taken the necessary steps to become synthetic area sources. Consequently, none of the known tile facilities will be subject to the provisions of the Clay Ceramics Manufacturing NESHAP, which means that no costs or emissions reductions are expected for tile affected sources under the final Clay Ceramics Manufacturing NESHAP.

B. What are the secondary impacts?

Table 9 of this preamble illustrates the secondary impacts for existing sources under the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP.

TABLE 9—SUMMARY OF SECONDARY IMPACTS FOR BSCP AND CLAY CERAMICS EXISTING SOURCES [a]

Industry	Secondary air emissions (tpy)						Energy impacts (MMBtu/yr)	Solid waste impacts (tpy)
	PM	$PM_{2.5}$	CO	NO_X	SO_2	CO_2		
BSCP	3.40	1.14	5.74	45.6	133	27,900	461,000	5,210
Clay Ceramics	0	0	0	0	0	0	0	0

[a] CO = carbon monoxide; CO_2 = carbon dioxide; MMBtu/yr = million British thermal units per year.

The relevant secondary impacts that were evaluated for the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP include secondary air emissions, energy impacts and solid waste impacts. Indirect or secondary air emissions are impacts that result from the increased electricity usage associated with the operation of APCD to meet the promulgated limits (*i.e.,* increased secondary emissions of criteria pollutants from power plants). Energy impacts consist of the electricity needed to operate the APCD, and solid waste impacts consist of the particulate captured by the APCD that is disposed of as waste (not reused or recycled).

Under the final BSCP Manufacturing NESHAP, the nationwide secondary emissions of the criteria pollutants PM, CO, NO_X and SO_2 are expected to total 188 tpy, and secondary emissions of the greenhouse gas pollutant CO_2 are expected to total 27,900 tpy, with energy impacts of 461,000 MMBtu/yr and solid waste impacts of 5,210 tpy. The methodology used to estimate the nationwide secondary impacts of the final BSCP Manufacturing NESHAP is presented in the technical memorandum, ''Development of Cost and Emission Reduction Impacts for the Final BSCP Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

As noted in the previous section, it is anticipated that all sanitaryware emission points will meet the MACT floor emission limits in the Clay Ceramics Manufacturing final rule, so there are no secondary impacts expected for these sources. There are no major sources producing ceramic floor tile or ceramic wall tile. The five facilities that were major sources at the time of the 2008 and 2010 EPA surveys have already taken the necessary steps to become synthetic area sources. Consequently, none of the known ceramic tile facilities are expected to be subject to the provisions of the Clay Ceramics Manufacturing NESHAP, which means that no secondary impacts are expected for ceramic tile affected sources under the final Clay Ceramics Manufacturing NESHAP.

C. What are the economic impacts?

For the BSCP Manufacturing source category, the average national brick price under the promulgated standards increases by 1.8 percent or $4.37 per

1,000 Standard Brick Equivalent (SBE) (2011 dollars), while overall domestic production falls by 1.5 percent or 52 million bricks per year. Under the promulgated standards, the EPA estimated that two to four BSCP manufacturing facilities are at significant risk of closure.

Based on the results of the small entity screening analysis for BSCP Manufacturing, the EPA concluded that it is not able to certify that the BSCP Manufacturing NESHAP will not have a significant impact on a substantial number of small entities. As a result, the EPA initiated a Small Business Advocacy Review (SBAR) Panel and undertook an Initial Regulatory Flexibility Analysis (IRFA).

For Clay Ceramics Manufacturing, one sanitaryware company owns major sources and will incur costs (for testing, monitoring, recordkeeping and reporting). That affected company is not a small business. The compliance costs are less than 0.002 percent of sales for the affected company. Hence, the economic impact for compliance is minimal. As noted above, there are no major sources producing ceramic floor tile or ceramic wall tile. Because no small firms face significant control costs, there is no significant impact on small entities. Thus, the Clay Ceramics Manufacturing regulation is not expected to have significant impact on a substantial number of small entities.

For more information on the benefits analysis and market analyses, please refer to the Regulatory Impact Analysis (RIA) for the BSCP Manufacturing NESHAP, ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' which is available in Docket ID No. EPA–HQ–OAR–2013–0291.

D. What are the benefits?

Emission controls installed to meet the requirements of this rule will generate benefits by reducing emissions of HAP as well as criteria pollutants and their precursors, NO_X and SO_2. Sulfur dioxide and NO_X are precursors to $PM_{2.5}$, and NO_X is a precursor to ozone. The criteria pollutant benefits are considered co-benefits for this rule. For this rule, we were only able to quantify the health co-benefits associated with reduced exposure to $PM_{2.5}$ from changes in emissions directly emitted $PM_{2.5}$, SO_2, and NO_X. We estimate the monetized co-benefits of the BSCP Manufacturing NESHAP in 2018 to be $83 million to $190 million (2011 dollars) at a 3-percent discount rate and $75 million to $170 million (2011 dollars) at a 7-percent discount rate, not including consideration of energy disbenefits. Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower co-benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[105] A summary of the emission reduction and monetized co-benefits estimates for this BSCP Manufacturing NESHAP at discount rates of 3 percent and 7 percent is illustrated in Table 10 of this preamble.

TABLE 10—SUMMARY OF THE MONETIZED $PM_{2.5}$ CO-BENEFITS FOR THE BSCP MANUFACTURING NESHAP IN 2018

[Millions of 2011 dollars] [a] [b]

Pollutant	Emission reductions (tpy)	Total monetized co-benefits (3 percent discount)	Total monetized co-benefits (7 percent discount)
Directly emitted $PM_{2.5}$	308	$83 to $190	$75 to $170.
$PM_{2.5}$ precursors			
SO_2	72	$2.9 to $6.6	$2.6 to $6.0.
NO_X [c]	−46	−$0.29 to −$0.66	−$0.26 to −$0.59.
Total monetized benefits		$84 to $190	$76 to $170.

[a] All estimates are for the analysis year and are rounded to two significant figures so numbers may not sum across rows. The total monetized co-benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of $PM_{2.5}$ precursors, such as SO_2 and directly emitted $PM_{2.5}$. It is important to note that the monetized co-benefits do not include reduced health effects from exposure to HAP, direct exposure to nitrogen dioxide (NO_2), exposure to ozone, ecosystem effects or visibility impairment.

[b] PM co-benefits are shown as a range from Krewski, *et al.* (2009) to Lepeule, *et al.* (2012). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because the scientific evidence is not yet sufficient to allow differentiation of effects estimates by particle type.

[c] These emission reductions are the net emission reductions from the rule after subtracting out secondary emission increases due to additional energy requirements to run the control equipment. These estimates do not include monetized CO_2 disbenefits, which range from $0.3 to $3 million depending on the discount rate. See the RIA for more information about how the EPA monetized these disbenefits.

These co-benefits estimates represent the total monetized human health benefits for populations exposed to less $PM_{2.5}$ from controls installed to reduce air pollutants in order to meet this rule. Due to analytical limitations, it was not possible to conduct air quality modeling for this rule. Instead, we used a ''benefit-per-ton'' approach to estimate the benefits of this rulemaking. To create the benefit-per-ton estimates, this approach uses a model to convert emissions of $PM_{2.5}$ precursors into changes in ambient $PM_{2.5}$ levels and another model to estimate the changes in human health associated with that change in air quality, which are then divided by the emissions in specific sectors. These benefit-per-ton estimates were derived using the approach published in Fann, *et al.* (2012),[106] but they have since been updated to reflect the studies and population data in the 2012 p.m. National Ambient Air Quality Standards (NAAQS) RIA.[107] Specifically, we multiplied the benefit-per-ton estimates from the ''Non-EGU Point other'' category by the corresponding emission reductions.[108] All national-average benefit-per-ton estimates reflect the geographic distribution of the modeled emissions, which may not exactly match the

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[105] Roman, *et al.,* 2008. ''Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S.,'' *Environ. Sci. Technol.,* 42, 7, 2268–2274.

[106] Fann, N., K.R. Bakerand C.M. Fulcher. 2012. ''Characterizing the $PM_{2.5}$-related health benefits of emission reductions for 17 industrial, area and mobile emission sectors across the U.S.'' *Environment International* 49 41–151.

[107] U.S. Environmental Protection Agency (U.S. EPA). 2012. *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. December. Available at *http://www.epa.gov/pm/2012/finalria.pdf.*

[108] U.S. Environmental Protection Agency. 2013. *Technical support document: Estimating the benefit per ton of reducing $PM_{2.5}$ precursors from 17 sectors.* Research Triangle Park, NC. January.

emission reductions in this rulemaking and, thus, they may not reflect the local variability in population density, meteorology, exposure, baseline health incidence rates or other local factors for any specific location. More information regarding the derivation of the benefit-per-ton estimates for this category is available in the technical support document, which is available as Docket Item No. EPA–HQ–OAR–2013–0291–0089.

These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because the scientific evidence is not yet sufficient to allow differentiation of effects estimates by particle type. Even though we assume that all fine particles have equivalent health effects, the benefit-per-ton estimates vary between precursors depending on the location and magnitude of their impact on $PM_{2.5}$ levels, which drive population exposure.

It is important to note that the magnitude of the $PM_{2.5}$ co-benefits is largely driven by the concentration response function for premature mortality. We cite two key empirical studies, one based on the American Cancer Society cohort study [109] and the extended Six Cities cohort study.[110] In the RIA for the final rule, which is available in Docket ID No. EPA–HQ–OAR–2013–0291, we also include benefits estimates derived from expert judgments (Roman, *et al.,* 2008) as a characterization of uncertainty regarding the $PM_{2.5}$-mortality relationship.

Considering a substantial body of published scientific literature, reflecting thousands of epidemiology, toxicology and clinical studies, the EPA's *Integrated Science Assessment for Particulate Matter* [111] documents the association between elevated $PM_{2.5}$ concentrations and adverse health effects, including increased premature mortality. This assessment, which was twice reviewed by the EPA's independent SAB, concluded that the scientific literature consistently finds that a no-threshold model most adequately portrays the PM-mortality concentration-response relationship. Therefore, in this analysis, the EPA assumes that the health impact function for fine particles is without a threshold.

In general, we are more confident in the magnitude of the risks we estimate from simulated $PM_{2.5}$ concentrations that coincide with the bulk of the observed PM concentrations in the epidemiological studies that are used to estimate the benefits. Likewise, we are less confident in the risk we estimate from simulated $PM_{2.5}$ concentrations that fall below the bulk of the observed data in these studies. Concentration benchmark analyses (*e.g.,* lowest measured level (LML) or one standard deviation below the mean of the air quality data in the study) allow readers to determine the portion of population exposed to annual mean $PM_{2.5}$ levels at or above different concentrations, which provides some insight into the level of uncertainty in the estimated $PM_{2.5}$ mortality benefits. There are uncertainties inherent in identifying any particular point at which our confidence in reported associations becomes appreciably less and the scientific evidence provides no clear dividing line. However, the EPA does not view these concentration benchmarks as a concentration threshold below which we would not quantify health benefits of air quality improvements.

For this analysis, policy-specific air quality data are not available due to time and resource limitations and, thus, we are unable to estimate the percentage of premature mortality associated with this specific rule's emission reductions at each $PM_{2.5}$ level. As a surrogate measure of mortality impacts, we provide the percentage of the population exposed at each $PM_{2.5}$ level using the source apportionment modeling used to calculate the benefit-per-ton estimates for this sector. Using the Krewski, *et al.* (2009) study, 93 percent of the population is exposed to annual mean $PM_{2.5}$ levels at or above the LML of 5.8 µg/m^3. Using the Lepeule, *et al.* (2012) study, 67 percent of the population is exposed above the LML of 8 µg/m^3. It is important to note that baseline exposure is only one parameter in the health impact function, along with baseline incidence rates, population and change in air quality. Therefore, caution is warranted when interpreting the LML assessment for this rule because these results are not consistent with results from rules that model changes in air quality.

Every benefit analysis examining the potential effects of a change in environmental protection requirements is limited, to some extent, by data gaps, model capabilities (such as geographic coverage) and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Despite these uncertainties, we believe the benefit analysis for this rule provides a reasonable indication of the expected health benefits of the rulemaking under a set of reasonable assumptions. This analysis does not include the type of detailed uncertainty assessment found in the 2012 $PM_{2.5}$ NAAQS RIA [112] because we lack the necessary air quality input and monitoring data to run the benefits model. In addition, we have not conducted air quality modeling for this rule, and using a benefit-per-ton approach adds another important source of uncertainty to the benefits estimates. The 2012 $PM_{2.5}$ NAAQS benefits analysis provides an indication of the sensitivity of our results to various assumptions.

It should be noted that the monetized co-benefits estimates provided above do not include benefits from several important benefit categories, including exposure to HAP, NO_X and ozone exposure, as well as ecosystem effects and visibility impairment. Although we do not have sufficient information or modeling available to provide monetized estimates for this rule, we include a qualitative assessment of these unquantified benefits in the RIA for these promulgated standards.

The specific control technologies for this rule are anticipated to have minor secondary disbenefits, including an increase of 41 tons of NO_X, about 3 tons of PM, less than 6 tons of CO and 121 tons of SO_2 each year. Because we do not currently have methods to monetize emission changes of CO, only secondary effects of PM, SO_2, and NO_X were included in the monetary evaluation of the actual benefits.

For more information on the benefits analysis, please refer to the RIA for this rule, ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' which is available in Docket ID No. EPA–HQ–OAR–2013–0291.

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[109] Krewski, C.A., III, R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Itoand G.D. Thurston. 2002. ''Lung Cancer, Cardiopulmonary Mortalityand Long-term Exposure to Fine Particulate Air Pollution.'' *Journal of the American Medical Association* 287:1132–1141.

[110] Lepeule J, Laden F, Dockery D, Schwartz J. 2012. ''Chronic Exposure to Fine Particles and Mortality: An Extended Follow-Up of the Harvard Six Cities Study from 1974 to 2009.'' *Environ Health Perspect.* July; 120(7):965–70.

[111] U.S. Environmental Protection Agency (U.S. EPA). 2009. *Integrated Science Assessment for Particulate Matter (Final Report).* EPA–600–R–08–139F. National Center for Environmental Assessment—RTP Division. December. Available on the Internet at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.

[112] U.S. Environmental Protection Agency (U.S. EPA). 2012. *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. December. Docket Item No. EPA–HQ–OAR–2013–0291–0087.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the dockets for this action. The EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP.'' A copy of the analysis is available in the docket for the BSCP Manufacturing NESHAP (Docket ID No. EPA–HQ–OAR–2013–0291) and the analysis is briefly summarized here.

The EPA's study estimates that affected BSCP facilities will incur total annualized costs of $24.6 million (2011 dollars) under the BSCP Manufacturing NESHAP, including costs of emission controls, testing and monitoring, along with recordkeeping and reporting costs for facilities that have testing and monitoring. The EPA gathered information on firm sales and overall industry profitability for firms owning affected BSCP facilities. The EPA estimated that two to four BSCP manufacturing facilities are at significant risk of closure under the final standards.

The EPA also conducted an assessment of the benefits of the final rule, as described in section VI of this preamble. These estimates reflect the monetized human health benefits of reducing cases of morbidity and premature mortality among populations exposed to $PM_{2.5}$ reduced by this rule. Data, resource and methodological limitations prevented the EPA from monetizing the benefits from several important benefit categories, including benefits from reducing exposure to 375 tons of HAP each year for the promulgated standards, as well as ecosystem effects and visibility impairment. In addition to reducing emissions of PM precursors such as SO_2, this rule will reduce several non-Hg HAP metals emissions (*i.e.,* arsenic, cadmium, chromium, lead, manganese, nickel, and selenium) each year. The EPA estimates the total monetized co-benefits to be $83 million to $190 million (2011 dollars) at a 3-percent discount rate and $75 million to $170 million (2011 dollars) at a 7-percent discount rate on a yearly average in 2018 for the promulgated standards.

Based on the EPA's examination of costs and benefits of the final BSCP Manufacturing NESHAP, the EPA believes that the benefits of the BSCP Manufacturing NESHAP will exceed the costs.

The EPA also examined the costs and economic impacts associated with the Clay Ceramics Manufacturing NESHAP. The remaining firm with major sources is estimated to incur costs as a result of the Clay Ceramics Manufacturing final rule and the firm only incurs costs associated with testing, monitoring, recordkeeping and reporting. Total annualized costs are only $92,400 (2011 dollars) and the firm's estimated costs of complying with the Clay Ceramics Manufacturing NESHAP are less than 0.002 percent of sales.

B. Paperwork Reduction Act (PRA)

The information collection activities in the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP have been submitted for approval to OMB under the PRA. The ICR document that the EPA prepared for the BSCP Manufacturing NESHAP has been assigned EPA ICR number 2509.01. The ICR document that the EPA prepared for the Clay Ceramics Manufacturing NESHAP has been assigned EPA ICR number 2510.01. You can find copies of the ICRs in the dockets for the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP, and they are briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information collected from respondents will be used by EPA enforcement personnel to: (1) identify new, modified, reconstructed and existing sources subject to the standards; (2) ensure that MACT is being properly applied; and (3) ensure that the APCD are being properly operated and maintained on a continuous basis. In addition, records and reports are necessary to enable the EPA to identify facilities that may not be in compliance with the standards. Based on the reported information, the EPA can decide which facilities should be inspected and what records or processes should be inspected at these facilities. The records that facilities maintain will indicate to the EPA whether the owners and operators are in compliance with the emission limitations (including emission limits, operating limits) and work practice standards. Much of the information the EPA would need to determine compliance would be recorded and retained onsite at the facility. Such information would be reviewed by enforcement personnel during an inspection and would not need to be routinely reported to the EPA.

All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to EPA policies set forth in title 40, chapter 1, part 2, subpart B—Confidentiality of Business Information. (See 40 CFR 2; 41 FR 36902, September 1, 1976; amended by 43 FR 39999, September 28, 1978; 43 FR 42251, September 28, 1978; and 44 FR 17674, March 23, 1979.)

Potential respondents to the information collection requirements in the BSCP Manufacturing NESHAP are owners and operators of new and existing sources at BSCP manufacturing facilities. A BSCP facility manufactures brick, including face brick, structural brick, brick pavers, or other brick and/or structural clay products including clay pipe; roof tile; extruded floor and wall tile; or other extruded, dimensional clay products. The BSCP facilities typically form, dry and fire bricks and shapes that are composed primarily of clay and shale. Kilns are used to fire BSCP. The rule applies to all new and existing tunnel and periodic kilns at BSCP facilities.

Potential respondents to the information collection requirements in the Clay Ceramics Manufacturing NESHAP are owners and operators of new and existing sources at clay ceramics manufacturing facilities. A clay ceramics facility manufactures pressed floor tile, pressed wall tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics facilities typically form, dry and fire tile or sanitaryware products that are composed of clay, shale and various additives. Spray dryers are used during the forming process at tile facilities to process the ceramic mix into a powder to allow tile pressing. Dryers are used to reduce the moisture content of the ceramic products prior to firing. Glazes are applied to some tile and sanitaryware products, with glaze spraying accounting for all glazing emissions. Kilns are used to fire the ceramic products and include ceramic tile roller kilns and sanitaryware tunnel and shuttle kilns. The rule applies to all existing, new and reconstructed affected sources, which include the kilns, glaze spray operations, ceramic tile spray dryers and floor tile press dryers. (Wall tile press dryers and sanitaryware ware dryers, with no measurable emissions, are not covered.)

The information requirements are based on notification, recordkeeping and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emissions standards. These recordkeeping and reporting requirements are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to the EPA policies set forth in 40 CFR part 2, subpart B.

In addition to the notification, recordkeeping and reporting requirements in the NESHAP General Provisions, the final rule includes paperwork requirements associated with initial and 5-year repeat testing for selected process equipment, electronic reporting of performance test results, parameter monitoring, preparation of an OM&M plan, maintenance and inspection of process and control equipment, compliance with work practice standards and periods of malfunction.

Collection of data will begin after the effective date of the final BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP. The compliance date for existing sources is 3 years after the effective date. The compliance date for new or reconstructed sources is the effective date if the source startup date is before the effective date, or upon startup if the startup date is on or after the effective date. The schedule for notifications and reports required by the rule is summarized below.

For BSCP and clay ceramics facilities with existing affected sources, the initial notification stating that the facility is subject to the rule must be submitted no later than 120 calendar days after the effective date of the rule. Facilities with new or reconstructed affected sources for which startup occurs on or after the effective date must submit the initial notification no later than 120 calendar days after the source becomes subject to the rule (although we are projecting no new affected sources in the short term). Facilities may choose to submit a request to use the routine control device maintenance alternative standard no later than 120 calendar days prior to the compliance date. Facilities required to conduct a performance test must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin. For each initial compliance demonstration that includes a performance test, facilities must submit an initial notification of compliance status no later than 60 calendar days following the completion of the performance test. For each initial compliance demonstration that does not involve a performance test, facilities must submit an initial notification within 30 calendar days of completing the initial compliance demonstration. Records necessary to determine compliance with the emission limitations and work practice standards must be compiled on a daily basis, and compliance reports must be submitted to the Administrator on a semiannual basis. Repeat performance tests are to be conducted every 5 years to ensure ongoing compliance.

There are 90 BSCP facilities that are currently major sources of HAP, 84 of which have at least one tunnel kiln. An estimated 21 of these facilities are projected to become synthetic area sources by promulgation rather than comply with the BSCP standards. The remaining 69 facilities (63 of which have a tunnel kiln) are expected to be subject to the BSCP Manufacturing NESHAP. For these 69 facilities, the annual recordkeeping and reporting burden associated with the BSCP standards (averaged over the first 3 years after the effective date of the standards) is estimated to be 20,963 labor hours per year, at a cost of $1,113,105 per year (yr). Burden is defined at 5 CFR 1320.3(b).

No capital costs associated with monitoring, testing, recordkeeping or reporting are expected to be incurred during this period. The annual operation and maintenance costs are estimated to be $682/yr.

The total burden for the federal government (averaged over the first 3 years after the effective date of the standards) is estimated to be 71 labor hours per year, at a total labor cost of $3,698/yr. (All costs are in 2011 dollars.)

There are three clay ceramics facilities that are currently major sources of HAP and are expected to be subject to the Clay Ceramics Manufacturing NESHAP. For these three facilities, the annual recordkeeping and reporting burden associated with the Clay Ceramics standards (averaged over the first 3 years after the effective date of the standards) is estimated to total 996 labor hours per year at a cost of $52,674/yr.

As with the BSCP standards, no capital costs associated with monitoring, testing, recordkeeping or reporting are expected to be incurred during this period. The annual operation and maintenance costs are estimated to be $44/yr.

The total burden for the federal government (averaged over the first 3 years after the effective date of the standards) is estimated to be 4.6 labor hours per year, at a total labor cost of $239/yr. (All costs are in 2011 dollars.)

Because BSCP and clay ceramics facilities are not required to come into full compliance with the standards until 3 years after promulgation, much of the respondent burden (*e.g.,* performance tests, inspections, notification of compliance status, compliance reports, records of compliance data and malfunctions) does not occur until the fourth year following promulgation.

For the BSCP Manufacturing NESHAP, we estimate an average annual recordkeeping and reporting burden of 48,674 labor hours per year, at a cost of $2,702,447/yr, for years 4 through 6. We also estimate annualized capital costs of $606,760/yr and annual operating and maintenance costs of $206,872/yr over this period, for a total annualized cost of $813,632/yr. The average annual burden for the federal government for years 4 through 6 is estimated to be 3,891 labor hours per year, at a total labor cost of $204,550/yr. (All costs are in 2011 dollars.)

For the Clay Ceramics Manufacturing NESHAP, we estimate an average annual recordkeeping and reporting burden of 2,323 labor hours per year, at a cost of $122,786/yr, for years 4 through 6. We also estimate annualized capital costs of $72,050/yr and annual operating and maintenance costs of $27,069/yr over this period, for a total annualized cost of $99,119/yr. The average annual burden for the federal government for years 4 through 6 is estimated to be 180 labor hours per year, at a total labor cost of $9,448 per year. (All costs are in 2011 dollars.)

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

Pursuant to sections 603 and 609(b) of the RFA, the EPA prepared an IRFA that examines the impact of the proposed rule on small entities along with regulatory alternatives that could minimize that impact. The complete IRFA is available for review in the docket and is summarized here. We convened a SBAR Panel to obtain advice and recommendations from small entity representatives that potentially would be subject to the rule's requirements. Summaries of the IRFA and Panel recommendations are included at 79 FR 75669–75671.

As required by section 604 of the RFA, the EPA prepared a final regulatory flexibility analysis (FRFA) for this action. The FRFA addresses the issues raised by public comments on the IRFA for the proposed rule. The complete FRFA is included in Section 5 of ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' available for review in the docket (Docket ID No. EPA–HQ–OAR–2013–0291), and is summarized here.

1. Need for the Rule

The EPA is required under CAA section 112(d) to establish emission standards for each category or subcategory of major and area sources of HAP listed for regulation in section 112(b). These standards are applicable to new or existing sources of HAP and shall require the maximum degree of emission reduction. In the Administrator's judgment, the pollutants emitted from BSCP manufacturing facilities cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health. Consequently, NESHAP for the BSCP source category are being finalized.

2. Objectives and Legal Basis for the Rule

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by major stationary sources based on the performance of the MACT. The MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing five sources for source categories with less than 30 sources (CAA section 112(d)(3)(A) and (B)). For new sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source (CAA section 112(d)(3)). The EPA also must consider more stringent ''beyond-the-floor'' control options. When considering beyond-the-floor options, the EPA must consider not only the maximum degree of reduction in emissions of HAP, but must take into account costs, energy and non-air environmental impacts when doing so. This rule is being proposed to comply with CAA section 112(d).

3. Significant Issues Raised

The EPA received comments on the proposed standards and requests for comment that were included based on SBAR Panel recommendations. See section V of this preamble and ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more detailed comment summaries and responses.

- *Work practices for dioxin/furan:* One commenter stated that work practices for dioxin/furan emissions from BSCP tunnel kilns are not lawful under the CAA, and, even if they were, the work practices proposed are not sufficient to minimize dioxin/furan emissions. Other commenters supported the proposed work practices for dioxin/furan.

Response: The EPA is finalizing work practices for dioxin/furan as proposed. The EPA's response to the legal arguments made against work practice standards is presented in ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' found in the docket (Docket ID No. EPA–HQ–OAR–2013–0291).

- *Work practices for Hg and other metals:* Several commenters responded to the EPA's request for comment on work practices for Hg and non-Hg HAP metals. Numerous commenters stated that the EPA should finalize work practices instead of numeric limits and provided support for their assertion that the numeric limits are technically and economically impracticable to enforce. Commenters also noted that the emissions reduced by these numeric standards are not justified by the high cost that would be incurred to meet the standards.

Response: Emissions of Hg and non-Hg HAP metals were detected using standard EPA test methods; therefore, the Hg and non-Hg HAP metals data sets do not meet the criteria for setting work practice standards under CAA section 112(h). The EPA is finalizing numeric standards for Hg and non-Hg HAP metals under CAA section rather than work practices. The final numeric standards have been revised since the proposal to account for new data from the industry (including data on the Hg content of raw materials), removal of test data found not to meet the requirements of the applicable data, and changes in the EPA's approach to selecting the MACT floor pools (see section V.B.1 of this preamble for additional details).

- *Health-based standard for acid gases:* Several commenters asserted that the EPA may not legally set CAA section 112(d)(4) health-based standards for acid gases for BSCP facilities. Other commenters supported the EPA's decision to propose health-based standards for acid gases but noted that the EPA's approach was overly conservative and requested that the EPA consider setting multiple limits based on site characteristics.

Response: The EPA is finalizing the health-based standards for acid gases as proposed. The EPA's response to the legal arguments made against health-based standards is presented in section V.A of this preamble. The EPA is not changing the HBEL from proposal, as the proposed HBEL provides low potential for both chronic and acute health effects.

- *Size subcategories for MACT floors:* Several commenters requested that the EPA subcategorize by size for the non-Hg HAP metal/PM MACT floor limits, as was proposed for Hg.

Response: As part of recalculating the MACT floor limits based on the final data set, the EPA is finalizing separate limits for small and large kilns for non-Hg HAP metals/PM as well as Hg. The EPA is also finalizing limits in three different formats for both pollutants to provide additional flexibility for small tunnel kilns and tunnel kilns with a low metals content in the PM emissions.

- *Sawdust dryers:* Several commenters requested that the EPA finalize a subcategory of sawdust-fired kilns venting to sawdust dryers. Commenters provided general descriptions of how the operation of these kilns is different than tunnel kilns and stated that there are only two operating that would be subject to the BSCP Manufacturing NESHAP.

Response: Although one commenter noted that stack testing of a sawdust dryer is being considered, commenters did not provide test data to demonstrate that emissions from sawdust dryers are different than other tunnel kilns. Therefore, the EPA is not finalizing a subcategory of sawdust-fired kilns venting to sawdust dryers.

- *Periods of startup and shutdown:* One commenter stated that work practices for periods of startup and shutdown of BSCP tunnel kilns are not lawful under the CAA. Other commenters supported the proposal to provide work practices for periods of startup and shutdown, but suggested improvements to the standards to make them feasible for all tunnel kilns.

Response: The EPA evaluated the comments and is finalizing work practice standards for periods of startup and shutdown that reflect best practices for minimizing emissions during these periods (see section V.B.2 of this preamble for additional information).

- *MACT floor pool:* Several commenters supported the EPA's proposal to calculate MACT floor standards for PM based on the top 12 percent of the kilns in the industry (*i.e.,* the best-performing sources with a FF-based APCD). One commenter asserted that the EPA's proposal is unlawful and the EPA must consider other factors than the APCD type when setting MACT standards.

Response: The EPA reviewed all the data used for the MACT floor for PM as a surrogate for non-Hg HAP metals and found that some of the test data did not meet the requirements of EPA Method 5. When these data were removed, the EPA could no longer confirm that the data available to the agency represented all the best-performing sources. Therefore, the final PM and non-Hg HAP metals are based on the top 12 percent of sources for which we had test data, regardless of APCD type (see section V.B.1 of this preamble for additional details).

4. SBA Comments

The SBA's Office of Advocacy supported the EPA's proposals to set work practice standards and health-based emission standards in all instances allowed by statute and suggested other areas of improvement. The comments on areas of improvement and the EPA's responses are summarized below:

- *Hg standards:* The EPA should pursue subcategorization by input (raw material) type and delay promulgation of a Hg standard to gather more information if needed. Standards may need to be combined with a significantly longer averaging time to allow for continuous compliance.

Response: The EPA maintains that a delay in promulgation of an Hg standard is not appropriate for two reasons. First, under CAA section 112(e), the EPA was scheduled to complete standards for all source categories by 2000. The EPA's 2003 BSCP Manufacturing NESHAP was vacated, and that vacatur re-created the EPA's obligation to set standards for the BSCP source category. *Sierra Club* v. *EPA,* 850 F.Supp.2d 300, 303–304 (D.D.C. 2012). Under the consent decree in that case, as amended in August 2014, the EPA was obligated to sign a notice of final rulemaking to set standards for the BSCP source category by September 24, 2015.

Second, the EPA notes that following proposal, it received additional information on the Hg content of raw materials from facilities in the BSCP industry. This information did not provide the EPA with the information needed to establish subcategories based on the class or type of raw materials. However, the EPA has concluded that it has sufficient information to allow it to finalize Hg standards that account for the variability of Hg content in raw materials. Thus, the EPA's conclusion is that there is no basis to delay promulgation of the Hg standards in order to gather more information.

- *Economic analysis:* The economic impact of the proposed rule on small entities is significantly underestimated. Specifically, the EPA should not annualize costs at 7 percent over 20 years because that does not reflect the financing options available to small entities, the EPA underestimated the cost for a facility to become a synthetic area source, and the EPA has underestimated the cost to comply with the Hg standards given the limited information the agency has on the performance of Hg controls in this industry.

Response: The EPA standard engineering cost practice is to annualize over the expected life of the control equipment at 7 percent. The EPA does not have the data available to model the way a firm pays for an APCD because each firm has a different set of potential options for financing including debt financing, equity financing, and financing through retained earnings. The EPA acknowledges that some firms may not be able to borrow the money and some may close. The EPA's closure analysis is quite uncertain, but we do not have the detailed firm-specific information necessary to refine the analysis. The EPA agrees that the costs to become a synthetic area source at proposal were underestimated, and the final rule impacts include testing costs for all facilities, as potential synthetic area sources would have to demonstrate that their emissions qualify them to apply for synthetic area status. Finally, the EPA must use the best information available to the agency to estimate the impact of the standards on all entities. The final Hg standards incorporate variability in the Hg content of raw materials, which is expected to ease the burdens on some small entities.

5. Affected Small Entities

Of 44 parent companies owning BSCP facilities, 36 parent companies are small businesses. The EPA computed the ratio of estimated compliance costs to company sales (cost-to-sales ratio) to measure the magnitude of potential impacts on small companies. Under the final standards, the EPA estimated that two to three small BSCP manufacturing facilities (two to four BSCP manufacturing facilities overall) are at significant risk of closure.

6. Reporting, Recordkeeping, and Other Compliance Requirements

Respondents would be required to provide one-time and periodic notifications, including initial notification, notification of performance tests, and notification of compliance status. Respondents would also be required to submit semiannual reports documenting compliance with the rule and detailing any compliance issues, and they would be required to submit the results of performance tests to the EPA's ERT. Respondents would be required to keep documentation supporting information included in these notifications and reports, as well as records of the operation and maintenance of affected sources and APCD at the facility.

7. Significant Alternatives

The EPA considered three major options for this final rule; see ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' in Docket ID No. EPA–HQ–OAR–2013–0291), for more information about the alternatives. Finalizing the proposed changes without revision is expected to have similar cost and emission reduction impacts to the standards the EPA is finalizing, with a similar number of closures (one to two small BSCP manufacturing facilities rather than two to three). However, for the various legal and technical reasons outlined in this preamble and ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0291, the EPA determined that the PM/non-Hg HAP metals and Hg standards should not be finalized as proposed. The other alternative considered included the same standards for acid gases and Hg that are being finalized but only provided one set of limits PM/non-Hg HAP metals (*i.e.,* did not provide separate sets of limits for small and large tunnel kilns). This alternative is expected to have significantly higher cost impacts than the standards the EPA is finalizing, along with a significantly higher number of closures (five to 10 small BSCP manufacturing facilities rather than two to three small BSCP manufacturing facilities). Therefore, the EPA determined that it is necessary to exercise its discretion to subcategorize by kiln size to minimize the significant economic impact on small entities.

In addition, the EPA is preparing a Small Entity Compliance Guide to help small entities comply with this rule. The guide will be available on the World Wide Web approximately 1 year after promulgation of the rule, at *http://www.epa.gov/ttn/atw/brick/brickpg.html.*

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in the UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. The action imposes requirements on owners and operators of BSCP and clay ceramics manufacturing facilities and not tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because the EPA does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the memoranda ''Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Brick and Structural Clay Products Manufacturing Source Category,'' Docket Item No. EPA–HQ–OAR–2013–0291–0132 and ''Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Clay Ceramics Manufacturing Source Category,'' Docket Item No. EPA–HQ–OAR–2013–0290–0213.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action will not adversely directly affect productivity, competition, or prices in the energy sector.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This action involves technical standards. The EPA has decided to use the following four voluntary consensus standards as acceptable alternatives to the EPA test methods for the purpose of this rule.

The EPA has decided to use ANSI/ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses,'' for its manual methods of measuring the oxygen or carbon dioxide content of the exhaust gas. This standard is acceptable as an alternative to Method 3A and 3B and is available from the American Society of Mechanical Engineers (ASME) at *http://www.asme.org;* by mail at Three Park Avenue, New York, NY 10016–5990; or by telephone at (800) 843–2763.

The EPA has also decided to use ASTM D6735–01 (Reapproved 2009), ''Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method,'' for its measurement of the concentration of gaseous HCl and HF and other gaseous chlorides and fluorides. This standard is acceptable as an alternative to Methods 26 and 26A.

In addition, the EPA has decided to use ASTM D6784–02 (Reapproved 2008), ''Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),'' for its determination of elemental, oxidized, particle-bound, and total Hg emissions. This standard is acceptable as an alternative to Method 29 (portion for Hg only).

Finally, the EPA has decided to use ASTM D6348–03 (Reapproved 2010), ''Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy,'' for its use of an extractive sampling system to direct stationary source effluent to an FTIR spectrometer for the identification and quantification of gaseous compounds. This standard is acceptable as an alternative to Method 320 with the following conditions: (1) The test plan preparation and implementation in the Annexes to ASTM D 6348–03, Sections A1 through A8 are mandatory; and (2) in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent recovery (%R) must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be greater than or equal to 70 percent and less than or equal to 130 percent. If the %R value does not meet this criterion for a target compound, the test data are not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report and all field measurements must be corrected with the calculated %R value for that compound by using the following equation: Reported Result = (Measured Concentration in the Stack × 100)/%R.

The standards ASTM D6735–01, ASTM D6784–02, and ASTM D6348–03 are available from the American Society of Testing and Materials (ASTM) at *http://www.astm.org*; by mail at 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or by telephone at (610) 832–9585.

While the EPA identified ASTM D7520–13, ''Standard Test Method for Determining the Opacity in a Plume in an Outdoor Ambient Atmosphere'' as being potentially applicable as an alternative to Method 9 for measuring opacity from BSCP tunnel kilns, the agency decided not to use it. The use of this voluntary consensus standard would be impractical. The five provisions for the use of this standard appear to be based on the assumption that the optical camera will be used on a daily basis. However, this rulemaking does not include daily Method 9 tests. The rule requirements are such that a Method 9 observation would need to be made unexpectedly and only when the Method 22 test failed. It would be unreasonable to expect that a source would be making daily calibrations of the camera when its use would be so infrequent. Given that, it is unlikely that the camera could be made ready in the time specified for the Method 9 readings. Therefore, this standard is not usable based on the current requirements in this rulemaking.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment. As explained in the December 2014 proposal (79 FR 75672), the EPA determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. Additionally, the agency has conducted a proximity analysis for this rulemaking, which is located in the docket. (See ''EJ Screening Report for Brick and Structural Clay,'' Docket Item No. EPA–HQ–OAR–2013–0291–0102, and ''EJ Screening Report for Clay Ceramics,'' Docket Item No. EPA–HQ–OAR–2013–0290–0241.)

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each house of the Congress and to the Comptroller General of the United States. This action is a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 24, 2015.

Gina McCarthy,

Administrator.

For the reasons discussed in the preamble, the Environmental Protection Agency amends 40 CFR part 63 as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Section 63.14 is amended by:
■ a. Revising paragraph (g)(1);
■ b. Revising paragraph (h)(75);
■ c. Redesignating paragraphs (h)(86) through (98) as paragraphs (h)(87) through (99), respectively;
■ d. Adding new paragraph (h)(86);
■ e. Revising newly redesignated paragraph (h)(88); and
■ f. Revising paragraph (m)(2).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(g) * * *

(1) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981, IBR approved for §§ 63.309(k), 63.457(k), 63.772(e) and (h), 63.865(b), 63.1282(d) and (g), 63.1625(b), 63.3166(a), 63.3360(e), 63.3545(a), 63.3555(a), 63.4166(a), 63.4362(a), 63.4766(a), 63.4965(a), 63.5160(d), table 4 to subpart UUUU, 63.9307(c), 63.9323(a), 63.11148(e), 63.11155(e), 63.11162(f), 63.11163(g), 63.11410(j), 63.11551(a), 63.11646(a), and 63.11945, table 5 to subpart DDDDD, table 4 to subpart JJJJJ, table 4 to subpart KKKKK, tables 4 and 5 of subpart UUUUU, table 1 to subpart ZZZZZ, and table 4 to subpart JJJJJJ.

* * * * *

(h) * * *

(75) ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, (Approved October 1, 2010), IBR approved for tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, tables 1, 2, and 5 to subpart UUUUU, and appendix B to subpart UUUUU.

* * * * *

(86) ASTM D6735–01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method, IBR approved for tables 4 and 5 to subpart JJJJJ and tables 4 and 6 to subpart KKKKK.

* * * * *

(88) ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for §§ 63.11646(a), 63.11647(a) and (d), tables 1, 2, 5, 11, 12t, and 13 to subpart DDDDD, tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, table 4 to subpart JJJJJJ, table 5 to subpart UUUUU, and appendix A to subpart UUUUU.

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(m) * * *

(2) EPA–454/R–98–015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, IBR approved for §§ 63.548(e), 63.7525(j), 63.8450(e), 63.8600(e), and 63.11224(f).

* * * * *

■ 3. Part 63 is amended by revising subpart JJJJJ to read as follows:

Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing

Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing

What This Subpart Covers

§ 63.8380 What is the purpose of this subpart?

This subpart establishes national emission limitations for hazardous air pollutants (HAP) emitted from brick and structural clay products (BSCP) manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§ 63.8385 Am I subject to this subpart?

You are subject to this subpart if you own or operate a BSCP manufacturing facility that is, is located at, or is part of, a major source of HAP emissions according to the criteria in paragraphs (a) and (b) of this section.

(a) A BSCP manufacturing facility is a plant site that manufactures brick (including, but not limited to, face brick, structural brick, and brick pavers); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products. Brick and structural clay products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes. A plant site that manufactures refractory products, as defined in § 63.9824, or clay ceramics, as defined in § 63.8665, is not a BSCP manufacturing facility.

(b) A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

§ 63.8390 What parts of my plant does this subpart cover?

(a) This subpart applies to each existing, new, or reconstructed affected source at a BSCP manufacturing facility.

(b) For the purposes of this subpart, the affected sources are described in paragraphs (b)(1) and (2) of this section.

(1) All tunnel kilns at a BSCP manufacturing facility are an affected source. For the remainder of this subpart, a tunnel kiln with a design capacity equal to or greater than 9.07 megagrams per hour (Mg/hr) (10 tons per hour (tph)) of fired product will be called a large tunnel kiln, and a tunnel kiln with a design capacity less than 9.07 Mg/hr (10 tph) of fired product will be called a small tunnel kiln.

(2) Each periodic kiln is an affected source.

(c) Process units not subject to the requirements of this subpart are listed in paragraphs (c)(1) through (4) of this section.

(1) Kilns that are used exclusively for setting glazes on previously fired products are not subject to the requirements of this subpart.

(2) Raw material processing and handling.

(3) Dryers.

(4) Sources covered by subparts KKKKK and SSSSS of this part.

(d) A source is a new affected source if construction of the affected source began after December 18, 2014, and you met the applicability criteria at the time you began construction.

(e) An affected source is reconstructed if you meet the criteria as defined in § 63.2.

(f) An affected source is existing if it is not new or reconstructed.

§ 63.8395 When do I have to comply with this subpart?

(a) You must comply with this subpart no later than the compliance dates in Table 7 to this subpart.

(b) You must meet the notification requirements in § 63.8480 according to the schedule in § 63.8480 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limitations in this subpart.

Emission Limitations and Work Practice Standards

§ 63.8405 What emission limitations and work practice standards must I meet?

(a) You must meet each emission limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit in Table 2 to this subpart that applies to you.

(c) You must meet each work practice standard in Table 3 to this subpart that applies to you.

§ 63.8410 What are my options for meeting the emission limitations and work practice standards?

(a) To meet the emission limitations in Tables 1 and 2 to this subpart, you must use one or more of the options listed in paragraphs (a)(1) and (2) of this section.

(1) *Emissions control system.* Use an emissions capture and collection system and an air pollution control device (APCD) and demonstrate that the resulting emissions meet the emission limits in Table 1 to this subpart, and that the capture and collection system and APCD meet the applicable operating limits in Table 2 to this subpart.

(2) *Process changes.* Use low-HAP raw materials or implement manufacturing process changes and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart.

(b) To meet the work practice standards for affected periodic kilns, you must comply with the requirements listed in Table 3 to this subpart.

(c) To meet the work practice standards for dioxins/furans for affected tunnel kilns, you must comply with the requirements listed in Table 3 to this subpart.

(d) To meet the work practice standards for affected tunnel kilns during periods of startup and shutdown, you must comply with the requirements listed in Table 3 to this subpart.

General Compliance Requirements

§ 63.8420 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods that you are approved for and in compliance with the alternative standard for routine control device maintenance as specified in paragraph (d) of this section, and except during periods of start-up and shutdown, at which time you must comply with the applicable work practice standard specified in Table 3 to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. During the period between the compliance date specified for your affected source in § 63.8395 and the date upon which continuous monitoring systems (CMS) (*e.g.,* continuous parameter monitoring systems) have been installed and verified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in § 63.8425.

(d) If you own or operate an affected kiln that is subject to the emission limits specified in Table 1 to this subpart and must perform routine maintenance on the control device for that kiln, you may bypass the kiln control device and continue operating the kiln subject to the alternative standard established in this paragraph upon approval by the Administrator and provided you satisfy the conditions listed in paragraphs (d)(1) through (5) of this section.

(1) You must request to use the routine control device maintenance alternative standard from the Administrator no later than 120 calendar days before the compliance date specified in § 63.8395. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during kiln shutdowns, provide information stating whether the continued operation of the affected source will result in fewer emissions than shutting the source down while the maintenance is performed, describe how you plan to comply with paragraph (b) of this section during the maintenance, and provide any other documentation required by the Administrator.

(2) The routine control device maintenance must not exceed 4 percent of the annual operating uptime for each kiln.

(3) The request for the routine control device maintenance alternative standard, if approved by the Administrator, must be incorporated by reference in and attached to the affected source's title V permit.

(4) You must minimize HAP emissions during the period when the kiln is operating and the control device is offline by complying with the applicable standard in Table 3 to this subpart.

(5) You must minimize the time period during which the kiln is operating and the control device is offline.

(e) You must be in compliance with the work practice standards in this subpart at all times.

(f) You must be in compliance with the provisions of subpart A of this part, except as noted in Table 10 to this subpart.

§ 63.8425 What do I need to know about operation, maintenance, and monitoring plans?

(a) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must prepare, implement, and revise as necessary an OM&M plan that includes the information in paragraph (b) of this section. Your OM&M plan must be available for inspection by the delegated authority upon request.

(b) Your OM&M plan must include, as a minimum, the information in paragraphs (b)(1) through (13) of this section.

(1) Each process and APCD to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

(2) A monitoring schedule that specifies the frequency that the parameter values will be determined and recorded.

(3) The limits for each parameter that represent continuous compliance with the emission limitations in § 63.8405. The limits must be based on values of the monitored parameters recorded during performance tests.

(4) Procedures for the proper operation and routine and long-term maintenance of each APCD, including a maintenance and inspection schedule that is consistent with the manufacturer's recommendations.

(5) Procedures for installing the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last APCD).

(6) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system.

(7) Continuous monitoring system performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(8) Procedures for the proper operation and maintenance of monitoring equipment consistent with the requirements in §§ 63.8450 and 63.8(c)(1), (3), (7), and (8).

(9) Continuous monitoring system data quality assurance procedures consistent with the requirements in § 63.8(d)(1) and (2). The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in § 63.8(d)(2) is revised, the owner or operator shall keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

(10) Continuous monitoring system recordkeeping and reporting procedures consistent with the requirements in §§ 63.8485 and 63.8490.

(11) Procedures for responding to operating parameter deviations,

including the procedures in paragraphs (b)(11)(i) through (iii) of this section.

(i) Procedures for determining the cause of the operating parameter deviation.

(ii) Actions necessary for correcting the deviation and returning the operating parameters to the allowable limits.

(iii) Procedures for recording the times that the deviation began and ended and corrective actions were initiated and completed.

(12) Procedures for keeping records to document compliance.

(13) If you operate an affected kiln and you plan to take the kiln control device out of service for routine maintenance, as specified in § 63.8420(d), the procedures specified in paragraphs (b)(13)(i) and (ii) of this section.

(i) Procedures for minimizing HAP emissions from the kiln during periods of routine maintenance of the kiln control device when the kiln is operating and the control device is offline.

(ii) Procedures for minimizing the duration of any period of routine maintenance on the kiln control device when the kiln is operating and the control device is offline.

(c) Changes to the operating limits in your OM&M plan require a new performance test. If you are revising an operating limit parameter value, you must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Submit a notification of performance test to the Administrator as specified in § 63.7(b).

(2) After completing the performance tests to demonstrate that compliance with the emission limits can be achieved at the revised operating limit parameter value, you must submit the performance test results and the revised operating limits as part of the Notification of Compliance Status required under § 63.9(h).

(d) If you are revising the inspection and maintenance procedures in your OM&M plan, you do not need to conduct a new performance test.

Testing and Initial Compliance Requirements

§ 63.8435 By what date must I conduct performance tests?

For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must conduct performance tests within 180 calendar days after the compliance date that is specified for your source in § 63.8395 and according to the provisions in § 63.7(a)(2).

§ 63.8440 When must I conduct subsequent performance tests?

(a) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must conduct a performance test before renewing your 40 CFR part 70 operating permit or at least every 5 years following the initial performance test.

(b) You must conduct a performance test when you want to change the parameter value for any operating limit specified in your OM&M plan.

§ 63.8445 How do I conduct performance tests and establish operating limits?

(a) You must conduct each performance test in Table 4 to this subpart that applies to you.

(b) Before conducting the performance test, you must install and calibrate all monitoring equipment.

(c) Each performance test must be conducted according to the requirements in § 63.7 and under the specific conditions in Table 4 to this subpart.

(d) Performance tests shall be conducted under such conditions as the Administrator specifies to you based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(e) You must conduct at least three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(f) You must use the data gathered during the performance test and the equations in paragraphs (f)(1) and (2) of this section to determine compliance with the emission limitations.

(1) To determine compliance with the production-based particulate matter (PM) and mercury (Hg) emission limits in Table 1 to this subpart, you must calculate your mass emissions per unit of production for each test run using Equation 1:

$$MP = \frac{ER}{P} \qquad \text{(Eq. 1)}$$

Where:

MP = mass per unit of production, kilograms (pounds) of pollutant per megagram (ton) of fired product

ER = mass emission rate of pollutant (PM or Hg) during each performance test run, kilograms (pounds) per hour

P = production rate during each performance test run, megagrams (tons) of fired product per hour.

(2) To determine compliance with the health-based standard for acid gas HAP for BSCP manufacturing facilities in Table 1 to this subpart, you must:

(i) Calculate the HCl-equivalent emissions for HF, HCl, and Cl_2 for each tunnel kiln at your facility using Equation 2:

$$E_i = E_{HCl} + \left[E_{HF}\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] + \left[E_{Cl_2}\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right] \qquad \text{(Eq. 2)}$$

Where:

E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

E_{HCl} = emissions of HCl, kilograms (pounds) per hour

E_{HF} = emissions of HF, kilograms (pounds) per hour

E_{Cl2} = emissions of Cl_2, kilograms (pounds) per hour

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(ii) If you have multiple tunnel kilns at your facility, sum the HCl-equivalent values for all tunnel kilns at the facility using Equation 3:

$$E_{total} = \sum_{i=1}^{n} E_i \qquad \text{(Eq. 3)}$$

Where:
E_{total} = HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of tunnel kilns at facility

(iii) Compare this value to the health-based standard in Table 1 to this subpart.

(g) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you as specified in paragraph (g)(1) of this section and in Table 4 to this subpart.

(1)(i) If you do not have an APCD installed on your kiln, calculate the maximum potential HCl-equivalent emissions for HF, HCl, and Cl_2 for each tunnel kiln at your facility using Equation 4:

$$E_{\max i} = \left(Cap_i\right)\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right) + \left(MP_{iCl_2}\right)\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right] \qquad \text{(Eq. 4)}$$

Where:
$E_{max\ i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
Cap_i = design capacity for kiln i, megagrams (tons) of fired product per hour
MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of fired product
MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of fired product
MP_{iCl2} = mass of Cl_2 per unit of production for kiln i, kilograms (pounds) of Cl_2 per megagram (ton) of fired product
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(ii) If you have multiple tunnel kilns at your facility, sum the maximum potential HCl-equivalent values for all tunnel kilns at the facility using Equation 5:

$$E_{\max total} = \sum_{i=1}^{n} E_{\max i} \qquad \text{(Eq. 5)}$$

Where:
$E_{max\ total}$ = maximum potential HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
$E_{max\ i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of tunnel kilns at facility

(iii) If you have a single tunnel kiln at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, determine the maximum process rate for the tunnel kiln using Equation 6 that would ensure the total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit. The maximum process rate would become your operating limit for process rate and must be included in your OM&M plan.

$$P_{\max i} = \frac{HCl\text{-}eq}{\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right) + \left(MP_{iCl_2}\right)\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right]} \qquad \text{(Eq. 6)}$$

Where:
$P_{max\ i}$ = maximum process rate for kiln i, megagrams (tons) per hour
HCl-eq = HCl-equivalent limit in Table 1 to this subpart, 26 kilograms (57 pounds) per hour
MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of fired product
MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of fired product
MP_{iCl2} = mass of Cl_2 per unit of production for kiln i, kilograms (pounds) of Cl_2 per megagram (ton) of fired product
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(iv) If you have multiple tunnel kilns at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, determine the combination of maximum process rates that would ensure that total facility maximum potential HCl-equivalent remains at or below the HCl-equivalent limit. The maximum process rates would become your operating limits for process rate and must be included in your OM&M plan.

(2) [Reserved]

(h) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an APCD that is not addressed in Table 2 to this subpart or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must meet the requirements in § 63.8(f) and paragraphs (h)(1) and (2) of this section.

(1) Submit a request for approval of alternative monitoring procedures to the Administrator no later than the notification of intent to conduct a performance test. The request must contain the information specified in paragraphs (h)(1)(i) through (iv) of this section.

(i) A description of the alternative APCD or process changes.

(ii) The type of monitoring device or procedure that will be used.

(iii) The operating parameters that will be monitored.

(iv) The frequency that the operating parameter values will be determined and recorded to establish continuous compliance with the operating limits.

(2) Establish site-specific operating limits during the performance test based on the information included in the approved alternative monitoring procedures request and, as applicable, as specified in Table 4 to this subpart.

§ 63.8450 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each CMS according to your OM&M plan and the requirements in paragraphs (a)(1) through (5) of this section.

(1) Conduct a performance evaluation of each CMS according to your OM&M plan.

(2) The CMS must complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally spaced data values (or at least 75 percent if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8420(d)).

(3) Determine and record the 3-hour block averages of all recorded readings, calculated after every 3 hours of operation as the average of the previous 3 operating hours. To calculate the average for each 3-hour average period, you must have at least 75 percent of the recorded readings for that period (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8420(d)).

(4) Record the results of each inspection, calibration, and validation check.

(5) At all times, maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each liquid flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (b)(1) through (3) of this section.

(1) Locate the flow sensor in a position that provides a representative flowrate.

(2) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the liquid flowrate.

(3) At least semiannually, conduct a flow sensor calibration check.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(4) Check the pressure tap daily to ensure that it is not plugged.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Any time the sensor exceeds the manufacturer's specified maximum operating pressure range, conduct calibration checks or install a new pressure sensor.

(7) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(d) For each pH measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (d)(1) through (4) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration at one point daily.

(4) At least monthly, inspect all components for integrity and all electrical connections for continuity.

(e) For each bag leak detection system, you must meet the requirements in paragraphs (e)(1) through (11) of this section.

(1) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Other types of bag leak detection systems must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(2) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(3) The bag leak detection system sensor must provide an output of relative PM loadings.

(4) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(5) The bag leak detection system must be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(6) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(7) For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14).

(10) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in your OM&M plan. In no case may the sensitivity be increased by more than 100 percent or

decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition, as defined in section 5.2 of the ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Record each adjustment.

(11) Record the results of each inspection, calibration, and validation check.

(f) For each lime, chemical, or carbon feed rate measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (f)(1) and (2) of this section.

(1) Locate the measurement device in a position that provides a representative feed rate measurement.

(2) At least semiannually, conduct a calibration check.

(g) For each limestone feed system on a dry limestone adsorber (DLA), you must meet the requirements in paragraphs (a)(1), (4), and (5) of this section and must ensure on a monthly basis that the feed system replaces limestone at least as frequently as the schedule set during the performance test.

(h) For each temperature measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (h)(1) through (3) of this section.

(1) Locate the measurement device in a position that provides a representative temperature.

(2) Use a measurement device with a minimum sensitivity of 1 percent of the temperature being measured.

(3) At least semiannually, conduct a calibration check.

(i) Requests for approval of alternate monitoring procedures must meet the requirements in §§ 63.8445(h) and 63.8(f).

§ 63.8455 How do I demonstrate initial compliance with the emission limitations and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to Table 5 to this subpart.

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.8445 and Table 4 to this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.8480(c).

Continuous Compliance Requirements

§ 63.8465 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for periods of monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating. This includes periods of startup, shutdown, malfunction, and routine control device maintenance as specified in § 63.8420(d) when the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities for purposes of calculating data averages. You must use all the valid data collected during all other periods in assessing compliance. Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation from the monitoring requirements.

§ 63.8470 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1, 2, and 3 to this subpart that applies to you according to the methods specified in Table 6 to this subpart.

(b) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an APCD that is not addressed in Table 2 to this subpart, or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must demonstrate continuous compliance with each emission limit in Table 1 to this subpart, and each operating limit established as required in § 63.8445(h)(2) according to the methods specified in your approved alternative monitoring procedures request, as described in §§ 63.8445(h)(1) and 63.8(f).

(c) You must report each instance in which you did not meet each emission limit and each operating limit in this subpart that applies to you. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.8485(c)(9).

(d) [Reserved]

(e)(1) *VE testing.* You must demonstrate continuous compliance with the operating limits in Table 2 to this subpart for visible emissions (VE) from tunnel kilns that are uncontrolled or equipped with DLA, dry lime injection fabric filter (DIFF), dry lime scrubber/fabric filter (DLS/FF), or other dry control device by monitoring VE at each kiln stack according to the requirements in paragraphs (e)(1)(i) through (v) of this section.

(i) Perform daily VE observations of each kiln stack according to the procedures of Method 22 of 40 CFR part 60, appendix A–7. You must conduct the Method 22 test while the affected source is operating under normal conditions. The duration of each Method 22 test must be at least 15 minutes.

(ii) If VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must promptly conduct an opacity test, according to the procedures of Method 9 of 40 CFR part 60, appendix A–4. If opacity greater than 10 percent is observed, you must initiate and complete corrective actions according to your OM&M plan.

(iii) You may decrease the frequency of Method 22 testing from daily to weekly for a kiln stack if one of the conditions in paragraph (e)(1)(iii)(A) or (B) of this section is met.

(A) No VE are observed in 30 consecutive daily Method 22 tests for any kiln stack; or

(B) No opacity greater than 10 percent is observed during any of the Method 9 tests for any kiln stack.

(iv) If VE are observed during any weekly test and opacity greater than 10 percent is observed in the subsequent Method 9 test, you must promptly initiate and complete corrective actions according to your OM&M plan, resume testing of that kiln stack following Method 22 of 40 CFR part 60, appendix A–7, on a daily basis, as described in paragraph (e)(1)(i) of this section, and maintain that schedule until one of the conditions in paragraph (e)(1)(iii)(A) or (B) of this section is met, at which time you may again decrease the frequency of Method 22 testing to a weekly basis.

(v) If greater than 10 percent opacity is observed during any test conducted using Method 9 of 40 CFR part 60, appendix A–4, you must report these deviations by following the requirements in § 63.8485.

(2) *Alternative to VE testing.* In lieu of meeting the requirements under paragraph (e)(1) of this section, you may conduct a PM test at least once every year following the initial performance test, according to the procedures of

Method 5 of 40 CFR part 60, appendix A–3, and the provisions of § 63.8445(e) and (f)(1).

Notifications, Reports, and Records

§ 63.8480 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e), (g)(1), and (h) that apply to you, by the dates specified.

(b) You must submit all of the notifications specified in Table 8 to this subpart that apply to you, by the dates specified.

(c) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, your Notification of Compliance Status as specified in Table 8 to this subpart must include the information in paragraphs (c)(1) through (3) of this section.

(1) The requirements in § 63.9(h)(2)(i).

(2) The operating limit parameter values established for each affected source with supporting documentation and a description of the procedure used to establish the values.

(3) For each APCD that includes a fabric filter, if a bag leak detection system is used, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.8450(e).

§ 63.8485 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and as specified in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.8395 and ending on either June 30 or December 31. The first reporting period must be at least 6 months, but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) A description of control device maintenance performed while the control device was offline and the kiln controlled by the control device was operating, including the information specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the kiln that was operating and the number of hours that the kiln operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance request developed as specified in § 63.8420(d). If the control device maintenance was included in your approved routine control device maintenance request, then you must report the information in paragraphs (c)(4)(iii)(A) through (C) of this section.

(A) The total amount of time that the kiln controlled by the control device operated during the current semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each kiln controlled by the control device operated while the control device was offline for maintenance covered under the routine control device maintenance alternative standard during the current semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under paragraphs (c)(4)(iii)(A) and (B) of this section, compute the annual percent of kiln operating uptime during which the control device was offline for routine maintenance using Equation 7.

$$RM = \frac{DT_p + DT_c}{KU_p + KU_c}(100) \qquad \text{(Eq. 7)}$$

Where:

RM = Annual percentage of kiln uptime during which control device was offline for routine control device maintenance

DT_p = Control device downtime claimed under the routine control device maintenance alternative standard for the previous semiannual compliance period

DT_c = Control device downtime claimed under the routine control device maintenance alternative standard for the current semiannual compliance period

KU_p = Kiln uptime for the previous semiannual compliance period

KU_c = Kiln uptime for the current semiannual compliance period

(5) A report of the most recent burner tune-up conducted to comply with the dioxin/furan work practice standard in Table 3 to this subpart.

(6) If there are no deviations from any emission limitations (emission limits or operating limits) that apply to you, the compliance report must contain a statement that there were no deviations from the emission limitations during the reporting period.

(7) If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, the compliance report must contain a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(8) The first compliance report must contain the startup push rate for each kiln, the minimum APCD inlet temperature for each APCD, and the temperature profile for each kiln without an APCD.

(9) For each deviation that occurs at an affected source, report such events in the compliance report by including the information in paragraphs (c)(9)(i) through (iii) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment for which the deviation occurred.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(d) For each deviation from an emission limitation (emission limit or operating limit) occurring at an affected source where you are using a CMS to comply with the emission limitations in this subpart, you must include the information in paragraphs (c)(1) through (4) and (c)(9), and paragraphs (d)(1) through (11) of this section. This includes periods of startup, shutdown, and routine control device maintenance.

(1) The total operating time of each affected source during the reporting period.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the pertinent information in your OM&M plan.

(4) Whether each deviation occurred during routine control device maintenance covered in your approved routine control device maintenance alternative standard or during another period, and the cause of each deviation (including unknown cause, if applicable).

(5) A description of any corrective action taken to return the affected unit to its normal or usual manner of operation.

(6) A breakdown of the total duration of the deviations during the reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or control equipment since the last reporting period.

(e) If you have obtained a title V operating permit according to 40 CFR part 70 or 40 CFR part 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report according to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), then submitting the compliance report will satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submitting a compliance report will not otherwise affect any obligation you may have to report deviations from permit requirements to the permitting authority.

(f) Within 60 calendar days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance test following the procedure specified in either paragraph (f)(1) or (f)(2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

§ 63.8490 What records must I keep?

(a) You must keep the records listed in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Records of performance tests as required in § 63.10(b)(2)(viii).

(3) Records relating to control device maintenance and documentation of your approved routine control device maintenance request, if you request to use the alternative standard under § 63.8420(d).

(b) You must keep the records required in Table 6 to this subpart to show continuous compliance with each emission limitation and work practice standard that applies to you.

(c) You must also maintain the records listed in paragraphs (c)(1) through (11) of this section.

(1) For each bag leak detection system, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(2) For each deviation, record the information in paragraphs (c)(2)(i) through (iv) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Actions taken to minimize emissions in accordance with § 63.8420(b) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) For each affected source, records of production rates on a fired-product basis.

(4) Records for any approved alternative monitoring or test procedures.

(5) Records of maintenance and inspections performed on the APCD.

(6) Current copies of your OM&M plan, including any revisions, with records documenting conformance.

(7) Logs of the information required in paragraphs (c)(7)(i) through (iii) of this section to document proper operation of your periodic kiln.

(i) Records of the firing time and temperature cycle for each product produced in each periodic kiln. If all periodic kilns use the same time and temperature cycles, one copy may be maintained for each kiln. Reference numbers must be assigned to use in log sheets.

(ii) For each periodic kiln, a log that details the type of product fired in each batch, the corresponding time and temperature protocol reference number, and an indication of whether the appropriate time and temperature cycle was fired.

(iii) For each periodic kiln, a log of the actual tonnage of product fired in the periodic kiln and an indication of whether the tonnage was below the maximum tonnage for that specific kiln.

(8) Logs of the maintenance procedures used to demonstrate compliance with the maintenance requirements of the periodic kiln work practice standards specified in Table 3 to this subpart.

(9) Records of burner tune-ups used to comply with the dioxin/furan work practice standard for tunnel kilns.

(10) For periods of startup and shutdown, records of the following information:

(i) The date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) For periods of startup, the kiln push rate and kiln exhaust temperature prior to the time the kiln exhaust reaches the minimum APCD inlet temperature (for a kiln with an APCD) or the kiln temperature profile is attained (for a kiln with no APCD).

(iii) For periods of shutdown, the kiln push rate and kiln exhaust temperature after the time the kiln exhaust falls below the minimum APCD inlet temperature (for a kiln with an APCD) or the kiln temperature profile is no longer maintained (for a kiln with no APCD).

(11) All site-specific parameters, temperature profiles, and procedures required to be established or developed according to the applicable work practice standards in Table 3 to this subpart.

§ 63.8495 In what form and for how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.8505 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.8510 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or a delegated authority such as your state, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are as specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.8385 and 63.8390, the compliance date requirements in § 63.8395, and the non-opacity emission limitations in § 63.8405.

(2) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major changes to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

(6) Approval of a routine control device maintenance request under § 63.8420(d).

§ 63.8515 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Bag leak detection system means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light-scattering, light-transmittance, or other effects to monitor relative PM loadings.

Brick and structural clay products (BSCP) manufacturing facility means a plant site that manufactures brick (including, but not limited to, face brick, structural brick, and brick pavers); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products. Brick and structural clay products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes. A plant site that manufactures refractory products, as defined in 40 CFR 63.9824, or clay ceramics, as defined in 40 CFR 63.8665, is not a BSCP manufacturing facility.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard; or

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart for any affected source required to obtain such a permit.

Dry lime injection fabric filter (DIFF) means an APCD that includes continuous injection of hydrated lime or other sorbent into a duct or reaction chamber followed by a fabric filter.

Dry lime scrubber/fabric filter (DLS/FF) means an APCD that includes continuous injection of humidified hydrated lime or other sorbent into a reaction chamber followed by a fabric filter. These systems typically include recirculation of some of the sorbent.

Dry limestone adsorber (DLA) means an APCD that includes a limestone storage bin, a reaction chamber that is essentially a packed tower filled with limestone, and may or may not include a peeling drum that mechanically scrapes reacted limestone to regenerate the stone for reuse.

Emission limitation means any emission limit or operating limit.

Fabric filter means an APCD used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Initial startup means:

(1) For a new or reconstructed tunnel kiln controlled with a DLA, the time at which the temperature in the kiln first reaches 260 °C (500 °F) and the kiln contains product; or

(2) for a new or reconstructed tunnel kiln controlled with a DIFF, DLS/FF, or wet scrubber (WS), the time at which the kiln first reaches a level of production that is equal to 75 percent of the kiln design capacity or 12 months after the affected source begins firing BSCP, whichever is earlier.

Fired product means brick or structural clay products that have gone through the firing process via kilns.

Kiln exhaust process stream means the portion of the exhaust from a tunnel kiln that exhausts directly to the atmosphere (or to an APCD), rather than to a sawdust dryer.

Large tunnel kiln means a tunnel kiln (existing, new, or reconstructed) with a design capacity equal to or greater than 9.07 Mg/hr (10 tph) of fired product.

Minimum APCD inlet temperature means the minimum temperature that kiln exhaust can be vented to the APCD that ensures the long-term integrity of the APCD.

Particulate matter (PM) means, for purposes of this subpart, emissions of PM that serve as a measure of total particulate emissions, as measured by Method 5 (40 CFR part 60, appendix A–3) or Method 29 (40 CFR part 60, appendix A–8), and as a surrogate for non-mercury metal HAP contained in the particulates including, but not limited to, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium.

Periodic kiln means a batch firing kiln.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Responsible official means responsible official as defined in 40 CFR 70.2.

Small tunnel kiln means a tunnel kiln (existing, new, or reconstructed) with a design capacity less than 9.07 Mg/hr (10 tph) of fired product.

Startup means the setting in operation of an affected source and starting the production process.

Startup push rate means the kiln push rate required to bring the kiln to the proper operating temperature during startup.

Tunnel kiln means any continuous kiln that is used to fire BSCP. Some tunnel kilns have two process streams, including a process stream that exhausts directly to the atmosphere or to an APCD, and a process stream in which the kiln exhaust is ducted to a sawdust dryer where it is used to dry sawdust before being emitted to the atmosphere.

Tunnel kiln design capacity means the maximum amount of brick, in Mg (tons), that a kiln is designed to produce in one year divided by the number of hours in a year (8,760 hours), taking into account the void space in the brick, the push rate for the kiln, and the stacking pattern, if applicable. If a kiln is modified to increase the capacity, the design capacity is considered to be the capacity following modifications.

Wet scrubber (WS) means an APCD that uses water, which may include caustic additives or other chemicals, as the sorbent. Wet scrubbers may use any of various design mechanisms to increase the contact between exhaust gases and the sorbent.

Work practice standard means any design, equipment, work practice, operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart JJJJJ of Part 63

As stated in § 63.8405, you must meet each emission limit in the following table that applies to you:

TABLE 1 TO SUBPART JJJJJ OF PART 63—EMISSION LIMITS

For each . . .	You must meet the following emission limits . . .	Or you must comply with the following . . .
1. Collection of all tunnel kilns at facility, including all process streams.	HF, HCl, and Cl_2 emissions must not exceed 26 kg/hr (57 lb/hr) HCl equivalent, under the health-based standard, as determined using Equations 2 and 3.	Not applicable.
2. Existing large tunnel kiln (design capacity ≥10 tons per hour (tph) of fired product), including all process streams.	a. PM emissions must not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product.	i. PM emissions must not exceed 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).
	b. Hg emissions must not exceed 2.1 E–05 kilogram per megagram (kg/Mg) (4.1 E–05 pound per ton (lb/ton)) of fired product.	i. Hg emissions must not exceed 7.7 micrograms per dry standard cubic meter (µg/dscm) at 17% O_2; or ii. Hg emissions must not exceed 2.5 E–04 kg/hr (5.5 E–04 lb/hr).
3. Existing small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. PM emissions must not exceed 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).
	b. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product.	i. Hg emissions must not exceed 91 µg/dscm at 17% O_2; or ii. Hg emissions must not exceed 8.5 E–04 kg/hr (0.0019 lb/hr).

TABLE 1 TO SUBPART JJJJJ OF PART 63—EMISSION LIMITS—Continued

For each . . .	You must meet the following emission limits . . .	Or you must comply with the following . . .
4. New or reconstructed large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product..	i. PM emissions must not exceed 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr) of fired product.
	b. Hg emissions must not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product.	i. Hg emissions must not exceed 6.2 μg/dscm at 17% O_2. ii. Hg emissions must not exceed 1.6 E–04 kg/hr (3.4 E–04 lb/hr).
5. New or reconstructed small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product.	i. PM emissions must not exceed 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr) of fired product.
	b. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product.	i. Hg emissions must not exceed 91 μg/dscm at 17% O_2. ii. Hg emissions must not exceed 8.5 E–04 kg/hr (0.0019 lb/hr).

As stated in § 63.8405, you must meet each operating limit in the following table that applies to you:

TABLE 2 TO SUBPART JJJJJ OF PART 63—OPERATING LIMITS

For each . . .	You must . . .
1. Tunnel kiln equipped with a DLA	a. Maintain the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test; or, if you are monitoring the bypass stack damper position, initiate corrective action within 1 hour after the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA and complete corrective action in accordance with your OM&M plan; and b. Maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA), and DLA at all times; maintain the limestone feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and c. Use the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; maintain records of the source and grade of limestone; and d. Maintain no VE from the DLA stack.
2. Tunnel kiln equipped with a DIFF or DLS/FF.	a. If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the DIFF or DLS/FF stack; and b. Maintain free-flowing lime in the feed hopper or silo and to the APCD at all times for continuous injection systems; maintain the feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test for continuous injection systems in which compliance was demonstrated.
3. Tunnel kiln equipped with a WS	a. Maintain the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests in which compliance was demonstrated.
4. Tunnel kiln equipped with an ACI system.	Maintain the average carbon flow rate for each 3-hour block period at or above the average carbon flow rate established during the Hg performance test in which compliance was demonstrated.
5. Tunnel kiln with no add-on control.	a. Maintain no VE from the stack. b. Maintain the kiln process rate at or below the kiln process rate determined according to § 63.8445(g)(1).

As stated in § 63.8405, you must meet each work practice standard in the following table that applies to you:

TABLE 3 TO SUBPART JJJJJ OF PART 63—WORK PRACTICE STANDARDS

For each . . .	You must . . .	According to the following requirements . . .
1. Existing, new or reconstructed periodic kiln	a. Minimize HAP emissions	i. Develop and use a designed firing time and temperature cycle for each periodic kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and ii. Label each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; and iii. For each firing load, document the total tonnage of product placed in the kiln to ensure that it is not greater than the maximum load identified in item 1b; and iv. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and v. Develop and maintain records for each periodic kiln, as specified in § 63.8490.
2. Existing, new or reconstructed tunnel kiln	a. Minimize dioxin/furan emissions	i. Maintain and inspect the burners and associated combustion controls (as applicable); and ii. Tune the specific burner type to optimize combustion.
3. Existing, new or reconstructed tunnel kiln during periods of startup.	a. Minimize HAP emissions	i. Establish the startup push rate for each kiln, the minimum APCD inlet temperature for each APCD, and temperature profile for each kiln without an APCD and include them in your first compliance report, as specified in § 63.8485(c)(8); and ii. After initial charging of the kiln with loaded kiln cars, remain at or below the startup push rate for the kiln until the kiln exhaust reaches the minimum APCD inlet temperature for a kiln with an APCD or until the kiln temperature profile is attained for a kiln with no APCD; and iii. If your kiln has an APCD, begin venting the exhaust from the kiln through the APCD by the time the kiln exhaust temperature reaches the minimum APCD inlet temperature.
4. Existing, new or reconstructed tunnel kiln during periods of shutdown.	a. Minimize HAP emissions	i. Do not push loaded kiln cars into the kiln once the kiln exhaust temperature falls below the minimum APCD inlet temperature if the kiln is controlled by an APCD or when the kiln temperature profile is no longer maintained for an uncontrolled kiln; and ii. If your kiln has an APCD, continue to vent the exhaust from the kiln through the APCD until the kiln exhaust temperature falls below the minimum inlet temperature for the APCD.
5. Existing, new or reconstructed tunnel kiln during periods of routine control device maintenance.	a. Minimize HAP emissions.	i. Develop and use a temperature profile for each kiln; and ii. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices and controls that regulate air-to-fuel ratios; and iii. Develop and maintain records for each kiln, as specified in § 63.8490(a)(3).

As stated in § 63.8445, you must conduct each performance test in the following table that applies to you:

TABLE 4 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Tunnel kiln	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure HF, HCl and Cl_2 emissions.	i. Method 26A of 40 CFR part 60, appendix A–8; or.	You may use Method 26 of 40 CFR part 60, appendix A–8, as an alternative to using Method 26A of 40 CFR part 60, appendix A–8, when no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a WS) is present. ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14) may be used as an alternative to Methods 26 and 26A.
		ii. Method 320 of appendix A of this part.	When using Method 320 of appendix A of this part, you must follow the analyte spiking procedures of section 13 of Method 320 of appendix A of this part, unless you can demonstrate that the complete spiking procedure has been conducted at a similar source. ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14) may be used as an alternative to Method 320 if the test plan preparation and implementation in Annexes A1–A8 are mandatory and the %R in Annex A5 is determined for each target analyte.
	f. Measure PM emissions or non-Hg HAP metals.	i. For PM only: Method 5 of 40 CFR part 60, appendix A–3; or. ii. For PM or non-Hg HAP metals: Method 29 of 40 CFR part 60, appendix A–8.	
	g. Measure Hg emissions	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
2. Tunnel kiln with no add-on control.	Establish the operating limit(s) for kiln process rate if the total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart.	HCl-equivalent limit in Table 1 to this subpart and emissions and production data from the HF/HCl/Cl_2 performance test.	Using the procedures in § 63.8445(g)(1), you must determine the maximum process rate(s) for your kiln(s) that would ensure total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit in Table 1 to this subpart. The maximum process rate(s) would become your site-specific process rate operating limit(s).
3. Tunnel kiln that is complying with PM and/or Hg production-based emission limits.	Determine the production rate during each PM/Hg test run in order to determine compliance with PM and/or Hg production-based emission limits.	Production data collected during the PM/Hg performance tests (*e.g.,* no. of pushes per hour, no. of bricks per kiln car, weight of a typical fired brick).	You must measure and record the production rate, on a fired-product basis, of the affected source for each of the three test runs.
4. Tunnel kiln equipped with a DLA.	a. Establish the operating limit for the average pressure drop across the DLA.	Data from the pressure drop measurement device during the HF/HCl/Cl_2 performance test.	You must continuously measure the pressure drop across the DLA, determine and record the block average pressure drop values for the three test runs, and determine and record the 3-hour block average of the recorded pressure drop measurements for the three test runs. The average of the three test runs establishes your minimum site-specific pressure drop operating limit.

TABLE 4 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the operating limit for the limestone feeder setting.	Data from the limestone feeder during the HF/HCl/Cl_2 performance test.	You must ensure that you maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA), and DLA at all times during the performance test. You must establish your limestone feeder setting, on a per ton of fired product basis, one week prior to the performance test and maintain the feeder setting for the one-week period that precedes the performance test and during the performance test.
	c. Document the source and grade of limestone used.	Records of limestone purchase.	
5. Tunnel kiln equipped with a DIFF or DLS/FF.	Establish the operating limit for the lime feeder setting.	Data from the lime feeder during the HF/HCl/Cl_2 performance test.	For continuous lime injection systems, you must ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the performance test and record the feeder setting, on a per ton of fired product basis, for the three test runs. If the feed rate setting varies during the three test runs, determine and record the average feed rate from the three test runs. The average of the three test runs establishes your minimum site-specific feed rate operating limit.
6. Tunnel kiln equipped with a WS.	a. Establish the operating limit for the average scrubber liquid pH.	Data from the pH measurement device during the performance HF/HCl/Cl_2 performance test.	You must continuously measure the scrubber liquid pH, determine and record the block average pH values for the three test runs, and determine and record the 3-hour block average of the recorded pH measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid pH operating limit.
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating level. If different average wet scrubber liquid flow rate values are measured during the HF/HCl/Cl_2 and PM/non-Hg HAP metals tests, the highest of the average values become your site-specific operating limit.
7. Tunnel kiln equipped with an ACI system.	Establish the operating limit for the average carbon flow rate.	Data from the carbon flow rate measurement conducted during the Hg performance test.	You must measure the carbon flow rate during each test run, determine and record the block average carbon flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded carbon flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific activated carbon flow rate operating limit.

As stated in § 63.8455, you must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
1. Collection of all tunnel kilns at the facility, including all process streams.	a. HF, HCl, and Cl_2 emissions must not exceed 26 kg/hr (57 lb/hr) HCl equivalent.	i. You measure HF, HCl, and Cl_2 emissions for each kiln using Method 26 or 26A of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14); or Method 320 of appendix A of this part or its alternative, ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14); and

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You calculate the HCl-equivalent emissions for each kiln using Equation 2 to this subpart; and
		iii. You sum the HCl-equivalent values for all kilns at the facility using Equation 3 to this subpart; and
		iv. The facility total HCl-equivalent does not exceed 26 kg/hr (57 lb/hr).
2. Existing large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; and
		ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.0026 kg/hr (0.0057 lb/hr); and
		ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.0026 kg/hr (0.0057 lb/hr).
	c. Hg emissions must not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 μg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 μg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr); and
		ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 μg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr).
3. Existing small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; and
		ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2.

Table 5 to Subpart JJJJJ of Part 63—Initial Compliance With Emission Limitations and Work Practice Standards—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
	b. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.047 kg/hr (0.11 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.047 kg/hr (0.11 lb/hr).
	c. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).
4. New or reconstructed large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.0026 kg/hr (0.0057 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.0026 kg/hr (0.0057 lb/hr).
	c. Hg emissions must not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 μg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 μg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 μg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr).

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
5. New or reconstructed small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.047 kg/hr (0.11 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.047 kg/hr (0.11 lb/hr).
	c. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 μg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).
6. Existing, new or reconstructed periodic kiln ..	a. Minimize HAP emissions	i. Develop a designed firing time and temperature cycle for each periodic kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and ii. Label each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; and iii. Develop maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles.
7. Existing, new or reconstructed tunnel kiln	a. Minimize dioxin/furan emissions	i. Conduct initial inspection of the burners and associated combustion controls (as applicable); and ii. Tune the specific burner type to optimize combustion.

As stated in § 63.8470, you must demonstrate continuous compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 6 TO SUBPART JJJJJ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
1. Tunnel kiln equipped with a DLA	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 1 of Table 2 to this subpart for tunnel kilns equipped with a DLA.	i. Collecting the DLA pressure drop data according to § 63.8450(a); reducing the DLA pressure drop data to 3-hour block averages according to § 63.8450(a); maintaining the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; or continuously monitoring the bypass stack damper position at least once every 15 minutes during normal kiln operation, and initiating corrective action within 1 hour after the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA and completing corrective action in accordance with your OM&M plan; and ii. Verifying that the limestone hopper and storage bin (located at the top of the DLA) contain adequate limestone by performing a daily visual check, which could include one of the following: (1) Conducting a physical check of the hopper; (2) creating a visual access point, such as a window, on the side of the hopper; (3) installing a camera in the hopper that provides continuous feed to a video monitor in the control room; or (4) confirming that load level indicators in the hopper are not indicating the need for additional limestone; and iii. Recording the limestone feeder setting daily (on a per ton of fired product basis) to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and iv. Using the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test; maintaining records of the source and type of limestone; and v. Performing VE observations of the DLA stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; maintaining no VE from the DLA stack.
2. Tunnel kiln equipped with a DIFF or DLS/FF.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 2 of Table 2 to this subpart for tunnel kilns equipped with DIFF or DLS/FF.	i. If you use a bag leak detection system, as prescribed in 63.8450(e), initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; in calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the DIFF or DLS/FF stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the DIFF or DLS/FF stack; and ii. Verifying that lime is free-flowing via a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system, or other system; recording all monitor or sensor output, and if lime is found not to be free flowing, promptly initiating and completing corrective actions in accordance with your OM&M plan; recording the feeder setting once during each shift of operation to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated.
3. Tunnel kiln equipped with a WS	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 3 of Table 2 to this subpart for tunnel kilns equipped with WS.	i. Collecting the scrubber liquid pH data according to § 63.8450(a); reducing the scrubber liquid pH data to 3-hour block averages according to § 63.8450(a); maintaining the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and ii. Collecting the scrubber liquid flow rate data according to § 63.8450(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8450(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests in which compliance was demonstrated.

TABLE 6 TO SUBPART JJJJJ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
4. Tunnel kiln equipped with an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 4 of Table 2 to this subpart for tunnel kilns equipped with ACI system.	Collecting the carbon flow rate data according to § 63.8450(a); reducing the carbon flow rate data to 3-hour block averages according to § 63.8450(a); maintaining the average carbon flow rate for each 3-hour block period at or above the average carbon flow rate established during the Hg performance test in which compliance was demonstrated.
5. Tunnel kiln with no add-on control.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 5 of Table 2 to this subpart for tunnel kilns with no add-on control.	i. Performing VE observations of the stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the stack. ii. If your last calculated total facility maximum potential HCl-equivalent was not at or below the health-based standard in Table 1 to this subpart, collecting the kiln process rate data according to § 63.8450(a); reducing the kiln process rate data to 3-hour block averages according to § 63.8450(a); maintaining the average kiln process rate for each 3-hour block period at or below the kiln process rate determined according to § 63.8445(g)(1).
6. Periodic kiln	a. Minimize HAP emissions	i. Using a designed firing time and temperature cycle for each periodic kiln; and ii. For each firing load, documenting the total tonnage of product placed in the kiln to ensure that it is not greater than the maximum load identified in Item 1.a.ii of Table 3 to this subpart; and iii. Following maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and iv. Developing and maintaining records for each periodic kiln, as specified in § 63.8490.
7. Tunnel kiln	a. Minimize dioxin/furan emissions	i. Maintaining and inspecting the burners and associated combustion controls (as applicable) and tuning the specific burner type to optimize combustion no later than 36 calendar months after the previous tune-up; and ii. Maintaining records of burner tune-ups used to demonstrate compliance with the dioxin/furan work practice standard; and iii. Submitting a report of most recent tune-up conducted with compliance report.

As stated in § 63.8395, you must meet each compliance date in the following table that applies to you:

TABLE 7 TO SUBPART JJJJJ OF PART 63—COMPLIANCE DATES

If you have a(n) . . .	Then you must . . .	No later than . . .
1. New or reconstructed affected source and the initial startup of your affected source is after December 18, 2014, but before December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 28, 2015.
2. New or reconstructed affected source and the initial startup of your affected source is after December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	Initial startup of your affected source.
3. Existing affected source	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 26, 2018.
4. Existing area source that increases its emissions or its potential to emit such that it becomes a major source of HAP by adding a new affected source or by reconstructing.	Be in compliance with this subpart	Initial startup of your affected source as a major source.
5. New area source (*i.e.,* an area source for which construction or reconstruction commenced after December 18, 2014) that increases its emissions or its potential to emit such that it becomes a major source of HAP.	Be in compliance with this subpart	Initial startup of your affected source as a major source.

As stated in § 63.8480, you must submit each notification that applies to you according to the following table:

TABLE 8 TO SUBPART JJJJJ OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS

If you . . .	You must . . .	No later than . . .	As specified in . . .
1. Start up your affected source before December 28, 2015.	Submit an Initial Notification	June 22, 2016	§ 63.9(b)(2).
2. Start up your new or reconstructed affected source on or after December 28, 2015.	Submit an Initial Notification	120 calendar days after you become subject to this subpart.	§ 63.9(b)(2).
3. Are required to conduct a performance test.	Submit a notification of intent to conduct a performance test.	60 calendar days before the performance test is scheduled to begin.	§ 63.7(b)(1).
4. Are required to conduct a compliance demonstration that includes a performance test according to the requirements in Table 4 to this subpart.	Submit a Notification of Compliance Status, including the performance test results.	60 calendar days following the completion of the performance test, by the close of business.	§ 63.9(h) and § 63.10(d)(2).
5. Are required to conduct a compliance demonstration required in Table 5 to this subpart that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).	Submit a Notification of Compliance Status.	30 calendar days following the completion of the compliance demonstrations, by the close of business.	§ 63.9(h).
6. Request to use the routine control device maintenance alternative standard according to § 63.8420(d).	Submit your request	120 calendar days before the compliance date specified in § 63.8395.	

As stated in § 63.8485, you must submit each report that applies to you according to the following table:

TABLE 9 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR REPORTS

You must submit . . .	The report must contain . . .	You must submit the report . . .
1. A compliance report.	a. If there are no deviations from any emission limitations (emission limits, operating limits) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period. If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, a statement that there were no periods during which the CMS was out-of-control during the reporting period.	Semiannually according to the requirements in § 63.8485(b).
	b. If you have a deviation from any emission limitation (emission limit, operating limit) during the reporting period, the report must contain the information in § 63.8485(c)(9). If there were periods during which the CMS was out-of-control, as specified in your OM&M plan, the report must contain the information in § 63.8485(d).	Semiannually according to the requirements in § 63.8485(b).

As stated in § 63.8505, you must comply with the General Provisions in §§ 63.1 through 63.16 that apply to you according to the following table:

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities	Compliance date; circumvention; severability	Yes.
§ 63.5	Construction/Reconstruction.	Applicability; applications; approvals	Yes.
§ 63.6(a)	Applicability	General Provisions (GP) apply unless compliance extension; GP apply to area sources that become major.	Yes.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources.	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f).	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved]		No.
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were area sources.	Yes.
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources.	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 calendar days of effective date unless compliance extension.	Yes.
§ 63.6(c)(3)–(4)	[Reserved]		No.
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved]		No.
§ 63.6(e)(1)(i)	Operation & Maintenance	General Duty to minimize emissions	No. See § 63.8420(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Operation & Maintenance	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(1)(iii)	Operation & Maintenance	Operation and maintenance requirements enforceable independent of emissions limitations.	Yes.
§ 63.6(e)(2)	[Reserved]		No.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for startup, shutdown, and malfunction (SSM) and SSMP; content of SSMP.	No.
§ 63.6(f)(1)	Compliance Except During SSM.	You must comply with emission standards at all times except during SSM.	No.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance.	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)	Opacity/VE Standards	Requirements for opacity and VE standards	No, not applicable.
§ 63.6(i)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§ 63.6(j)	Presidential Compliance Exemption.	President may exempt source category	Yes.
§ 63.7(a)(1)–(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations for emission limits and work practice standards; must conduct 180 calendar days after first subject to rule.	Yes.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time.	Yes.
§ 63.7(a)(4)	Notification of Delay in Performance Testing Due To Force Majeure.	Must notify Administrator of delay in performance testing due to force majeure.	Yes.
§ 63.7(b)(1)	Notification of Performance Test.	Must notify Administrator 60 calendar days before the test.	Yes.
§ 63.7(b)(2)	Notification of Rescheduling.	Must notify Administrator 5 calendar days before scheduled date of rescheduled date.	Yes.
§ 63.7(c)	Quality Assurance(QA)/Test Plan.	Requirements; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	Cannot conduct performance tests during SSM; not a violation to exceed standard during SSM.	No, § 63.8445 specifies requirements.
§ 63.7(e)(2)–(3)	Conditions for Conducting Performance Tests.	Must conduct according to subpart and EPA test methods unless Administrator approves alternative; must have at least three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used.	Yes.
§ 63.7(e)(4)	Testing under Section 114	Administrator's authority to require testing under section 114 of the Act.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis.	Must include raw data in performance test report; must submit performance test data 60 calendar days after end of test with the notification of compliance status.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.8(a)(1)	Applicability of Monitoring Requirements.	Subject to all monitoring requirements in subpart	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved]		No.
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in § 63.11 apply	No, not applicable.
§ 63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	Specific requirements for installing and reporting on monitoring systems.	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintenance consistent with good air pollution control practices.	Yes.
§ 63.8(c)(1)(i)	Routine and Predictable SSM.	Reporting requirements for SSM when action is described in SSMP.	No.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements for SSM when action is not described in SSMP.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	How Administrator determines if source complying with operation and maintenance requirements.	No.
§ 63.8(c)(2)–(3)	Monitoring System Installation.	Must install to get representative emission and parameter measurements.	Yes.
§ 63.8(c)(4)	CMS Requirements	Requirements for CMS	No, § 63.8450 specifies requirements.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures.	COMS minimum procedures	No, not applicable.
§ 63.8(c)(6)	CMS Requirements	Zero and high level calibration check requirements	Yes.
§ 63.8(c)(7)–(8)	CMS Requirements	Out-of-control periods	Yes.
§ 63.8(d)(1) and (2)	CMS Quality Control	Requirements for CMS quality control	Yes.
§ 63.8(d)(3)	CMS Quality Control	Written procedures for CMS	No, § 63.8425(b)(9) specifies requirements
§ 63.8(e)	CMS Performance Evaluation.	Requirements for CMS performance evaluation	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method.	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	Procedures for Administrator to approve alternative relative accuracy test for continuous emissions monitoring systems (CEMS).	No, not applicable.
§ 63.8(g)	Data Reduction	COMS and CEMS data reduction requirements	No, not applicable.
§ 63.9(a)	Notification Requirements	Applicability; State delegation	Yes.
§ 63.9(b)	Initial Notifications	Requirements for initial notifications.	
§ 63.9(c)	Request for Compliance Extension.	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test.	Notify Administrator 60 calendar days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test.	Notify Administrator 30 calendar days prior	No, not applicable.
§ 63.9(g)(1)	Additional Notifications When Using CMS.	Notification of performance evaluation	Yes.
§ 63.9(g)(2)–(3)	Additional Notifications When Using CMS.	Notification of COMS data use; notification that relative accuracy alternative criterion were exceeded.	No, not applicable.
§ 63.9(h)	Notification of Compliance Status.	Contents; submittal requirements	Yes.
§ 63.9(i)	Adjustment of Submittal Deadlines.	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information.	Must submit within 15 calendar days after the change	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applicability; general information	Yes.
§ 63.10(b)(1)	General Recordkeeping Requirements.	General requirements	Yes.
§ 63.10(b)(2)(i)	Records Related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns.	No.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.10(b)(2)(ii)	Records Related to SSM	Recordkeeping of failures to meet a standard	No. See § 63.8490(c)(2) for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Records Related to SSM	Maintenance records.	
§ 63.10(b)(2)(iv)–(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)–(xii) and (xiv).	CMS Records	Records when CMS is malfunctioning, inoperative or out-of-control.	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1)–(15)	Records	Additional records for CMS	No, §§ 63.8425 and 63.8490 specify requirements
§ 63.10(d)(1) and (2)	General Reporting Requirements.	Requirements for reporting; performance test results reporting.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations.	Requirements for reporting opacity and VE	No, not applicable.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	SSM Reports	Contents and submission.	No. See § 63.8485(c)(9) for malfunction reporting requirements.
§ 63.10(e)(1)–(3)	Additional CMS Reports	Requirements for CMS reporting	No, §§ 63.8425 and 63.8485 specify requirements.
§ 63.10(e)(4)	Reporting COMS data	Requirements for reporting COMS data with performance test data.	No, not applicable.
§ 63.10(f)	Waiver for Recordkeeping/Reporting.	Procedures for Administrator to waive	Yes.
§ 63.11	Flares	Requirement for flares	No, not applicable.
§ 63.12	Delegation	State authority to enforce standards.	
§ 63.13	Addresses	Addresses for reports, notifications, requests	Yes.
§ 63.14	Incorporation by Reference	Materials incorporated by reference	Yes.
§ 63.15	Availability of Information	Information availability; confidential information	Yes.
§ 63.16	Performance Track Provisions.	Requirements for Performance Track member facilities	Yes.

■ 4. Part 63 is amended by revising subpart KKKKK to read as follows:

Subpart KKKKK—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing

Sec.

What This Subpart Covers

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63.8535 Am I subject to this subpart?
63.8540 What parts of my plant does this subpart cover?
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Emission Limitations and Work Practice Standards

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Testing and Initial Compliance Requirements

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63.8605 How do I demonstrate initial compliance with the emission limitations and work practice standards?

Continuous Compliance Requirements

63.8615 How do I monitor and collect data to demonstrate continuous compliance?
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63.8635 What reports must I submit and when?
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63.8655 What parts of the General Provisions apply to me?
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Tables to Subpart KKKKK of Part 63

Table 1 to Subpart KKKKK of Part 63—Emission Limits

Subpart KKKKK—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing

What This Subpart Covers

§ 63.8530 What is the purpose of this subpart?

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from clay ceramics manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§ 63.8535 Am I subject to this subpart?

You are subject to this subpart if you own or operate a clay ceramics manufacturing facility that is, is located at, or is part of a major source of HAP emissions according to the criteria in paragraphs (a) and (b) of this section.

(a) A clay ceramics manufacturing facility is a plant site that manufactures pressed floor tile, pressed wall tile, other pressed tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics manufacturing facilities typically process clay, shale, and various additives; form the processed materials into tile or sanitaryware shapes; and dry and fire the ceramic products. Glazes are applied to many tile and sanitaryware products. A plant site that manufactures refractory products, as defined in § 63.9824, or brick and structural clay products (BSCP), as defined in § 63.8515, is not a clay ceramics manufacturing facility.

(b) A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

§ 63.8540 What parts of my plant does this subpart cover?

(a) This subpart applies to each existing, new, or reconstructed affected source at a clay ceramics manufacturing facility.

(b) Each existing, new, or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, sanitaryware shuttle kiln, ceramic tile glaze line using glaze spraying, sanitaryware glaze spray booth, ceramic tile spray dryer, and floor tile press dryer is an affected source.

(c) Process units not subject to the requirements of this subpart are listed in paragraphs (c)(1) through (9) of this section.

(1) Tunnel, roller or shuttle kilns that are used exclusively for refiring.

(2) Tunnel, roller or shuttle kilns that are used exclusively for setting glazes on previously fired products.

(3) Glaze spray operations that are used exclusively with those kilns listed in paragraphs (c)(1) and (2) of this section.

(4) Process units listed in paragraphs (c)(1) through (3) of this section that are permitted to, but do not, process first-fire ware, until such time as they begin to process first-fire ware.

(5) Glaze spray operations that on average use wet glazes containing less than 0.1 (weight) percent metal HAP (dry weight basis) per spray booth over an entire calendar year.

(6) Raw material processing and handling.

(7) Wall tile press dryers.

(8) Sanitaryware ware dryers.

(9) Sources covered by subparts JJJJJ and SSSSS of this part.

(d) A source is a new affected source if construction of the affected source began after December 18, 2014, and you met the applicability criteria at the time you began construction.

(e) An affected source is reconstructed if you meet the criteria as defined in § 63.2.

(f) An affected source is existing if it is not new or reconstructed.

§ 63.8545 When do I have to comply with this subpart?

(a) You must comply with this subpart no later than the compliance dates in Table 8 to this subpart.

(b) You must meet the notification requirements in § 63.8630 according to the schedule in § 63.8630 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limitations in this subpart.

Emission Limitations and Work Practice Standards

§ 63.8555 What emission limitations and work practice standards must I meet?

(a) You must meet each emission limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit in Table 2 to this subpart that applies to you.

(c) You must meet each work practice standard in Table 3 to this subpart that applies to you.

§ 63.8560 What are my options for meeting the emission limitations and work practice standards?

(a) To meet the emission limitations in Tables 1 and 2 to this subpart, you must use one or more of the options listed in paragraphs (a)(1) and (2) of this section.

(1) *Emissions control system.* Use an emissions capture and collection system and an air pollution control device (APCD) and demonstrate that the resulting emissions meet the emission limits in Table 1 to this subpart, and that the capture and collection system and APCD meet the applicable operating limits in Table 2 to this subpart.

(2) *Process changes.* Use low-HAP raw materials or implement manufacturing process changes and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart.

(b) To meet the work practice standards for affected sanitaryware shuttle kilns, you must comply with the requirements listed in Table 3 to this subpart.

(c) To meet the work practice standards for affected sources during periods of startup and shutdown, you must comply with the requirements listed in Table 3 to this subpart.

General Compliance Requirements

§ 63.8570 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods that you are approved for and in compliance with the alternative standard for routine control device maintenance as specified in paragraph (d) of this section, and except during periods of start-up and shutdown, at which time you must comply with the applicable work practice standard specified in Table 3 to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. During the period between the compliance date specified for your affected source in § 63.8545 and the date upon which continuous monitoring systems (CMS) (*e.g.,* continuous parameter monitoring systems) have been installed and verified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in § 63.8575.

(d) If you own or operate an affected source that is subject to the emission limits specified in Table 1 to this subpart and must perform routine maintenance on the control device for that affected source, you may bypass the source control device and continue operating the affected source subject to the alternative standard established in this paragraph upon approval by the Administrator and provided you satisfy the conditions listed in paragraphs (d)(1) through (5) of this section.

(1) You must request to use the routine control device maintenance alternative standard from the Administrator no later than 120 calendar days before the compliance date specified in § 63.8545. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during source shutdowns, provide information stating whether the continued operation of the affected source will result in fewer emissions than shutting the source down while the maintenance is performed, describe how you plan to comply with paragraph (b) of this section during the maintenance, and provide any other documentation required by the Administrator.

(2) The routine control device maintenance must not exceed 4 percent of the annual operating uptime for each affected source.

(3) The request for the routine control device maintenance alternative standard, if approved by the Administrator, must be incorporated by reference in and attached to the affected source's title V permit.

(4) You must minimize HAP emissions during the period when the affected source is operating and the control device is offline by complying with the applicable standard in Table 3 to this subpart.

(5) You must minimize the time period during which the affected source is operating and the control device is offline.

(e) If you own or operate an affected kiln that is subject to the work practice standard specified in Table 3 to this subpart, you must be in compliance with that work practice standard at all times, except during periods of natural gas curtailment or other periods when natural gas is not available.

(f) You must be in compliance with the provisions of subpart A of this part, except as noted in Table 9 to this subpart.

§ 63.8575 What do I need to know about operation, maintenance, and monitoring plans?

(a) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must prepare, implement, and revise as necessary an OM&M plan that includes the information in paragraph (b) of this section. Your OM&M plan must be available for inspection by the delegated authority upon request.

(b) Your OM&M plan must include, as a minimum, the information in paragraphs (b)(1) through (13) of this section.

(1) Each process and APCD to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

(2) A monitoring schedule that specifies the frequency that the parameter values will be determined and recorded.

(3) The limits for each parameter that represent continuous compliance with the emission limitations in § 63.8555. The limits must be based on values of the monitored parameters recorded during performance tests.

(4) Procedures for the proper operation and routine and long-term maintenance of each APCD, including a maintenance and inspection schedule that is consistent with the manufacturer's recommendations.

(5) Procedures for installing the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last APCD).

(6) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system.

(7) Continuous monitoring system performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(8) Procedures for the proper operation and maintenance of monitoring equipment consistent with the requirements in §§ 63.8600 and 63.8(c)(1), (3), (7), and (8).

(9) Continuous monitoring system data quality assurance procedures consistent with the requirements in § 63.8(d)(1) and (2). The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in § 63.8(d)(2) is revised, the owner or operator shall keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

(10) Continuous monitoring system recordkeeping and reporting procedures consistent with the requirements in §§ 63.8635 and 63.8640.

(11) Procedures for responding to operating parameter deviations, including the procedures in paragraphs (b)(11)(i) through (iii) of this section.

(i) Procedures for determining the cause of the operating parameter deviation.

(ii) Actions necessary for correcting the deviation and returning the operating parameters to the allowable limits.

(iii) Procedures for recording the times that the deviation began and ended, and corrective actions were initiated and completed.

(12) Procedures for keeping records to document compliance.

(13) If you operate an affected source and you plan to take the source control device out of service for routine maintenance, as specified in § 63.8570(d), the procedures specified in paragraphs (b)(13)(i) and (ii) of this section.

(i) Procedures for minimizing HAP emissions from the affected source during periods of routine maintenance of the source control device when the affected source is operating and the control device is offline.

(ii) Procedures for minimizing the duration of any period of routine maintenance on the source control device when the affected source is operating and the control device is offline.

(c) Changes to the operating limits in your OM&M plan require a new performance test. If you are revising an operating limit parameter value, you must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Submit a notification of performance test to the Administrator as specified in § 63.7(b).

(2) After completing the performance test to demonstrate that compliance with the emission limits can be achieved at the revised operating limit parameter value, you must submit the performance test results and the revised operating limits as part of the Notification of Compliance Status required under § 63.9(h).

(d) If you are revising the inspection and maintenance procedures in your OM&M plan, you do not need to conduct a new performance test.

Testing and Initial Compliance Requirements

§ 63.8585 By what date must I conduct performance tests?

For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must conduct performance tests within 180 calendar days after the compliance date that is specified for your source in § 63.8545 and according to the provisions in § 63.7(a)(2).

§ 63.8590 When must I conduct subsequent performance tests?

(a) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must conduct a performance test before renewing your 40 CFR part 70 operating permit or at least every 5 years following the initial performance test.

(b) You must conduct a performance test when you want to change the parameter value for any operating limit specified in your OM&M plan.

§ 63.8595 How do I conduct performance tests and establish operating limits?

(a) You must conduct each performance test in Table 4 to this subpart that applies to you.

(b) Before conducting the performance test, you must install and calibrate all monitoring equipment.

(c) Each performance test must be conducted according to the requirements in § 63.7 and under the specific conditions in Table 4 to this subpart. Stacks to be tested at sanitaryware manufacturing facilities shall be limited to products of combustion (POC) stacks and those cooling stacks with an oxygen content at or below 20.5 percent.

(d) Performance tests shall be conducted under such conditions as the Administrator specifies to you based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(e) You must conduct at least three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(f) You must use the data gathered during the performance test and the equations in paragraphs (f)(1) through (4) of this section to determine compliance with the emission limitations.

(1) To determine compliance with the production-based particulate matter (PM) and mercury (Hg) emission limits for ceramic tile roller kilns and sanitaryware tunnel kilns in Table 1 to this subpart, you must calculate your mass emissions per unit of production for each test run using Equation 1:

$$MP = \frac{ER}{P} \qquad \text{(Eq. 1)}$$

Where:

MP = mass per unit of production, kilograms (pounds) of pollutant per megagram (ton) of throughput

ER = mass emission rate of pollutant (PM or Hg) during each performance test run, kilograms (pounds) per hour

P = production rate during each performance test run, megagrams (tons) of throughput per hour.

(2) To determine compliance with the PM emission limits for ceramic tile glaze lines with glaze spraying and sanitaryware glaze spray booths in Table 1 to this subpart, you must calculate your mass emissions per unit of first-fire glaze sprayed (dry weight basis) for each test run using Equation 2:

$$MG = \frac{ER}{G} \qquad \text{(Eq. 2)}$$

Where:

MG = mass per unit of glaze application, kilograms (pounds) of PM per megagram (ton) of first-fire glaze sprayed (dry weight basis)

ER = mass emission rate of PM during each performance test run, kilograms (pounds) per hour

G = glaze application rate during each performance test run, megagrams (tons) of first-fire glaze sprayed per hour (dry weight basis).

(3) To determine compliance with the dioxin/furan emission limits for tunnel and roller kilns, ceramic tile spray dryers, and floor tile press dryers in Table 1 to this subpart, you must calculate the sum of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8–TCDD) toxic equivalents (TEQs) for each test run using Equation 3:

$$TEQ = \frac{\sum_{i=1}^{n}\left(M_i \times TEF_i\right)}{T_r \times P} \qquad \text{(Eq. 3)}$$

Where:

TEQ = sum of the 2,3,7,8–TCDD TEQs, nanograms per kilogram of throughput processed.
M_i = mass of dioxin or furan congener i during performance test run, nanograms
TEF_i = 2,3,7,8–TCDD toxic equivalency factor (TEF) for congener i, as provided in Table 5 to this subpart
n = number of congeners included in TEQ
T_r = time of performance test run, hours
P = production rate during performance test run, kilograms of throughput processed per hour.

(4) To determine compliance with the health-based standard for acid gas HAP for clay ceramics manufacturing facilities in Table 1 to this subpart, you must:

(i) Calculate the HCl-equivalent emissions for HF and HCl for each tunnel or roller kiln at your facility using Equation 4:

$$E_i = E_{HCl} + \left[E_{HF}\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] \qquad \text{(Eq. 4)}$$

Where:

E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
E_{HCl} = emissions of HCl, kilograms (pounds) per hour
E_{HF} = emissions of HF, kilograms (pounds) per hour
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(ii) If you have multiple tunnel or roller kilns at your facility, sum the HCl-equivalent values for all tunnel or roller kilns at the facility using Equation 5:

$$E_{total} = \sum_{i=1}^{n} E_i \qquad \text{(Eq. 5)}$$

Where:

E_{total} = HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of tunnel kilns at facility

(iii) Compare this value to the health-based standard in Table 1 to this subpart.

(g) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you as specified in paragraph (g)(1) of this section and in Table 4 to this subpart.

(1)(i) If you do not have an APCD installed on your tunnel or roller kiln, you must calculate the maximum potential HCl-equivalent emissions for HF and HCl for each tunnel or roller kiln at your facility using Equation 6:

$$E_{\max i} = \left(Cap_i\right)\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] \qquad \text{(Eq. 6)}$$

Where:

$E_{\max i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
Cap_i = design capacity for kiln i, megagrams (tons) of throughput per hour
MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of throughput
MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of throughput
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(ii) If you have multiple tunnel or roller kilns at your facility, sum the maximum potential HCl-equivalent values for all tunnel or roller kilns at the facility using Equation 7:

$$E_{\max total} = \sum_{i=1}^{n} E_{\max i} \qquad \text{(Eq. 7)}$$

Where:

$E_{\max total}$ = maximum potential HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
$E_{\max i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of kilns at facility

(iii) If you have a single tunnel or roller kiln at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max total}$) are greater than the HCl-equivalent limit in

Table 1 to this subpart, you must determine the maximum process rate for the kiln using Equation 8 that would ensure the total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit. The maximum process rate would become your operating limit for process rate and must be included in your OM&M plan.

$$P_{\max i} = \frac{HCl\text{-}eq}{\left[\left(MP_{iHCl} \right) + \left(MP_{iHF} \right) \left(\frac{RfC_{HCl}}{RfC_{HF}} \right) \right]} \qquad \text{(Eq. 8)}$$

Where:

$P_{\max i}$ = maximum process rate for kiln i, megagrams (tons) per hour

HCl-eq = HCl-equivalent limit in Table 1 to this subpart, 62 kilograms (140 pounds) per hour

MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of throughput

MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of throughput

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(iv) If you have multiple tunnel or roller kilns at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, you must determine the combination of maximum process rates that would ensure that total facility maximum potential HCl-equivalent remains at or below the HCl-equivalent limit. The maximum process rates would become your operating limits for process rate and must be included in your OM&M plan.

(2) [Reserved]

(h) For each affected source that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an APCD that is not addressed in Table 2 to this subpart or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must meet the requirements in § 63.8(f) and paragraphs (h)(1) and (2) of this section.

(1) Submit a request for approval of alternative monitoring procedures to the Administrator no later than the notification of intent to conduct a performance test. The request must contain the information specified in paragraphs (h)(1)(i) through (iv) of this section.

(i) A description of the alternative APCD or process changes.

(ii) The type of monitoring device or procedure that will be used.

(iii) The operating parameters that will be monitored.

(iv) The frequency that the operating parameter values will be determined and recorded to establish continuous compliance with the operating limits.

(2) Establish site-specific operating limits during the performance test based on the information included in the approved alternative monitoring procedures request and, as applicable, as specified in Table 4 to this subpart.

§ 63.8600 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each CMS according to your OM&M plan and the requirements in paragraphs (a)(1) through (5) of this section.

(1) Conduct a performance evaluation of each CMS according to your OM&M plan.

(2) The CMS must complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally spaced data values (or at least 75 percent if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8570(d)).

(3) Determine and record the 3-hour block averages of all recorded readings, calculated after every 3 hours of operation as the average of the previous 3 operating hours. To calculate the average for each 3-hour average period, you must have at least 75 percent of the recorded readings for that period (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8570(d)).

(4) Record the results of each inspection, calibration, and validation check.

(5) At all times, maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each liquid flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (b)(1) through (3) of this section.

(1) Locate the flow sensor in a position that provides a representative flowrate.

(2) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the liquid flowrate.

(3) At least semiannually, conduct a flow sensor calibration check.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(4) Check the pressure tap daily to ensure that it is not plugged.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Any time the sensor exceeds the manufacturer's specified maximum operating pressure range, conduct calibration checks or install a new pressure sensor.

(7) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(d) For each pH measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (d)(1) through (4) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration at one point daily.

(4) At least monthly, inspect all components for integrity and all electrical connections for continuity.

(e) For each bag leak detection system, you must meet the requirements in paragraphs (e)(1) through (11) of this section.

(1) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Other types of bag leak detection systems must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(2) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(3) The bag leak detection system sensor must provide an output of relative PM loadings.

(4) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(5) The bag leak detection system must be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(6) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(7) For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14).

(10) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in your OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition, as defined in section 5.2 of the ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Record each adjustment.

(11) Record the results of each inspection, calibration, and validation check.

(f) For each lime, chemical, or carbon feed rate measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (f)(1) and (2) of this section.

(1) Locate the measurement device in a position that provides a representative feed rate measurement.

(2) At least semiannually, conduct a calibration check.

(g) For each temperature measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (g)(1) through (3) of this section.

(1) Locate the measurement device in a position that provides a representative temperature.

(2) Use a measurement device with a minimum sensitivity of 1 percent of the temperature being measured.

(3) At least semiannually, conduct a calibration check.

(h) Requests for approval of alternate monitoring procedures must meet the requirements in §§ 63.8595(h) and 63.8(f).

§ 63.8605 How do I demonstrate initial compliance with the emission limitations and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to Table 6 to this subpart.

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.8595 and Table 4 to this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.8630(e).

Continuous Compliance Requirements

§ 63.8615 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for periods of monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating. This includes periods of startup, shutdown, malfunction, and routine control device maintenance as specified in § 63.8570(d) when the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities for purposes of calculating data averages. You must use all the valid data collected during all other periods in assessing compliance. Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation from the monitoring requirements.

§ 63.8620 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1, 2, and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart.

(b) For each affected source that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an APCD that is not addressed in Table 2 to this subpart, or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must demonstrate continuous compliance with each emission limit in Table 1 to this subpart, and each operating limit established as required in § 63.8595(h)(2) according to the methods specified in your approved alternative monitoring procedures request, as described in §§ 63.8595(h)(1) and 63.8(f).

(c) You must report each instance in which you did not meet each emission limit and operating limit in this subpart that applies to you. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.8635(c)(8).

(d) [Reserved]

(e) You must demonstrate continuous compliance with the operating limits in Table 2 to this subpart for visible emissions (VE) from tunnel or roller kilns that are uncontrolled or equipped with DIFF, DLS/FF, or other dry control device by monitoring VE at each kiln stack according to the requirements in paragraphs (e)(1) through (3) of this section.

(1) Perform daily VE observations of each kiln stack according to the procedures of Method 22 of 40 CFR part 60, appendix A–7. You must conduct

the Method 22 test while the affected source is operating under normal conditions. The duration of each Method 22 test must be at least 15 minutes.

(2) If VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must promptly initiate and complete corrective actions according to your OM&M plan. If no VE are observed in 30 consecutive daily Method 22 tests for any kiln stack, you may decrease the frequency of Method 22 testing from daily to weekly for that kiln stack. If VE are observed during any weekly test, you must promptly initiate and complete corrective actions according to your OM&M plan, resume Method 22 testing of that kiln stack on a daily basis, and maintain that schedule until no VE are observed in 30 consecutive daily tests, at which time you may again decrease the frequency of Method 22 testing to a weekly basis.

(3) If VE are observed during any test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must report these deviations by following the requirements in § 63.8635.

Notifications, Reports, and Records

§ 63.8630 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(f)(4), and 63.9 (b) through (e), (g)(1), and (h) that apply to you, by the dates specified.

(b) You must submit all of the notifications specified in Table 9 to this subpart that apply to you, by the dates specified.

(c) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 6 to this subpart, your Notification of Compliance Status as specified in Table 9 to this subpart must include the information in paragraphs (c)(1) through (3) of this section.

(1) The requirements in § 63.9(h)(2)(i).

(2) The operating limit parameter values established for each affected source with supporting documentation and a description of the procedure used to establish the values.

(3) For each APCD that includes a fabric filter, if a bag leak detection system is used, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.8600(e).

(d) If you own or operate an affected kiln that is subject to the work practice standard specified in Item 1 of Table 3 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected kiln, your notification of alternative fuel use must include the information specified in paragraphs (d)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected kiln.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

§ 63.8635 What reports must I submit and when?

(a) You must submit each report in Table 10 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 10 to this subpart and as specified in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.8545 and ending on either June 30 or December 31. This reporting period must be at least 6 months, but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) A description of control device maintenance performed while the control device was offline and the affected source controlled by the control device was operating, including the information specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the affected source that was operating and the number of hours that the affected source operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance request developed as specified in § 63.8570(d). If the control device maintenance was included in your approved routine control device maintenance request, then you must report the information in paragraphs (c)(4)(iii)(A) through (C) of this section.

(A) The total amount of time that the affected source controlled by the control device operated during the current semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each affected source controlled by the control device operated while the control device was offline for maintenance covered under the routine control device maintenance alternative standard during the current semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under paragraphs (c)(4)(iii)(A) and (B) of this section, compute the annual percent of affected source operating uptime during which the control device was offline for routine maintenance using Equation 9.

$$RM = \frac{DT_p + DT_c}{SU_p + SU_c}(100) \qquad \text{(Eq. 9)}$$

Where:

RM = Annual percentage of affected source uptime during which control device was offline for routine control device maintenance

DT_p = Control device downtime claimed under the routine control device maintenance alternative standard for the previous semiannual compliance period

DT_c = Control device downtime claimed under the routine control device maintenance alternative standard for the current semiannual compliance period

SU_p = Affected source uptime for the previous semiannual compliance period

SU_c = Affected source uptime for the current semiannual compliance period

(5) If there are no deviations from any emission limitations (emission limits or operating limits) or work practice standards that apply to you, the compliance report must contain a statement that there were no deviations from the emission limitations or work practice standards during the reporting period.

(6) If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, the compliance report must contain a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(7) The first compliance report must contain the startup production rate for each ceramic tile roller kiln, floor tile press dryer, ceramic tile spray dryer, and sanitaryware tunnel kiln; the minimum APCD inlet temperature for each APCD; and the temperature profile for each ceramic tile roller kiln, floor tile press dryer, ceramic tile spray dryer, and sanitaryware tunnel kiln without an APCD.

(8) For each deviation that occurs at an affected source, report such events in the compliance report by including the information in paragraphs (c)(8)(i) through (iii) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment for which the deviation occurred.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(d) For each deviation from an emission limitation (emission limit or operating limit) occurring at an affected source where you are using a CMS to comply with the emission limitations in this subpart, you must include the information in paragraphs (c)(1) through (4) and (c)(8), and paragraphs (d)(1) through (11) of this section. This includes periods of startup, shutdown, and routine control device maintenance.

(1) The total operating time of each affected source during the reporting period.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the pertinent information in your OM&M plan.

(4) Whether each deviation occurred during routine control device maintenance covered in your approved routine control device maintenance alternative standard or during another period, and the cause of each deviation (including unknown cause, if applicable).

(5) A description of any corrective action taken to return the affected unit to its normal or usual manner of operation.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or control equipment since the last reporting period.

(e) If you have obtained a title V operating permit according to 40 CFR part 70 or 40 CFR part 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report according to Table 8 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), then submitting the compliance report will satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submitting a compliance report will not otherwise affect any obligation you may have to report deviations from permit requirements to the permitting authority.

(f) If you own or operate an affected kiln that is subject to the work practice standard specified in Item 1 of Table 3 to this subpart, and you use a fuel other than natural gas or equivalent to fire the affected kiln, you must submit a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel. The report must include the information in paragraphs (f)(1) through (6) of this section.

(1) Company name and address.

(2) Identification of the affected kiln.

(3) Reason for using the alternative fuel.

(4) Type of alternative fuel used to fire the affected kiln.

(5) Dates that the use of the alternative fuel started and ended.

(6) Amount of alternative fuel used.

(g) Within 60 calendar days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance test following the procedure specified in either paragraph (g)(1) or (g)(2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other

commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

§ 63.8640 What records must I keep?

(a) You must keep the records listed in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Records of performance tests as required in § 63.10(b)(2)(viii).

(3) Records relating to control device maintenance and documentation of your approved routine control device maintenance request, if you request to use the alternative standard under § 63.8570(d).

(b) You must keep the records required in Table 7 to this subpart to show continuous compliance with each emission limitation and work practice standard that applies to you.

(c) You must also maintain the records listed in paragraphs (c)(1) through (10) of this section.

(1) For each bag leak detection system, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(2) For each deviation, record the information in paragraphs (c)(2)(i) through (iv) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Actions taken to minimize emissions in accordance with § 63.8570(b) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) For each affected source, records of production rates on a ton throughput processed basis.

(4) Records for any approved alternative monitoring or test procedures.

(5) Records of maintenance and inspections performed on the APCD.

(6) Current copies of your OM&M plan, including any revisions, with records documenting conformance.

(7) Logs of the information required in paragraphs (c)(7)(i) through (iii) of this section to document proper operation of your sanitaryware shuttle kiln.

(i) Records of the firing time and temperature cycle for each sanitaryware shuttle kiln. If all shuttle kilns use the same time and temperature cycles, one copy may be maintained for each kiln. Reference numbers must be assigned to use in log sheets.

(ii) For each sanitaryware shuttle kiln, a log that details the time and temperature protocol reference number, and an indication of whether the appropriate time and temperature cycle was fired.

(iii) For each sanitaryware shuttle kiln, a log of the actual tonnage of greenware fired in the shuttle kiln and an indication of whether the tonnage was below the maximum tonnage for that specific kiln.

(8) Logs of the maintenance procedures used to demonstrate compliance with the maintenance requirements of the sanitaryware shuttle kiln work practice standards specified in Table 3 to this subpart.

(9) For periods of startup and shutdown, records of the following information:

(i) The date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) For periods of startup, the production rate and exhaust temperature prior to the time the exhaust reaches the minimum APCD inlet temperature (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with an APCD) or the temperature profile is attained (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with no APCD).

(iii) For periods of shutdown, the production rate and exhaust temperature after the time the exhaust falls below the minimum APCD inlet temperature (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with an APCD) or the temperature profile is no longer maintained (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with no APCD).

(10) All site-specific parameters, temperature profiles, and procedures required to be established or developed according to the applicable work practice standards in Table 3 to this subpart.

§ 63.8645 In what form and for how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.8655 What parts of the General Provisions apply to me?

Table 11 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.8660 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or a delegated authority such as your state, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are as specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.8535 and 63.8540, the compliance date requirements in § 63.8545, and the non-

opacity emission limitations in § 63.8555.

(2) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major changes to monitoring under § 63.8(f) and as defined in in § 63.90.

(4) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

(6) Approval of a routine control device maintenance request under § 63.8570(d).

§ 63.8665 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Bag leak detection system means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light-scattering, light-transmittance, or other effects to monitor relative PM loadings.

Clay ceramics manufacturing facility means a plant site that manufactures pressed floor tile, pressed wall tile, other pressed tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics manufacturing facilities typically process clay, shale, and various additives, form the processed materials into tile or sanitaryware shapes, and dry and fire the ceramic products. Glazes are applied to many tile and sanitaryware products. A plant site that manufactures refractory products, as defined in § 63.9824, or brick and structural clay products (BSCP), as defined in § 63.8515, is not a clay ceramics manufacturing facility.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard; or

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart for any affected source required to obtain such a permit.

Dioxin/furan means, for purposes of this subpart, the sum of the 2,3,7,8–TCDD toxic equivalents calculated using Equation 3 of this subpart.

Dry lime injection fabric filter (DIFF) means an APCD that includes continuous injection of hydrated lime or other sorbent into a duct or reaction chamber followed by a fabric filter.

Dry lime scrubber/fabric filter (DLS/FF) means an APCD that includes continuous injection of humidified hydrated lime or other sorbent into a reaction chamber followed by a fabric filter. These systems typically include recirculation of some of the sorbent.

Emission limitation means any emission limit or operating limit.

Fabric filter means an APCD used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Fired product means clay ceramic or sanitaryware products that have gone through the firing process via kilns.

Glaze means a coating of colored, opaque, or transparent material applied to ceramic products before firing.

Glaze line means a production line for glazing ceramic products, which includes glaze spraying (typically comprised of one or more glaze spray booths) and other types of glazing operations (*e.g.,* dipping, flooding, centrifugal disc glazing, curtain coating).

Glaze spray booth means a type of equipment used for spraying glaze on ceramic products.

Glaze spray operation means any type of glaze application that uses glaze spraying, including glaze lines and glaze spray booths.

Greenware means clay ceramic or sanitaryware products that have not gone through the firing process via kilns.

Initial startup means the time at which the kiln first reaches a level of production that is equal to 75 percent of the kiln design capacity or 12 months after the affected source begins firing clay ceramics, whichever is earlier.

Kiln design capacity means the maximum amount of clay ceramics, in Mg (tons), that a kiln is designed to produce in one year divided by the number of hours in a year (8,760 hours), taking into account the void space in the product, the push rate for the kiln, and the stacking pattern, if applicable. If a kiln is modified to increase the capacity, the design capacity is considered to be the capacity following modifications.

Minimum APCD inlet temperature means the minimum temperature that kiln exhaust can be vented to the APCD that ensures the long-term integrity of the APCD.

Particulate matter (PM) means, for purposes of this subpart, emissions of filterable PM that serve as a measure of total particulate emissions, as measured by Method 5 (40 CFR part 60, appendix A–3) or Method 29 (40 CFR part 60, appendix A–8), and as a surrogate for non-mercury metal HAP contained in the particulates including, but not limited to, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Responsible official means responsible official as defined in 40 CFR 70.2.

Roller kiln means a continuous kiln similar to a tunnel kiln except that the unfired ceramic product travels through the kiln in a single layer on rollers. In the clay ceramics source category, roller kilns are used at ceramic tile manufacturing plants.

Shuttle kiln means a batch firing kiln that is designed with a removable superstructure that is tilted or raised using hydraulic struts to allow entrance and egress. In the clay ceramics source category, shuttle kilns are used at sanitaryware manufacturing plants.

Spray dryer means a drying chamber used to form a free-flowing powder from a slurry of ceramic mix and water, to improve handling and compaction. In the clay ceramics source category, spray dryers are used at ceramic tile manufacturing plants.

Startup means the setting in operation of an affected source and starting the production process.

Startup production rate means the kiln, press dryer or spray dryer production rate required to bring the process unit to the proper operating temperature during startup.

Tunnel kiln means any continuous kiln that is not a roller kiln that is used to fire clay ceramics. In the clay ceramics source category, tunnel kilns are used at sanitaryware manufacturing plants.

Wet scrubber (WS) means an APCD that uses water, which may include caustic additives or other chemicals, as the sorbent. Wet scrubbers may use any of various design mechanisms to increase the contact between exhaust gases and the sorbent.

Work practice standard means any design, equipment, work practice, operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart KKKKK of Part 63

As stated in § 63.8555, you must meet each emission limit in the following table that applies to you:

TABLE 1 TO SUBPART KKKKK OF PART 63—EMISSION LIMITS

For each . . .	You must meet the following emission limits . . .
1. Collection of all tunnel or roller kilns at facility.	HF and HCl emissions must not exceed 62 kilograms per hour (kg/hr) (140 pounds per hour (lb/hr)) HCl equivalent, under the health-based standard, as determined using Equations 4 and 5.
2. Existing floor tile roller kiln	a. PM emissions must not exceed 0.063 kilogram per megagram (kg/Mg) (0.13 pound per ton (lb/ton)) of fired product. b. Hg emissions must not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 2.8 nanograms per kilogram (ng/kg) of fired product.
3. Existing wall tile roller kiln	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product. b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.
4. Existing first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired. b. Hg emissions must not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired. c. Dioxin/furan emissions must not exceed 3.3 ng/kg of greenware fired.
5. Existing tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis). b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
6. Existing sanitaryware manual glaze application.	PM emissions must not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).
7. Existing sanitaryware spray machine glaze application.	PM emissions must not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).
8. Existing sanitaryware robot glaze application.	PM emissions must not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
9. Existing floor tile spray dryer	Dioxin/furan emissions must not exceed 19 ng/kg of throughput processed.
10. Existing wall tile spray dryer	Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.
11. Existing floor tile press dryer	Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.
12. New or reconstructed floor tile roller kiln.	a. PM emissions must not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product. b. Hg emissions must not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 1.3 ng/kg of fired product.
13. New or reconstructed wall tile roller kiln.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product. b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.
14. New or reconstructed first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired. b. Hg emissions must not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired. c. Dioxin/furan emissions must not exceed 0.99 ng/kg of greenware fired.
15. New or reconstructed tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis). b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
16. New or reconstructed sanitaryware manual glaze application.	PM emissions must not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
17. New or reconstructed sanitaryware spray machine glaze application.	PM emissions must not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).
18. New or reconstructed sanitaryware robot glaze application.	PM emissions must not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).
19. New or reconstructed floor tile spray dryer.	Dioxin/furan emissions must not exceed 0.071 ng/kg of throughput processed.
20. New or reconstructed wall tile spray dryer.	Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.
21. New or reconstructed floor tile press dryer.	Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.

As stated in § 63.8555, you must meet each operating limit in the following table that applies to you:

TABLE 2 TO SUBPART KKKKK OF PART 63—OPERATING LIMITS

For each . . .	You must . . .
1. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	a. If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the DIFF or DLS/FF stack; and b. Maintain free-flowing lime in the feed hopper or silo and to the APCD at all times for continuous injection systems; maintain the feeder setting (on a per ton of throughput basis) at or above the level established during the performance test for continuous injection systems in which compliance was demonstrated.
2. Tunnel or roller kiln equipped with a WS.	a. Maintain the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl and PM performance tests in which compliance was demonstrated.
3. Tunnel or roller kiln equipped with an ACI system.	Maintain the average carbon flow rate for each 3-hour block period at or above the highest average carbon flow rate established during the Hg and dioxin/furan performance tests in which compliance was demonstrated.
4. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	If you intend to comply with the dioxin/furan emission limit without an ACI system, maintain the stack temperature at or below the highest 4-hour average stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
5. Tunnel or roller kiln with no add-on control.	a. Maintain no VE from the stack; and b. Maintain the kiln process rate at or below the kiln process rate determined according to § 63.8595(g)(1) if your total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart; and c. Maintain the stack temperature at or below the highest 4-hour average stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
6. Glaze spray operation equipped with a FF.	If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the FF stack; and
7. Glaze spray operation equipped with a WS.	a. Maintain the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the PM performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the PM performance test in which compliance was demonstrated.
8. Glaze spray operation equipped with a water curtain.	Conduct daily inspections to verify the presence of water flow to the wet control system; and Conduct weekly visual inspections of the system ductwork and control equipment for leaks; and Conduct annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.
9. Glaze spray operation equipped with baffles.	Conduct an annual visual inspection of the baffles to confirm the baffles are in place.
10. Spray dryer	Maintain the average operating temperature for each 3-hour block period at or above the average temperature established during the dioxin/furan performance test in which compliance was demonstrated.
11. Floor tile press dryer	Maintain the average operating temperature for each 3-hour block period at or below the average temperature established during the dioxin/furan performance test in which compliance was demonstrated.

As stated in § 63.8555, you must comply with each work practice standard in the following table that applies to you:

TABLE 3 TO SUBPART KKKKK OF PART 63—WORK PRACTICE STANDARDS

For each . . .	You must . . .	According to one of the following requirements . . .
1. Existing, new, or reconstructed sanitaryware shuttle kiln.	a. Minimize HAP emissions	i. Use natural gas, or equivalent, as the kiln fuel, except during periods of natural gas curtailment or supply interruption, as defined in § 63.8665; and ii. Develop and use a designed firing time and temperature cycle for each sanitaryware shuttle kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and iii. Label each sanitaryware shuttle kiln with the maximum load (in tons) of greenware that can be fired in the kiln during a single firing cycle; and iv. For each firing load, document the total tonnage of greenware placed in the kiln to ensure that it is not greater than the maximum load identified in item 1.a.iii; and v. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and

TABLE 3 TO SUBPART KKKKK OF PART 63—WORK PRACTICE STANDARDS—Continued

For each . . .	You must . . .	According to one of the following requirements . . .
		vi. Develop and maintain records for each sanitaryware shuttle kiln, as specified in § 63.8640.
2. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of startup.	a. Minimize HAP emissions	i. Establish the startup production rate for each kiln or dryer; the minimum APCD inlet temperature for each APCD; and temperature profile for each kiln or dryer with no APCD and include them in your first compliance report, as specified in § 63.8635(c)(7); and ii. After initial loading of the kiln or dryer, remain at or below the startup production rate for the kiln or dryer until the kiln or dryer exhaust reaches the minimum APCD inlet temperature for a kiln or dryer with an APCD or until the kiln or dryer temperature profile is attained for a kiln or dryer with no APCD; and iii. If your kiln or dryer has an APCD, begin venting the exhaust from the kiln or dryer through the APCD by the time the kiln or dryer exhaust temperature reaches the minimum APCD inlet temperature.
3. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of shutdown.	a. Minimize HAP emissions	i. Do not load the kiln or dryer once the kiln or dryer exhaust temperature falls below the minimum APCD inlet temperature if the kiln or dryer is controlled by an APCD or when the kiln or dryer temperature profile is no longer maintained for an uncontrolled kiln or dryer; and ii. If your kiln or dryer has an APCD, continue to vent the exhaust from the kiln or dryer through the APCD until the kiln or dryer exhaust temperature falls below the minimum inlet temperature for the APCD.
4. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of routine control device maintenance.	a. Minimize HAP emissions	i. Develop and use a temperature profile for each kiln or dryer; and ii. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices and controls that regulate air-to-fuel ratios; and iii. Develop and maintain records for each kiln or dryer, as specified in § 63.8640(a)(3).

As stated in § 63.8595, you must conduct each performance test in the following table that applies to you:

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Tunnel or roller kiln	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure HF and HCl emissions.	i. Method 26A of 40 CFR part 60, appendix A–8; or.	You may use Method 26 of 40 CFR part 60, appendix A–8, as an alternative to using Method 26A of 40 CFR part 60, appendix A–8, when no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a WS) is present. ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14) may be used as an alternative to Methods 26 and 26A.

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Method 320 of appendix A of this part.	When using Method 320 of appendix A of this part, you must follow the analyte spiking procedures of section 13 of Method 320 of appendix A of this part, unless you can demonstrate that the complete spiking procedure has been conducted at a similar source. ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14) may be used as an alternative to Method 320 if the test plan preparation and implementation in Annexes A1–A8 are mandatory and the %R in Annex A5 is determined for each target analyte.
	f. Measure PM emissions ..	i. Method 5 of 40 CFR part 60, appendix A–3; or. ii. Method 29 of 40 CFR part 60, appendix A–8.	
	g. Measure Hg emissions	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
	h. Measure dioxin/furan emissions.	Method 23 of 40 CFR part 60, appendix A–7.	
2. Glaze spray operation	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure PM emissions	Method 5 of 40 CFR part 60, appendix A–3.	
	f. Measure Hg emissions (tile glaze spray operations only).	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
3. Spray dryer or floor tile press dryer.	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure dioxin/furan emissions.	Method 23 of 40 CFR part 60, appendix A–7.	
4. Tunnel or roller kiln with no add-on control.	a. Establish the operating limit(s) for kiln process rate if the total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart.	HCl-equivalent limit in Table 1 to this subpart and emissions and production data from the HF/HCl/Cl_2 performance test.	Using the procedures in § 63.8595(g)(1), you must determine the maximum process rate(s) for your kiln(s) that would ensure total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit in Table 1 to this subpart. The maximum process rate(s) would become your site-specific process rate operating limit(s).

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the stack temperature operating limit.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the stack temperature and determine and record the temperature values for the three test runs. The highest 4-hour average stack temperature of the three test runs establishes your maximum site-specific stack temperature operating limit.
5. Tunnel or roller kiln that is complying with PM and/or Hg production-based emission limits.	Determine the production rate during each PM/Hg test run in order to determine compliance with PM and/or Hg production-based emission limits.	Production data collected during the PM/Hg performance tests (*e.g.,* the number of ceramic pieces and weight per piece in the kiln during a test run divided by the amount of time to fire a piece).	You must measure and record the production rate, on a ton of throughput processed basis, of the affected kiln for each of the three test runs.
6. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	Establish the operating limit for the lime feeder setting.	Data from the lime feeder during the HF/HCl performance test.	For continuous lime injection systems, you must ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the performance test and record the feeder setting, on a per ton of throughput basis, for the three test runs. If the feed rate setting varies during the three test runs, determine and record the average feed rate from the three test runs. The average of the three test runs establishes your minimum site-specific feed rate operating limit.
7. Tunnel or roller kiln equipped with a WS.	a. Establish the operating limit for the average scrubber liquid pH.	Data from the pH measurement device during the HF/HCl performance test.	You must continuously measure the scrubber liquid pH, determine and record the block average pH values for the three test runs, and determine and record the 3-hour block average of the recorded pH measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid pH operating limit.
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the HF/HCl and PM performance tests.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating level. If different average wet scrubber liquid flow rate values are measured during the HF/HCl and PM tests, the highest of the average values become your site-specific operating limit.
8. Tunnel or roller kiln equipped with an ACI system.	Establish the operating limit for the average carbon flow rate.	Data from the carbon flow rate measurement conducted during the Hg performance test.	You must measure the carbon flow rate during each test run, determine and record the block average carbon flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded carbon flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific activated carbon flow rate operating limit.
9. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	Establish the stack temperature operating limit.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the stack temperature and determine and record the temperature values for the three test runs. The highest 4-hour average stack temperature of the three test runs establishes your maximum site-specific stack temperature operating limit.
10. Glaze spray operation equipped with a WS.	a. Establish the operating limit for the average scrubber pressure drop.	Data from the pressure drop measurement device during the PM performance test.	You must continuously measure the scrubber pressure drop, determine and record the block average pressure drop values for the three test runs, and determine and record the 3-hour block average of the recorded pressure drop measurements for the three test runs. The average of the three test runs establishes your minimum site-specific pressure drop operating limit.

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the PM performance test.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating limit.
11. Spray dryer	Establish the operating limit for operating temperature.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the operating temperature, determine and record the block average temperature values for the three test runs, and determine and record the 3-hour block average of the recorded temperature measurements for the three test runs. The average of the three test runs establishes your minimum site-specific operating limit.
12. Floor tile press dryer	Establish the operating limit for operating temperature.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the operating temperature, determine and record the block average temperature values for the three test runs, and determine and record the 3-hour block average of the recorded temperature measurements for the three test runs. The average of the three test runs establishes your maximum site-specific operating limit.

As stated in § 63.8595(f)(3), you must demonstrate initial compliance with each dioxin/furan emission limit that applies to you by calculating the sum of the 2,3,7,8-TCDD TEQs using the TEFs in the following table:

TABLE 5 TO SUBPART KKKKK OF PART 63—TOXIC EQUIVALENCY FACTORS

For each dioxin/furan congener . . .	You must calculate its 2,3,7,8-TCDD TEQ using the following TEF . . .
2,3,7,8-tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-pentachlorodibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	0.01
Octachlorodibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorodibenzofuran	0.1
1,2,3,7,8-pentachlorodibenzofuran	0.03
2,3,4,7,8-pentachlorodibenzofuran	0.3
1,2,3,4,7,8-hexachlorodibenzofuran	0.1
1,2,3,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,7,8,9-hexachlorodibenzofuran	0.1
2,3,4,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.0003

As stated in § 63.8605, you must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
1. Collection of all tunnel or roller kilns at the facility.	a. HF, HCl, and Cl_2 emissions must not exceed 62 kg/hr (140 lb/hr) HCl equivalent.	i. You measure HF and HCl emissions for each kiln using Method 26 or 26A of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14); or Method 320 of appendix A of this part or its alternative, ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14); and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You calculate the HCl-equivalent emissions for HF for each kiln using Equation 4 to this subpart; and iii. You sum the HCl-equivalent values for all kilns at the facility using Equation 5 to this subpart; and iv. The facility total HCl-equivalent does not exceed 62 kg/hr (140 lb/hr).
2. Existing floor tile roller kiln	a. PM emissions must not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product.
	b. Hg emissions must not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 2.8 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 2.8 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 2.8 ng/kg of fired product.
3. Existing wall tile roller kiln	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.
	b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.22 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.22 ng/kg of fired product.
4. Existing first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired.
	b. Hg emissions must not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired; and

Table 6 to Subpart KKKKK of Part 63—Initial Compliance With Emission Limitations and Work Practice Standards—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired.
	c. Dioxin/furan emissions must not exceed 3.3 ng/kg of greenware fired.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 3.3 ng/kg of greenware fired; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 3.3 ng/kg of greenware fired.
5. Existing tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
	b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis); and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
6. Existing sanitaryware manual glaze application.	a. PM emissions must not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis); and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).
7. Existing sanitaryware spray machine glaze application.	a. PM emissions must not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis); and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).
8. Existing sanitaryware robot glaze application.	a. PM emissions must not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
9. Existing floor tile spray dryer	a. Dioxin/furan emissions must not exceed 19 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 19 ng/kg of throughput processed; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 19 ng/kg of throughput processed.
10. Existing wall tile spray dryer	a. Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.058 ng/kg of throughput processed; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.058 ng/kg of throughput processed.
11. Existing floor tile press dryer	a. Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.024 ng/kg of throughput processed; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.024 ng/kg of throughput processed.
12. New or reconstructed floor tile roller kiln.	a. PM emissions must not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product.
	b. Hg emissions must not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 1.3 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 1.3 ng/kg of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 1.3 ng/kg of fired product.
13. New or reconstructed wall tile roller kiln.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.
	b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.22 ng/kg of fired product; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.22 ng/kg of fired product.
14. New or reconstructed first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired; and
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired.
	b. Hg emissions must not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired.
	c. Dioxin/furan emissions must not exceed 0.99 ng/kg of greenware fired.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.99 ng/kg of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.99 ng/kg of greenware fired.
15. New or reconstructed tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis).
	b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
16. New or reconstructed sanitaryware manual glaze application.	a. PM emissions must not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
17. New or reconstructed sanitaryware spray machine glaze application.	a. PM emissions must not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).
18. New or reconstructed sanitaryware robot glaze application.	a. PM emissions must not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).
19. New or reconstructed floor tile spray dryer.	a. Dioxin/furan emissions must not exceed 0.071 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.071 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.071 ng/kg of throughput processed.
20. New or reconstructed wall tile spray dryer.	a. Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.058 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.058 ng/kg of throughput processed.
21. New or reconstructed floor tile press dryer.	a. Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.024 ng/kg of throughput processed; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.024 ng/kg of throughput processed.
22. Existing, new, or reconstructed sanitaryware shuttle kiln.	a. Minimize HAP emissions	i. Use natural gas, or equivalent, as the kiln fuel; and
		ii. Develop a designed firing time and temperature cycle for the sanitaryware shuttle kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and
		iii. Label each sanitaryware shuttle kiln with the maximum load (in tons) of greenware that can be fired in the kiln during a single firing cycle; and
		iv. Develop maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles.

As stated in § 63.8620, you must demonstrate continuous compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
1. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 1 of Table 2 to this subpart for kilns equipped with DIFF or DLS/FF.	i. If you use a bag leak detection system, as prescribed in 63.8450(e), initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; in calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the DIFF or DLS/FF stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the DIFF or DLS/FF stack; and
		ii. Verifying that lime is free-flowing via a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system, or other system; recording all monitor or sensor output, and if lime is found not to be free flowing, promptly initiating and completing corrective actions in accordance with your OM&M plan; recording the feeder setting once each shift of operation to verify that the feeder setting is being maintained at or above the level established during the HF/HCl performance test in which compliance was demonstrated.
2. Tunnel or roller kiln equipped with a WS.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 2 of Table 2 to this subpart for kilns equipped with WS.	i. Collecting the scrubber liquid pH data according to § 63.8600(a); reducing the scrubber liquid pH data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl performance test in which compliance was demonstrated; and
		ii Collecting the scrubber liquid flow rate data according to § 63.8600(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl and PM performance tests in which compliance was demonstrated.

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
3. Tunnel or roller kiln equipped with an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 3 of Table 2 to this subpart for kilns equipped with ACI system.	Collecting the carbon flow rate data according to § 63.8600(a); reducing the carbon flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average carbon flow rate for each 3-hour block period at or above the highest average carbon flow rate established during the Hg and dioxin/furan performance tests in which compliance was demonstrated.
4. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 4 of Table 2 to this subpart for kilns intending to comply with dioxin/furan emission limit without an ACI system.	Collecting the stack temperature data according to § 63.8600(a); and maintaining the stack temperature at or below the highest stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
5. Tunnel or roller kiln with no add-on control.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 5 of Table 2 to this subpart for tunnel or roller kilns with no add-on control.	i. Performing VE observations of the stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the stack. ii. If your last calculated total facility maximum potential HCl-equivalent was not at or below the health-based standard in Table 1 to this subpart, collecting the kiln process rate data according to § 63.8600(a); reducing the kiln process rate data to 3-hour block averages according to § 63.8600(a); maintaining the average kiln process rate for each 3-hour block period at or below the kiln process rate determined according to § 63.8595(g)(1). iii. Collecting the stack temperature data according to § 63.8600(a); and maintaining the stack temperature at or below the highest stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
6. Glaze spray operation equipped with a FF.	Each emission limit in Table 1 to this subpart and each operating limit in Item 6 of Table 2 to this subpart for glaze spray operations equipped with a FF.	If you use a bag leak detection system, initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; in calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the FF stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the FF stack.
7. Glaze spray operation equipped with a WS.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 7 of Table 2 to this subpart for kilns equipped with WS.	i. Collecting the scrubber pressure drop data according to § 63.8600(a); reducing the scrubber pressure drop data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the PM performance test in which compliance was demonstrated; and ii. Collecting the scrubber liquid flow rate data according to § 63.8600(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the PM performance test in which compliance was demonstrated.
8. Glaze spray operation equipped with a water curtain.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 8 of Table 2 to this subpart for kilns equipped with a water curtain.	i. Conducting daily inspections to verify the presence of water flow to the wet control system; and ii. Conducting weekly visual inspections of the system ductwork and control equipment for leaks; and iii. Conducting annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.
9. Glaze spray operation equipped with baffles.	Each emission limit in Table 1 to this subpart and each operating limit in Item 9 of Table 2 to this subpart for kilns equipped with baffles.	Conducting an annual visual inspection of the baffles to confirm the baffles are in place.
10. Spray dryer	Each emission limit in Table 1 to this subpart and each operating limit in Item 10 of Table 2 to this subpart for spray dryers.	Collecting the operating temperature data according to § 63.8600(a); reducing the operating temperature data to 3-hour block averages according to § 63.8600(a); maintaining the average operating temperature for each 3-hour block period at or above the average operating temperature established during the dioxin/furan performance test in which compliance was demonstrated.

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
11. Floor tile press dryer	Each emission limit in Table 1 to this subpart and each operating limit in Item 11 of Table 2 to this subpart for floor tile press dryers..	Collecting the operating temperature data according to § 63.8600(a); reducing the operating temperature data to 3-hour block averages according to § 63.8600(a); maintaining the average operating temperature for each 3-hour block period at or below the average operating temperature established during the dioxin/furan performance test in which compliance was demonstrated.
12. Sanitaryware shuttle kiln	a. Minimize HAP emissions	i. Maintaining records documenting your use of natural gas, or an equivalent fuel, as the kiln fuel at all times except during periods of natural gas curtailment or supply interruption; and ii. If you intend to use an alternative fuel, submitting a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.8665; and iii. Submitting a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel, as specified in § 63.8635(g); and iv. Using a designed firing time and temperature cycle for each sanitaryware shuttle kiln; and v. For each firing load, documenting the total tonnage of greenware placed in the kiln to ensure that it is not greater than the maximum load identified in Item 1.a.iii of Table 3 to this subpart; and vi. Following maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and vii. Developing and maintaining records for each sanitaryware shuttle kiln, as specified in § 63.8640.

As stated in § 63.8545, you must meet each compliance date in the following table that applies to you:

TABLE 8 TO SUBPART KKKKK OF PART 63—COMPLIANCE DATES

If you have a(n) . . .	Then you must . . .	No later than . . .
1. New or reconstructed affected source and the initial startup of your affected source is after December 18, 2014, but before December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 28, 2015.
2. New or reconstructed affected source and the initial startup of your affected source is after December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	Initial startup of your affected source.
3. Existing affected source	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 26, 2018.
4. Existing area source that increases its emissions or its potential to emit such that it becomes a major source of HAP by adding a new affected source or by reconstructing.	Be in compliance with this subpart	Initial startup of your affected source as a major source.
5. New area source (*i.e.,* an area source for which construction or reconstruction commenced after December 18, 2014) that increases its emissions or its potential to emit such that it becomes a major source of HAP.	Be in compliance with this subpart	Initial startup of your affected source as a major source.

As stated in § 63.8630, you must submit each notification that applies to you according to the following table:

TABLE 9 TO SUBPART KKKKK OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS

If you . . .	You must . . .	No later than . . .	As specified in . . .
1. Start up your affected source before December 28, 2015.	Submit an Initial Notification	June 22, 2016	§ 63.9(b)(2).

TABLE 9 TO SUBPART KKKKK OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS—Continued

If you . . .	You must . . .	No later than . . .	As specified in . . .
2. Start up your new or reconstructed affected source on or after December 28, 2015.	Submit an Initial Notification	120 calendar days after you become subject to this subpart.	§ 63.9(b)(2).
3. Are required to conduct a performance test.	Submit a notification of intent to conduct a performance test.	60 calendar days before the performance test is scheduled to begin.	§ 63.7(b)(1).
4. Are required to conduct a compliance demonstration that includes a performance test according to the requirements in Table 4 to this subpart.	Submit a Notification of Compliance Status, including the performance test results.	60 calendar days following the completion of the performance test, by the close of business.	§ 63.9(h) and § 63.10(d)(2).
5. Are required to conduct a compliance demonstration required in Table 6 to this subpart that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).	Submit a Notification of Compliance Status.	30 calendar days following the completion of the compliance demonstrations, by the close of business.	§ 63.9(h).
6. Request to use the routine control device maintenance alternative standard according to § 63.8570(d).	Submit your request	120 calendar days before the compliance date specified in § 63.8545.	
7. Own or operate an affected kiln that is subject to the work practice standard specified in Item 1 of Table 3 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected kiln.	Submit a notification of alternative fuel use.	48 hours following the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.8665.	

As stated in § 63.8635, you must submit each report that applies to you according to the following table:

TABLE 10 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR REPORTS

You must submit . . .	The report must contain . . .	You must submit the report . . .
1. A compliance report	a. If there are no deviations from any emission limitations or work practice standards that apply to you, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period. If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, a statement that there were no periods during which the CMS was out-of-control during the reporting period.	Semiannually according to the requirements in § 63.8635(b).
	b. If you have a deviation from any emission limitation (emission limit, operating limit) during the reporting period, the report must contain the information in § 63.8635(c)(8). If there were periods during which the CMS was out-of-control, as specified in your OM&M plan, the report must contain the information in § 63.8635(d).	Semiannually according to the requirements in § 63.8635(b).
2. A report of alternative fuel use	The information in § 63.8635(g)	If you are subject to the work practice standards specified in Table 3 to this subpart, and you use an alternative fuel to fire an affected kiln, by letter within 10 working days after terminating the use of the alternative fuel.

As stated in § 63.8655, you must comply with the General Provisions in §§ 63.1 through 63.16 that apply to you according to the following table:

TABLE 11 TO SUBPART KKKKK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KKKKK

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities	Compliance date; circumvention; severability	Yes.
§ 63.5	Construction/Reconstruction.	Applicability; applications; approvals	Yes.
§ 63.6(a)	Applicability	General Provisions (GP) apply unless compliance extension; GP apply to area sources that become major.	Yes.
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources.	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f).	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were area sources.	Yes.
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources.	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension.	Yes.
§ 63.6(c)(3)–(4)	[Reserved]		No.
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved]		No.
§ 63.6(e)(1)(i)	Operation & Maintenance	General Duty to minimize emissions	No. See § 63.8570(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Operation & Maintenance	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(1)(iii)	Operation & Maintenance	Operation and maintenance requirements enforceable independent of emissions limitations.	Yes.
§ 63.6(e)(2)	[Reserved]		No.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for startup, shutdown, and malfunction (SSM) and SSMP; content of SSMP.	No.
§ 63.6(f)(1)	Compliance Except During SSM.	You must comply with emission standards at all times except during SSM.	No.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance.	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)	Opacity/VE Standards	Requirements for opacity and VE standards	No, not applicable.
§ 63.6(i)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§ 63.6(j)	Presidential Compliance Exemption.	President may exempt source category	Yes.
§ 63.7(a)(1)–(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations for emission limits and work practice standards; must conduct 180 days after first subject to rule.	Yes.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time.	Yes.
§ 63.7(a)(4)	Notification of Delay in Performance Testing Due To Force Majeure.	Must notify Administrator of delay in performance testing due to force majeure.	Yes.
§ 63.7(b)(1)	Notification of Performance Test.	Must notify Administrator 60 days before the test	Yes.
§ 63.7(b)(2)	Notification of Rescheduling.	Must notify Administrator 5 days before scheduled date of rescheduled date.	Yes.
§ 63.7(c)	Quality Assurance (QA)/ Test Plan.	Requirements; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	Performance tests must be conducted under representative conditions.	No, § 63.8595 specifies requirements.
		Cannot conduct performance tests during SSM; not a violation to exceed standard during SSM.	Yes.

TABLE 11 TO SUBPART KKKKK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KKKKK—Continued

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.7(e)(2)–(3)	Conditions for Conducting Performance Tests.	Must conduct according to subpart and EPA test methods unless Administrator approves alternative; must have at least three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used.	Yes.
§ 63.7(e)(4)	Testing under Section 114	Administrator's authority to require testing under section 114 of the Act.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis.	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements.	Subject to all monitoring requirements in subpart	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved]		No.
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in § 63.11 apply	No, not applicable.
§ 63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	Specific requirements for installing and reporting on monitoring systems.	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintenance consistent with good air pollution control practices.	Yes.
§ 63.8(c)(1)(i)	Routine and Predictable SSM.	Reporting requirements for SSM when action is described in SSMP.	No.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements for SSM when action is not described in SSMP.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	How Administrator determines if source complying with operation and maintenance requirements.	No.
§ 63.8(c)(2)–(3)	Monitoring System Installation.	Must install to get representative emission and parameter measurements.	Yes.
§ 63.8(c)(4)	CMS Requirements	Requirements for CMS	No, § 63.8600 specifies requirements.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures.	COMS minimum procedures	No, not applicable.
§ 63.8(c)(6)	CMS Requirements	Zero and high level calibration check requirements	Yes.
§ 63.8(c)(7)–(8)	CMS Requirements	Out-of-control periods	Yes.
§ 63.8(d)(1) and (2)	CMS Quality Control	Requirements for CMS quality control	Yes.
§ 63.8(d)(3)	CMS Quality Control	Written procedures for CMS	No, § 63.8575(b)(9) specifies requirements.
§ 63.8(e)	CMS Performance Evaluation.	Requirements for CMS performance evaluation	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method.	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	Procedures for Administrator to approve alternative relative accuracy test for continuous emission monitoring systems (CEMS).	No, not applicable.
§ 63.8(g)	Data Reduction	COMS and CEMS data reduction requirements	No, not applicable.
§ 63.9(a)	Notification Requirements	Applicability; State delegation	Yes.
§ 63.9(b)	Initial Notifications	Requirements for initial notifications	Yes.
§ 63.9(c)	Request for Compliance Extension.	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test.	Notify Administrator 60 days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test.	Notify Administrator 30 days prior	No, not applicable.
§ 63.9(g)(1)	Additional Notifications When Using CMS.	Notification of performance evaluation	Yes.
§ 63.9(g)(2)–(3)	Additional Notifications When Using CMS.	Notification of COMS data use; notification that relative accuracy alternative criterion were exceeded.	No, not applicable.
§ 63.9(h)	Notification of Compliance Status.	Contents; submittal requirements	Yes.

TABLE 11 TO SUBPART KKKKK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KKKKK—Continued

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.9(i)	Adjustment of Submittal Deadlines.	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information.	Must submit within 15 days after the change	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applicability; general information	Yes.
§ 63.10(b)(1)	General Recordkeeping Requirements.	General requirements	Yes.
§ 63.10(b)(2)(i)	Records Related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns.	No.
§ 63.10(b)(2)(ii)	Records Related to SSM	Recordkeeping of failures to meet a standard	No. See § 63.8640(c)(2) for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Records Related to SSM	Maintenance records	Yes.
§ 63.10(b)(2)(iv)–(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)–(xii) and (xiv).	CMS Records	Records when CMS is malfunctioning, inoperative or out-of-control.	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	No, not applicable.
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1)–(15)	Records	Additional records for CMS	No, §§ 63.8575 and 63.8640 specify requirements.
§ 63.10(d)(1) and (2)	General Reporting Requirements.	Requirements for reporting; performance test results reporting.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations.	Requirements for reporting opacity and VE	No, not applicable.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	SSM Reports	Contents and submission	No. See § 63.8635(c)(8) for malfunction reporting requirements.
§ 63.10(e)(1)–(3)	Additional CMS Reports	Requirements for CMS reporting	No, §§ 63.8575 and 63.8635 specify requirements.
§ 63.10(e)(4)	Reporting COMS data	Requirements for reporting COMS data with performance test data.	No, not applicable.
§ 63.10(f)	Waiver for Recordkeeping/Reporting.	Procedures for Administrator to waive	Yes.
§ 63.11	Flares	Requirement for flares	No, not applicable.
§ 63.12	Delegation	State authority to enforce standards	Yes.
§ 63.13	Addresses	Addresses for reports, notifications, requests	Yes.
§ 63.14	Incorporation by Reference	Materials incorporated by reference	Yes.
§ 63.15	Availability of Information	Information availability; confidential information	Yes.
§ 63.16	Performance Track Provisions.	Requirements for Performance Track member facilities	Yes.

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Part II

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2002–0058; FRL–9936–20–OAR]

RIN 2060–AS09

National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; notice of final action on reconsideration.

SUMMARY: This action sets forth the Environmental Protection Agency's (EPA's) final decision on the issues for which it granted reconsideration on January 21, 2015, that pertain to certain aspects of the January 31, 2013, final amendments to the ''National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters'' (Boiler MACT). The EPA is retaining a minimum carbon monoxide (CO) limit of 130 parts per million (ppm) and the particulate matter (PM) continuous parameter monitoring system (CPMS) requirements, consistent with the January 2013 final rule. The EPA is making minor changes to the proposed definitions of startup and shutdown and work practices during these periods, based on public comments received. Among other things, this final action addresses a number of technical corrections and clarifications of the rule. These corrections will clarify and improve the implementation of the January 2013 final Boiler MACT, but do not have any effect on the environmental, energy, or economic impacts associated with the proposed action. This action also includes our final decision to deny the requests for reconsideration with respect to all issues raised in the petitions for reconsideration of the final Boiler MACT for which we did not grant reconsideration.

DATES: This rule is effective November 20, 2015.

ADDRESSES: Docket ID No. EPA–HQ–OAR–2002–0058 contains supporting information for this action on the Boiler MACT. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, EPA/DC, EPA WJC West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744 and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For further information, contact Mr. Jim Eddinger, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5426; fax number: (919) 541–5450; email address: *eddinger.jim@epa.gov.*

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ACC	American Chemistry Council
AF&PA	American Forest and Paper Association
API	American Petroleum Institute
CAA	Clean Air Act
CEMS	Continuous emissions monitoring systems
CFR	Code of Federal Regulations
CIBO/ACC	Council of Industrial Boiler Owners
CISWI	Commercial and Industrial Solid Waste Incineration
CO	Carbon monoxide
CO_2	Carbon dioxide
CPMS	Continuous parameter monitoring systems
CRA	Congressional Review Act
EGU	Electric Utility Steam Generating Unit
EPA	U.S. Environmental Protection Agency
ESP	Electrostatic precipitator
FSI	Florida Sugar Industry
HCl	Hydrogen chloride
Hg	Mercury
HSG	Hybrid suspension/grate
ICI	Industrial, Commercial, Institutional
ICR	Information collection request
MACT	Maximum achievable control technology
MATS	Mercury Air Toxics Standards
mmBtu/hr	Million British thermal units per hour
NAICS	North American Industrial Classification System
NEDACAP	Natural Environmental Development Association's Clean Air Project
NESHAP	National emission standards for hazardous air pollutants
NHPC	New Hope Power Company
NO_X	Nitrogen oxides
NSPS	New source performance standards
NTTAA	National Technology Transfer and Advancement Act
O_2	Oxygen
OMB	Office of Management and Budget
ORD	EPA Office of Research and Development
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PM	Particulate matter
POM	Polycyclic organic matter
ppm	Parts per million
SO_2	Sulfur dioxide
SSM	Startup, shutdown, and malfunction
SSP	Startup and shutdown plan
the Court	United States Court of Appeals for the District of Columbia Circuit
TSM	Total selected metals
TTN	Technology Transfer Network
UARG	Utility Air Regulatory Group
UMRA	Unfunded Mandates Reform Act
U.S.C.	United States Code
WWW	World Wide Web

Organization of this Document. The following outline is provided to aid in locating information in this preamble.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act (CRA)

I. General Information

A. Does this action apply to me?

Categories and entities potentially affected by this reconsideration action include those listed in Table 1 of this preamble:

TABLE 1—REGULATED ENTITIES

Category	North American Industrial Classification System (NAICS) code [a]	Examples of potentially regulated entities
Any industry using a boiler or process heater as defined in the final rule.	211	Extractors of crude petroleum and natural gas.
	321	Manufacturers of lumber and wood products.
	322	Pulp and paper mills.
	325	Chemical manufacturers.
	324	Petroleum refineries, and manufacturers of coal products.
	316, 326, 339	Manufacturers of rubber and miscellaneous plastic products.
	331	Steel works, blast furnaces.
	332	Electroplating, plating, polishing, anodizing, and coloring.
	336	Manufacturers of motor vehicle parts and accessories.
	221	Electric, gas, and sanitary services.
	622	Health services.
	611	Educational services.

[a] North American Industrial Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this final action. To determine whether your facility would be affected by this final action, you should examine the applicability criteria in 40 CFR 63.7490 of subpart DDDDD. If you have any questions regarding the applicability of this final action to a particular entity, contact the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. How do I obtain a copy of this document and other related information?

The docket number for this final action regarding the Major Source Boiler MACT (40 CFR part 63, subpart DDDDD) is Docket ID No. EPA–HQ–OAR–2002–0058.

World Wide Web. In addition to being available in the docket, an electronic copy of this final action is available on the Technology Transfer Network (TTN) Web site. Following signature, the EPA posted a copy of the final action at *http://www.epa.gov/ttn/atw/boiler/boilerpg.html*. The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in United States Court of Appeals for the District of Columbia Circuit (the Court) by January 19, 2016. Under CAA section 307(d)(7)(B), only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Note, under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce these requirements.

II. Background Information

On March 21, 2011, the EPA established final emission standards for industrial, commercial, and institutional (ICI) boilers and process heaters at major sources to meet hazardous air pollutant (HAP) standards reflecting the application of maximum achievable control technology (MACT)—the Boiler MACT (76 FR 15608). On January 31, 2013, the EPA promulgated final amendments to the Boiler MACT (78 FR 7138). Following that action, the Administrator received 13 petitions for reconsideration that identified certain issues that petitioners claimed warranted further opportunity for public comment.

The EPA received petitions dated March 28, 2013, from New Hope Power Company (NHPC) and the Sugar Cane Growers Cooperative of Florida. The EPA received a petition dated March 29, 2013, from the Eastman Chemical Company (Eastman). The EPA received petitions dated April 1, 2013, from Earthjustice, on behalf of Sierra Club, Clean Air Council, Partnership for Policy Integrity, Louisiana Environmental Action Network, and Environmental Integrity Project (hereinafter referred to as Sierra Club); American Forest and Paper Association on behalf of American Wood Council, National Association of Manufacturers, Biomass Power Association, Corn Refiners Association, National Oilseed Processors Association, Rubber Manufacturers Association, Southeastern Lumber Manufacturers Association, and U.S. Chamber of Commerce (hereinafter referred to as AF&PA); the Florida Sugar Industry (FSI); Council of Industrial Boiler Owners, American Municipal Power, Inc., and American Chemistry Council (hereinafter referred to as CIBO/ACC); American Petroleum Institute (API); and the Utility Air Regulatory Group (UARG) which also submitted a supplemental petition on July 3, 2013. Finally, the EPA received a petition dated July 2, 2013, from the Natural Environmental Development Association's Clean Air Project (NEDACAP) and CIBO. The EPA received revised petitions from CIBO/ACC on July 1, 2014, and on July 11, 2014, from Eastman. Both of these were revised to withdraw one of the issues raised in their initial submittal.

In response to the petitions, the EPA reconsidered and requested comment on several provisions of the January 31, 2013, final amendments to the Boiler MACT. The EPA published the proposed notice of reconsideration in the **Federal Register** on January 21, 2015 (80 FR 3090).

III. Summary of Final Action and Significant Changes Since Proposal

In this notice, we are finalizing amendments associated with certain issues raised by petitioners in their petitions for reconsideration on the 2013 final amendments to the Boiler MACT. These provisions are: (1) Definitions of startup and shutdown periods and the work practices that apply during such periods; (2) CO limits based on a minimum CO level of 130 ppm; and (3) the use of PM CPMS, including the consequences of exceeding the operating parameter. Additionally, the EPA is finalizing the technical corrections and clarifications that were proposed to correct inadvertent errors in the final rule and to provide the intended accuracy, clarity, and consistency, as well as correcting various typographical errors identified in the rule as published in the Code of Federal Regulations (CFR).

Most of these changes are very similar to those described in the proposed notice of reconsideration on January 21, 2015 (80 FR 3090). However, the EPA has made some changes in this final rule after consideration of the public comments received on the proposed notice of reconsideration. The changes are to clarify applicability and implementation issues raised by the commenters. We address several significant comments in this preamble. For a complete summary of the comments received and our responses thereto, please refer to the memorandum ‘‘Response to 2015 Reconsideration Comments for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants’’ located in the docket for this rulemaking.

A. Definition of Startup and Shutdown Periods and the Work Practices That Apply During Such Periods

1. Definitions

In the January 31, 2013, final amendments to the Boiler MACT, the EPA finalized revisions to the definition of startup and shutdown periods, which were based on the time during which fuel is fired in the affected unit for the purpose of supplying steam or heat for heating and/or producing electricity or for any other purpose. Petitioners asserted that the definitions were not sufficiently clear. In response to these petitions, we proposed an alternative definition of startup in the January 21, 2015, proposed notice of reconsideration (80 FR 3093). This alternative definition clarified pre-startup testing activities and also expanded to allow for startup after a shutdown event instead of solely the initial startup of the affected unit. The alternative definition of startup as well as the definition of shutdown also incorporated a new term ‘‘useful thermal energy’’ to replace the term ‘‘steam and heat’’ to address petitioners’ concerns of an ambiguous end of the startup period.

In today’s action, the EPA is adopting two alternative definitions of ‘‘startup,’’ consistent with the proposed rule. The first definition defines ‘‘startup’’ to mean the first-ever firing of fuel, or the firing of fuel after a shutdown event, in a boiler or process heater for the purpose of supplying useful thermal energy for heating and/or producing electricity or for any other purpose. Under this definition, startup ends when any of the useful thermal energy from the boiler or process heater is supplied for heating, producing electricity, or any other purpose. The EPA is also adopting an alternative definition of ‘‘startup’’ which defines the period as beginning with the first-ever firing of fuel, or the firing of fuel after a shutdown event, in a boiler or process heater for the purpose of supplying useful thermal energy for heating, cooling, or process purposes or for producing electricity, and ending four hours after the boiler or process heater supplies useful thermal energy for those purposes. Sources demonstrating compliance using the alternative definition will be required to meet enhanced recordkeeping provisions. These enhancements will document when useful thermal energy is provided, what fuels are used during startup, parametric monitoring data to verify relevant controls are engaged, and the time when PM controls are engaged.

In the January 31, 2013 final rule, the EPA defined ‘‘shutdown’’ to mean the cessation of operation of a boiler or process heater for any purpose, and said this period begins either when none of the steam from the boiler is supplied for heating and/or producing electricity or for any other purpose, or when no fuel is being fired in the boiler or process heater, whichever is earlier. The EPA received petitions for reconsideration of this definition, asking that the agency clarify the term. The EPA proposed a definition of ‘‘shutdown’’ in January 2015 which clarified that shutdown begins when the boiler or process heater no longer makes useful thermal energy (rather than referring to steam supplied by the boiler) for heating, cooling, or process purposes and/or generates electricity, or when no fuel is being fed to the boiler or process heater, whichever is earlier. In today’s action, the EPA is adopting a definition of ‘‘shutdown’’ that is consistent with the proposal, with some minor clarifying revisions. ‘‘Shutdown’’ is defined to begin when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generation of electricity, or when no fuel is being fed to the boiler or process heater, whichever is earlier.

The EPA received several comments on the proposed edits to the definitions of ‘‘useful thermal energy,’’ ‘‘startup,’’ and ‘‘shutdown.’’

a. Useful Thermal Energy

Several comments supported the alternative definitions of startup and shutdown to include the concept of useful thermal energy, which recognizes that small amounts of steam or heat may be produced when starting up a unit, but the amounts would be insufficient to operate processing equipment and insufficient to safely initiate pollution controls.

One comment stated that an alternative work practice period between the start of fuel combustion until 4 hours after useful thermal energy is supplied is unlawful because the EPA may set work practice standards only for categories or subcategories of sources, not for periods of operation. The comment further noted that work practice standards are allowed only if pollution is not emitted through a conveyance or the application of measurement methodology to a particular class of sources is not practicable, and the EPA has not stated either of these to be the case. The comment also claimed that, because the EPA has changed and extended startup and shutdown periods, the EPA must determine that emissions measurement is impracticable during startup and shutdown as they are now defined, which the EPA has not done.

The EPA recognizes the unique characteristics of ICI boilers and has retained the alternative definition, which incorporates the term ‘‘useful thermal energy’’ in the final rule, with some slight adjustments, as discussed below. The EPA disagrees with the commenter that the reference to ‘‘a particular class of sources’’ in CAA section 112(h)(2) limits the EPA’s authority to determine, for a category or subcategory of sources, that it is infeasible to prescribe or enforce an emission standard for those sources during certain identifiable time periods, such as startup and shutdown. Contrary to the commenter’s assertion, the EPA did make a determination under CAA section 112(h) that it is not feasible to prescribe or enforce a numeric standard during periods of startup and shutdown, because the application of measurement methodology is impracticable due to technological and economic limitations.

Information provided on the amount of time required for startup and shutdown of boilers and process heaters indicates that the application of measurement methodology for these sources using the required procedures, which would require more than 12 continuous hours in startup or shutdown mode to satisfy all of the sample volume requirements in the rule, is impracticable. In addition, the test methods are required to be conducted under isokinetic conditions (*i.e.,* steady-state conditions in terms of exhaust gas temperature, moisture, flow rate), which is difficult to achieve during these periods where conditions are constantly changing. Moreover, accurate HAP data from those periods is unlikely to be available from either emissions testing (which is designed for periods of steady state operation) or monitoring instrumentation such as continuous emissions monitoring systems (CEMS) (which are designed for measurements occurring during periods other than during startup or shutdown when emissions flow are stable and consistent). Upon review of this information, the EPA determined that it is not feasible to require stack testing, in particular, to complete the multiple required test runs during periods of startup and shutdown due to physical limitations and the short duration of startup and shutdown periods. Based on these specific facts for the Boilers and Process Heater source category, the EPA developed a separate standard for these periods, and we are finalizing amendments to the work practice standards to meet this requirement. As detailed in the response to this commenter in the 2013 final amendments to the Boiler MACT (EPA–HQ–OAR–2002–0058–3511–A1), the EPA continues to maintain that testing is impracticable during periods of startup and shutdown, despite the revisions to the definitions for the two terms as finalized in this action. We set standards based on available information as contemplated by CAA section 112. Compliance with the numeric emission limits (*i.e.,* PM or total selected metals (TSM), hydrogen chloride (HCl), mercury (Hg), and CO) are demonstrated by conducting performance stack tests. The revised definitions of startup and shutdown better reflect when steady-state conditions are achieved, which are required to yield meaningful results from current testing protocols.

Several comments requested that the EPA add the term ''flow rate'' to the definition of useful thermal energy, consistent with the preamble to the proposed notice of reconsideration (80 FR 3093). The EPA recognizes the importance of flow rate as a parameter for determining when useful thermal energy is being supplied by a boiler or process heater and has added this term to the definition in the final rule.

Two comments argued that for the alternative definitions of startup and shutdown to be useful, the term ''useful thermal energy'' must incorporate a primary purpose component that assures that the 4-hour startup period is not triggered until useful energy is supplied to the most demanding end use of the boiler. Several comments agreed with the EPA that startup ''should not end until such time that all control devices have reached stable conditions'' (*see* 80 FR 3094, column 1), but noted that the time frame of 4 hours after a unit supplies useful thermal energy is not workable for some boilers due to site-specific factors and technology differences. One commenter agreed with the EPA that the variation of practices and capabilities among fossil-fuel fired boilers warrants longer periods when work practices apply in lieu of ICI MACT emission limits.

The EPA agrees that the definition of ''useful thermal energy'' could be further clarified; however, we disagree that basing the end of startup on a primary purpose approach which considers the most demanding end use is an appropriate approach. Often times, ICI boilers can serve more than one purpose. As long as the boiler is providing useful thermal energy to one of its intended purposes, the unit is supplying ''useful thermal energy.'' The final definition of ''useful thermal energy'' incorporates the term ''flow'' to more appropriately reflect when the energy is provided for any primary purpose of the unit. We believe that supplying energy at the minimum temperature, pressure, and flow to any energy use system is the primary purpose of any unit.

b. Startup

Several comments claimed that even with an alternative definition of startup to incorporate the term ''useful thermal energy,'' the first definition remains unworkable. The act of supplying heat, steam, or electricity does not represent the functional end of the startup period, and some processes are designed such that downstream equipment receives heat and/or steam when fuel is being burned during startup of the boilers and/or process heaters.

The EPA has adjusted the first definition of startup to replace ''steam'' with ''useful thermal energy''. Additionally, the term ''useful thermal energy'' was revised to incorporate a minimum flowrate to more appropriately reflect when the energy is provided for any primary purpose of the unit. Together, these changes alleviate the concerns of when the startup period functionally ends. Boilers and process heaters should be considered to be operating normally at all times steam or heat of the proper pressure, temperature and flow rate is being supplied to a common header system or energy user(s) for use as either process steam or for the cogeneration of electricity.

c. Shutdown

Several comments supported the EPA's proposed definition of shutdown, because the proposed revisions now adequately address the circumstances for some affected units where fuel remaining in the unit on a grate or elsewhere continues to combust although fuel has been cut off and useful thermal energy is no longer generated. Two comments suggested that the definition could be clarified to recognize that the shutdown period begins when no useful steam or electricity is generated, or when fuel is no longer being combusted in the boiler. After the shutdown period ends, some steam may still be generated temporarily, even though the steam is not useful thermal energy (*i.e.,* the steam does not meet the minimum operating temperature, pressure, and flow rate).

The EPA has adjusted the definition of shutdown to replace the phrase ''makes useful thermal energy'' to ''supplies useful thermal energy.'' The shutdown period begins when no useful steam or electricity is generated, or when fuel is no longer being combusted in the boiler. The term ''supplies'' is the preferred phrase in the definition of shutdown instead of ''makes'' to be consistent with the definition of startup, and is a more accurate term to use to describe the function of the boiler or process heater.

2. Work Practices

The EPA is adopting work practices that apply during the periods of startup and shutdown which reflect the emissions performance achieved by the best performing units. These work practices include use of clean fuels during startup and shutdown. In addition, under the alternate work practice, sources must engage all applicable control devices so that the emissions standards are met no later than four hours after the start of supplying useful thermal energy and must engage PM controls within one hour of first feeding non-clean fuels.

a. Clean Fuels

In the January 31, 2013, final amendments to the Boiler MACT, the EPA finalized a definition of ''clean fuels'' that could be used during periods of startup and shutdown to satisfy the clean fuels requirement. Petitioners claimed that the list of ''clean fuels'' was too narrow. In response to these petitions, the EPA proposed revisions to this term in the January 21, 2015, notice of reconsideration to include ''other gas 1'' fuels, as well as any fuels that meet the applicable TSM, HCl, and Hg emission limits based on fuel analysis. In today's action, the EPA is finalizing these proposed revisions to the definition of ''clean fuels'' and also adding ''clean dry biomass'' to the definition of ''clean fuels.''

The EPA received several comments on the proposed changes to the definition of clean fuels. Several comments supported the EPA's proposal to expand the list of eligible clean fuels for starting up a boiler or process heater to include all gaseous fuels meeting the ''other gas 1'' classification and any fuel that meets the applicable TSM, HCl, and Hg emission limits using fuel analysis. Another comment claimed that the EPA had not shown that boilers burning ''clean fuels'' or those fuels newly added to the ''clean fuels'' list (*i.e.,* other gas 1) can meet CO standards or that emissions of organic HAP will not increase. This comment suggested that allowing sources to emit more CO or organic HAP than is permitted by the standards, is not ''consistent with'' CAA section 112(d), and is, therefore, unlawful. This comment also expressed concerns that broadening the ''clean fuel'' definition would allow sources to burn tires as ''clean fuel,'' provided that they meet fuel analysis requirements for Hg, TSM, and HCl despite the fact that burning tires plainly increases polycyclic aromatic hydrocarbons (PAH).

Based on the comments received, the EPA is finalizing an expanded list of clean fuels to add any fuels that meet the applicable TSM, HCl and Hg emission limits based on fuel analysis. The EPA disagrees with the comment that the clean fuels requirement is inconsistent with CAA section 112(d) because it fails to address emissions of CO or organic HAP. These pollutants are byproducts of the combustion process, and, therefore, emissions are not fuel-dependent and cannot be measured through fuel analysis. For instance, the formation of POM is effectively reduced by good combustion practices (*i.e.,* proper air to fuel ratios). In addition, because these pollutants are byproducts of the combustion process, the EPA does not expect most units to require post-combustion controls to meet the CO limits once the startup period has ended, but instead will comply by conducting the required tune-up (which serves to reduce HAP emissions at all times, including during startup and shutdown), and adopting other combustion best practices. In contrast, the EPA expects many units to install one or more post-combustion controls to reduce emissions of HCl, Hg, or non-Hg metallic HAP. Because CO and organic HAP are combustion byproducts, emissions of CO and organic HAP are likely to vary little among boilers during startup since combustion practices during that period tend to be similar and well-controlled in order to prevent thermal stresses, and are not dependent on the fuel being combusted, unlike Hg, HCl, and other hazardous metals. Therefore, it is reasonable for EPA to conclude that emissions during startup will reflect the maximum degree of reduction of CO and organic HAP, as well as other HAP, achieved during startup. For these reasons, today's action retains the proposed requirements to qualify as a clean fuel through fuel analysis data.

Regarding the commenter's concerns with tires, specifically, the EPA has reviewed the fuel analysis data for tire derived fuel for HCl, Hg, and TSM emissions submitted in the databases used in the final rule. None of the samples indicate that tires could demonstrate compliance with the TSM limit for solid fossil fuels. Thus, the EPA believes that tires would not qualify as a ''clean fuel.''

Two commenters asked the EPA to include dry biomass (*i.e.,* moisture content less than 20 percent) in the list of clean fuels allowed during startup and shutdown. The commenters noted that the chemical makeup and combustion characteristics are similar to paper and cardboard which are currently included. Further, dry biomass has low chloride, Hg, and moisture content, burns cleaner than other solid fuels, and produces low HCl, Hg, and CO. The list of clean fuels was expanded to include ''clean dry biomass.'' The EPA has reviewed boiler information collection request (ICR) fuel analysis data and AP–42 emission factor data for wood combustion. The ICR fuel analysis data for solid fuels often exclude numeric values for certain metallic HAP that were reported as below detection levels. These data show that clean dry biomass can meet the Hg and HCl limits for solid fuels and the TSM levels in dry biomass are 6 times lower than in solid fossil fuels. Therefore, the EPA has finalized the list of clean fuels to include clean dry biomass. The EPA added the phrase ''clean dry biomass'' to Table 3 to subpart DDDDD of part 63, item 5.b. The EPA also defined this new term for this subpart drawing on similarly defined term in the ''Identification of Non-Hazardous Secondary Materials That Are Solid Waste'' rulemaking. Under the final rule, clean dry biomass fuels are now categorically accepted as clean fuels and do not need to demonstrate that the fuel meets the TSM, Hg, and HCl emission limits with each new fuel shipment.

Based on comments received to clarify how the ''clean fuel'' provision works, the EPA also made several corrections in the final rule. Text in 40 CFR 63.7555(d)(11) is added to acknowledge the possibility for additional clean fuels. Language in 40 CFR 63.7555(d)(11) was revised to replace the phrase ''coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases'' with ''fuels that are not clean fuel.''

For consistency, the phrase ''coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases'' was replaced with ''fuels that are not clean fuel'' in Table 3 to subpart DDDDD of part 63, items 5.c and 6.

b. Engaging Pollution Controls

The January 2013 final amendments to the Boiler MACT included a provision for boilers and process heaters when they start firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases to engage applicable pollution control devices except for limestone injection in fluidized bed combustion (FBC) boilers, dry scrubbers, fabric filters, selective non-catalytic reduction, and selective catalytic reduction, which must start as expeditiously as possible. The EPA received several petitions for reconsideration of this aspect of the work practice standard expressing safety concerns with engaging electrostatic precipitator (ESP) control devices. These petitions urged the EPA to revise requirements to include ESP energization with the other controls that are to be started as expeditiously as possible rather than when solid fuel firing is first started.

In response to these petitions, the January 2015 proposal included an alternate requirement to engage all control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. Under the proposal, owners or operators would be required to engage PM control within 1 hour of first firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases. Owners or operators using this alternative would have to develop and implement a written startup and shutdown plan (SSP) and the SSP must be maintained on site and available upon request for public inspection. The EPA also proposed to allow a source to request a case-by-case extension to the 1-hour period for engaging the PM controls based on evidence of a documented manufacturer-identified safety issue and proof that the PM control device is adequately designed and sized to meet the filterable PM emission limit. The EPA is adopting the proposed requirements with minor revisions.

The EPA received several comments on the proposed revisions for engaging pollution controls. One comment supported the EPA's recognition that some HAP emission control technologies require specific operating conditions before being engaged and should be excluded from operation as soon as primary fuel firing begins. Several comments requested that the EPA add ESPs to the list of controls that must be started as expeditiously as possible, noting that the 1-hour requirement for engaging ESPs is unreasonable. Another comment considered the EPA's decision to set a less stringent work practice standard that allows boilers to operate without pollution controls to be inconsistent with CAA section 112(d)(2) and arbitrary. This commenter also considered the requirement to engage applicable pollution controls ''as expeditiously as possible'' within the startup period to be inconsistent with CAA section 112(d) and unlawful, as well as arbitrary and capricious. The commenter states that it is not acceptable for a standard to allow sources to do whatever is ''possible'' for them. The commenter stated that the point of a national standard is to set one limit that governs all the sources to which it applies.

The EPA has established a work practice for periods of startup and shutdown because it is infeasible to measure emissions during these periods. Moreover, accurate HAP data from those periods are unlikely to be available from either emissions testing (which is designed for periods of steady state operation) or monitoring instrumentation such as CEMS (which are designed for measurements occurring during periods other than during startup or shutdown when emissions flow is stable and consistent). The work practice for PM controls was established by evaluating the performance of the best performing sources as determined by the EPA. For the Mercury and Air Toxics Standards (MATS), the EPA conducted an analysis of nitrogen oxide (NO_X) and sulfur dioxide (SO_2) CEMS data from electric utility steam generating units (EGUs) to determine the best performing sources with respect to NO_X and SO_2 emissions (79 FR 68779 November 19, 2014). The best performing sources are those whose control devices are operational within 4 hours of starting electrical generation. Since the types of controls used on EGUs are similar to those used on industrial boilers and the start of electricity generation is similar to the start of supplying useful thermal energy, we believe that the controls on the best performing industrial boilers would also reach stable operation within four hours after the start of supplying useful thermal energy and have included this timeframe in the proposed alternate definition. This conclusion was supported by the limited information (13 units) the EPA did have on industrial boilers and by information (76 units) submitted by CIBO obtained from an informal survey of its members on the time needed to reach stable conditions during startup. The time reported, in the CIBO survey summary, to reach stable operation after coming online (supplying useful thermal energy) of the best performing units ranged from 1 to 4 hours. See the docketed memorandum ''2015 Assessment of Startup Period for Industrial Boilers.''

The EPA also maintains that the best performers are able to engage their PM control devices within 1 hour of coal, biomass, or residual oil combustion. In the January 2013 final Boiler MACT rule and in the January 2015 reconsideration proposal, the EPA stated that once an affected unit starts firing coal, biomass, or heavy liquid fuel, all of the applicable control devices had to be engaged (with certain listed exceptions). The listed exceptions did not include ESP for controls of PM emissions and, thus, the EPA's intent was that ESP controls would be engaged (*i.e.,* operational) at the moment non-clean fuel are fired. We did receive comments making us question the ability of most affected units to engage their ESP controls so quickly after first firing non-clean fuel. These comments suggested that there may need to be some flexibility. For this reason, we are providing a 1-hour period of time following the initiation of firing of non-clean fuels before PM controls must be engaged. Therefore, we are finalizing as part of the alternative work practice that PM control must be engaged within 1 hour of the time non-clean fuels are introduced into the affected unit. We have also added requirements to document that PM control is being achieved through the operation of the PM controls. The requirement to engage and operate the PM controls within 1 hour of non-clean fuels being charged to the units is intended to ensure that PM and HAP reductions will occur as quickly as possible after primary fuel combustion begins. We continue to believe that sources will be able to engage and operate their controls to comply with the standards at the end of startup, and that sources can make physical and/or operational changes at the facility to ensure compliance at the end of startup. As noted before, the EPA believes it appropriate to base its startup and shutdown work practices on those practices employed by the best performers. Because the above information indicates that ESPs can be energized within 1 hour of coal firing being started, we are finalizing that PM controls must be engaged within 1 hour of starting to fire non-clean fuels.

Several commenters were also concerned with compliance deadlines and asked the EPA to provide and finalize a more streamlined procedure for units needing more than 1 hour to safely initiate PM control during startup. They were concerned that their case-by-case extensions would not be approved by the local authority by the compliance deadlines, considering that the EPA must finalize this rule before it is adopted by the state.

The EPA is finalizing the provision allowing an owner or operator to apply for a boiler-specific case-by-case alternative timeframe with the requirement to engage PM control devices within 1 hour of firing non-clean fuels. However, the delegated authority will only consider such requests for boilers that can provide evidence of a documented manufacturer-identified safety issue, proof that the PM control device is adequately designed and sized to meet the final PM emission limit, and that it can demonstrate it is unable to safely engage and operate the PM controls. In its request for the case-by-case determination, the owner or operator must provide, among other materials, documentation that: (1) The boiler is using clean fuels to the maximum extent possible to bring the boiler and PM control device up to the temperature necessary to alleviate or prevent the safety issues prior to the combustion of non-clean fuels in the boiler, (2) the boiler has explicitly followed the manufacturer's procedures to alleviate or prevent the safety issue, (3) the source provides details of the manufacturer's statement of concern, and (4) the source provides evidence that the PM control device is adequately designed and sized to meet the final PM emission limit. In addition, the source will have to indicate the other measures it will implement to limit HAP emissions during periods of startup and shutdown to ensure a control level consistent with the final work practice requirements.

The EPA is finalizing a provision, 40 CFR 63.7555(d)(13), that provides that an owner or operator may apply for an alternative timeframe with the PM controls requirement to the permitting authority. We recognize that there may be very limited circumstances that compel an alternative approach for a specific unit. The EPA has added language to Table 3 to subpart DDDDD of part 63, item 5.c to clarify that a written SSP must be developed. Text was added to Table 3 to subpart DDDDD of part 63—footnote ''a'' to acknowledge that an alternative timeframe to the PM controls requirement can be granted by the EPA or the appropriate state, local, or tribal permitting authority that has been delegated authority.

B. Revised CO Limits Based on a Minimum CO Level of 130 ppm

In the January 2013 final amendments to the Boiler MACT, the EPA established a CO emission limit for certain subcategories at a level of 130 ppm, based on an analysis of CO levels and associated organic HAP emission reductions. The January 2015 proposal retained these emission limits, but requested additional data to support whether or not these limits were appropriate or should be modified. The EPA is retaining these limits, as discussed below.

The EPA received numerous comments supporting the minimum CO level of 130 ppm, adjusted to 3-percent oxygen (O_2). These comments agreed that the level selected was within the range of where the relationship between CO and organic HAP breaks down. Many of these comments also noted that the level was consistent with other EPA regulations for hazardous waste combustors and industrial furnace rules.

One comment disagreed that the minimum CO level of 130 ppm reflects the CO emissions achieved by the best performers in this subcategory, and contended that this level does not satisfy the requirements of CAA section 112(d)(3). This comment also disagreed with the use of formaldehyde as a surrogate for other organic HAPs and provided supporting evidence.[1] The commenter concluded that formaldehyde emissions are formed differently than polychlorinated biphenyls (PCBs) and PAHs, and they noted that combustion practices that reduce emissions of PCBs and PAHs (*i.e.* extremely high temperatures) can increase emissions of CO. The comments also noted that the gaseous properties of formaldehyde emissions differ from PCBs and PAH emissions, which are particles.

After consideration of the comments received, the EPA is maintaining a minimum level of 130 ppm CO at 3-percent O_2. The issue of whether or not CO is an appropriate surrogate for formaldehyde (a representative organic HAP in boiler emissions), or non-dioxin organic HAP in general, is outside the scope of this reconsideration, since the reconsideration solicited comment only on the CO limits established at 130 ppm, not on the broader issue of using CO as a surrogate for organic HAP. Moreover, the appropriateness of CO as a surrogate is currently part of ongoing litigation before the Court (*United States Sugar Corporation* v. *EPA, pending case No. 11–1108*). As noted in the final amendments to the Boiler MACT (78 FR 7145 January 31, 2013), the EPA selected formaldehyde ''. . . as the basis of the organic HAP comparison because it is the most prevalent organic HAP in the emission database and a large number of paired tests existed for boilers and process heaters for CO and formaldehyde.'' As for the additional evidence submitted with the comments, we do not disagree that the gaseous properties of formaldehyde emissions differ from PCBs and PAH emissions. However, the surrogacy testing conducted by the EPA's Office of Research and Development (ORD) clearly show a high correlation between CO and PAH, similar to the correlation between formaldehyde and CO. Furthermore, as shown in figure 2 of the technical report provided in Attachment A to the commenter letter, PAH emissions decrease with increasing O_2 levels, but then increase with higher levels of excess O_2, similar to the trend we saw in our assessment of the correlation between CO and formaldehyde.

C. PM CPMS

The March 2011 Boiler MACT final rule required units greater than 250 million British thermal units per hour (MMBtu/hr) combusting solid fossil fuel or heavy liquid to install, maintain, and operate PM CEMS to demonstrate compliance with the applicable PM emission limit (*see* 76 FR 15615, March 21, 2011). In response to petitions for reconsideration challenging PM CEMS, the EPA finalized a CPMS for demonstrating continuous compliance with the PM standards in the January 2013 final amendments to the Boiler MACT. The CPMS requirement allowed sources a number of exceedances of the operating limit before the exceedance would be presumed to be a violation, and also allowed certain low emitting sources to ''scale'' their site-specific operating limit to 75 percent of the emission standard. The EPA received petitions for reconsideration on the PM CPMS provisions and proposed these provisions again in January 2015 to provide additional opportunity for comment.

Several comments expressed concern about the cost and burden of the PM CPMS requirements. The combination of periodic compliance emissions testing and continuous monitoring of operational and parametric control measure conditions is appropriate for assuring continuous compliance with the emissions limitations. Without recurring testing, the EPA would have no way to know if parameter ranges established during initial performance testing remained viable in the future.

Several comments also contended that the CPMS limit should be based on the highest reading during the initial performance test instead of the average of the readings during each of the three test runs. The EPA disagrees with the commenters. Requiring PM CPMS to correspond to the average of three PM test runs rather than the single highest test run during the performance test alleviates the potential for setting an operating limit that corresponds to an emissions result higher than the emission standard, which could occur if the limit corresponded to the highest reading.[2] The EPA reiterates the statement in the January 2015 preamble that a 4th deviation of the PM CPMS operating limit in a 12-month period is a presumptive violation of the emissions standard. However, this is just a presumption which may be rebutted with evidence from the process controls, control monitoring parameters, repair logs, and associated Method 5 performance tests. In addition, the operating limit is based on a 30-day rolling average, which provides for additional cushion on variability of PM

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[1] *See* Exhibit A from commenter, EPA–HQ–OAR–2002–0058–3919–A1.

[2] S. Johnson, memo to Docket ID No. EPA–HQ–OAR–2011–0817, ''Establishing an Operating Limit for PM CPMS,'' November 2012.

readings beyond just the initial performance test.

Based on comments, the EPA is maintaining the PM CPMS requirement as promulgated with minor adjustments as discussed below.

One commenter requested that the word ''certify'' be removed from 40 CFR 63.7525(b) and (b)(1). The EPA agrees that a PM CPMS is not a ''certified'' instrument, in that it is not certified through a performance specification. We have removed this language from the final rule.

IV. Technical Corrections and Clarifications

In the January 21, 2015, notice of reconsideration, the EPA also proposed to correct typographical errors and clarify provisions of the final rule that may have been unclear. This section of the preamble summarizes the significant changes made to the proposed corrections and clarifications, as well as corrections and clarifications being finalized based on comment.

A. Opacity Is an Operating Parameter

Commenters contended that the opacity operating limit of 10-percent may be an appropriate indicator of compliance with the applicable Boiler MACT PM limits for some boilers, but it is not an appropriate indicator of compliance for all boilers in all solid fuel subcategories.

Commenters also contend that the 10-percent opacity level is an ''operating limit,'' not an emission limit, and is utilized as an indicator of compliance with the Boiler MACT PM limit. Operating limit requirements are provided in Table 4 to subpart DDDDD of part 63, and include opacity. Emission limits are included in Tables 1 and 2 to subpart DDDDD of part 63 and do not include opacity. Commenters added that the language in 40 CFR 63.7500(a)(2) creates a conflict. By requiring a facility to request an alternate opacity parameter limit via 40 CFR 63.6(h)(9), the commenters claim that the EPA will be subjecting units to a more stringent PM standard than the established MACT floor because this process will not be feasible to complete prior to the compliance date. To resolve this issue, commenters asked that the EPA delete 40 CFR 63.7570(b)(2) so it will be clear that a request for an alternate opacity operating parameter limit is accomplished under 40 CFR 63.8(f) per 40 CFR 63.7570(b)(4) and 40 CFR 63.7500(a)(2).

The EPA agrees that the variation in PM limits for various solid fuel subcategories warrants some flexibility and similar variation in opacity limits. Opacity serves as a surrogate indicator of PM emissions, but was not intended by the EPA as an emission limit under the rule. Rather, it was intended to be an operating limit, which is established on a source-specific basis. Therefore we are revising the opacity operating limit such that affected facilities will have the option to comply with the 10-percent operating limit or a site-specific value established during the performance test based on the highest hourly average, which is consistent with how the other operating limits are established.

To implement this change in the final rule, 40 CFR 63.7570(b) is revised to remove the text currently in paragraph (b)(2), and the phrase ''or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation'' is added to Table 4 to subpart DDDDD of part 63, item 3; Table 4 to subpart DDDDD of part 63, item 6; and Table 8 to subpart DDDDD of part 63, item 1.c. Table 7 to subpart DDDDD of part 63 is expanded to include the process for establishing operating limits and item c is added.

B. CO Monitoring and Moisture Corrections

Commenters asked that since the applicable CO emission limits of the rule are expressed on a ''dry'' basis, the EPA should include additional provisions in the final rule to allow carbon dioxide (CO_2) CEMS to be used without petitioning for alternative monitoring procedures. Commenters also observed that 40 CFR 63.7525(a)(2) cross-references other requirements, including 40 CFR part 75, which do not address CO monitoring and do not fully address the moisture correction.

Language is added to 40 CFR 63.7525(a)(2)(vi) to clarify requirements when CO_2 is used to correct CO emissions and CO_2 is measured on a wet basis.

It is also acknowledged that CO concentration on a dry basis corrected to 3-percent O_2 can be calculated using data from the CO_2 CEMS and equations contained in EPA Method 19 instead of during the initial compliance test. Language is added to Table 1 to subpart DDDDD of part 63, as well as footnote ''d'' and footnote ''c'' in the following tables: Table 2, Table 12, and Table 13 to subpart DDDDD of part 63.

C. Affirmative Defense for Violation of Emission Standards During Malfunction

The EPA received numerous comments on its proposal to remove from the current rule the affirmative defense to civil penalties for violations caused by malfunctions. Several commenters supported the removal of the affirmative defense for malfunctions. Other commenters opposed the removal of the affirmative defense provision.

First, commenters (AF&PA and Georgia-Pacific) urged the EPA to publish a new or supplemental statement of basis and purpose for the proposed rule that explains (and allows for public comment on) the appropriateness of applying the boiler/process heater emission standards to malfunction periods without an affirmative defense provision.

Second, a commenter (AF&PA) argued the affirmative defense was something that the EPA considered necessary when the current standards were promulgated; it was part of the statement of basis and purpose for the standards required to publish under CAA section 307(d)(6)(A).

Third, commenters (CIBO/ACC) argued that the EPA should not remove the affirmative defense until the issue is resolved by the Court. Furthermore commenters argued the *NRDC* Court decision that the EPA cites as the reason for eliminating the affirmative defense provisions does not compel the EPA's proposed action here to remove the affirmative defense in this rule.

Fourth, several commenters argued that without affirmative defense, or adjusted standards, the final rule provides sources no means of demonstrating compliance during malfunctions.

Fifth, commenters (AF&PA, Class of '85 Regulatory Response Group, CIBO/ACC, American Electric Power, NHPC) urged the EPA to establish work practice standards that would apply during periods of malfunction instead of the emission rate limits or a combination of work practices and alternative numerical emission limitation. The EPA can address malfunctions using the authority Congress gave it in CAA sections 112(h) and 302(k) to substitute a design, equipment, work practice, or operational standard for a numerical emission limitation.

The Court recently vacated an affirmative defense in one of the EPA's CAA section 112(d) regulations. *NRDC* v. *EPA,* No. 10–1371 (D.C. Cir. April 18, 2014) 2014 U.S. App. LEXIS 7281 (vacating affirmative defense provisions in the CAA section 112(d) rule establishing emission standards for Portland cement kilns). The Court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts in such cases lies exclusively with the courts, not the

EPA. Specifically, the Court found: ''As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.' *see NRDC,* 2014 U.S. App. LEXIS 7281 at *21 (''[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA.''). As a result, the EPA is not including a regulatory affirmative defense provision in the final rule. The EPA notes that removal of the affirmative defense does not in any way alter a source's compliance obligations under the rule, nor does it mean that such a defense is never available.

Second, the EPA notes that the issue of establishing a work practice standard for periods of malfunctions or developing standards consistent with performance of best performing sources under all conditions, including malfunctions, was raised previously; see the discussion in the March 21, 2011 preamble to the final rule (76 FR 15613). In the most recent notice of proposed reconsideration (80 FR 3090, January 21, 2015), the EPA proposed to remove the affirmative defense provision, in light of the *NRDC* decision. The EPA did not propose or solicit comment on any revisions to the requirement that emissions standards be met at all times, or on alternative standards during periods of malfunctions. Therefore, the question of whether the EPA can and should establish different standards during malfunction periods, including work practice standards, is outside the scope of this final reconsideration action. The EPA further notes that this issue is currently before the Court in the pending case *United States Sugar Corporation* v. *EPA, pending case No. 11–1108.*

Finally, in the event that a source fails to comply with an applicable CAA section 112(d) standard as a result of a malfunction event, the EPA's ability to exercise its case-by-case enforcement discretion to determine an appropriate response provides sufficient flexibility in such circumstances as was explained in the preamble to the proposed rule. Further, as the Court recognized, in an EPA or citizen enforcement action, the Court has the discretion to consider any defense raised and determine whether penalties are appropriate. Cf. *NRDC,* 2014 U.S. App. LEXIS 7281 at *24 (arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same is true for the presiding officer in EPA administrative enforcement actions.

D. Definition of Coal

The last part of the definition of coal published in the final amendments to the Boiler MACT on January 31, 2013 (78 FR 7186), reads as follows: ''Coal derived gases are excluded from this definition [of coal].'' In the January 2015 proposal (80 FR 3090), the EPA proposed to modify this definition to read as follows: ''Coal derived gases and liquids are excluded from this definition [of coal].'' The EPA characterized its proposed change to the definition as one of several ''clarifying changes and corrections.'' This proposed change was based on a question received on whether coal-derived liquids were meant to be included in the coal definition.

The EPA received several comments disagreeing with the proposed change to the definition of coal, and indicating such a change would have a substantive effect on some affected facilities. One commenter who operates a facility with coal-derived liquids contended that the composition and emission profile of these liquids more closely resemble the coal from which they are derived than any of light or heavy liquid fuels used to set standards for the liquid fuel categories. The commenter added that the delegated authority for this facility, North Dakota Department of Health, accepted an applicability determination for the facility to classify the coal derived liquid fuels as the coal/solid-fossil fuel subcategory. This commenter also noted that coal-derived liquid fuels are treated as coal/solid fossils in other related rules such as 40 CFR part 60, subpart Db.

Based on these comments, the EPA is not finalizing any changes to the definition of coal. The definition published on January 31, 2013 (78 FR 7186), remains unchanged. As noted by the commenters, treating coal liquids as coal is consistent with the ICI boiler NSPS (40 CFR part 60, subpart Db), and EPA agrees with the commenters that coal derived liquids are more similar to coal solid fuels than liquid fuels.

E. Other Corrections and Clarifications

In finalizing the rule, the EPA is addressing several other technical corrections and clarifications in the regulatory language based on public comments that were received in response to the January 2015 proposal and other feedback as a result of implementing the rule. In addition to the changes outlined in Table 1 of the January 21, 2015, proposed notice of reconsideration (80 FR 3098), the EPA is finalizing several other changes, as outlined in Table 2 of this preamble.

TABLE 2—SUMMARY OF TECHNICAL CORRECTIONS AND CLARIFICATIONS SINCE JANUARY 2015 PROPOSAL

Section of subpart DDDDD (40 CFR part 63)	Description of correction (40 CFR part 63)
63.7495(h)	• Replaced ''January 31, 2016'' with ''the compliance date of this subpart'' to cover sources that might be making changes between January 31, 2016, and the extended compliance date of January 31, 2017.
63.7500(a)(1)	• Fixed the term ''common heaters'' to ''common headers.''
63.7515(e)	• Revised to clarify that a source may take multiple samples during a month and the 14-day separation does not apply.
63.7521(g)(2)(ii)	• Replaced the word ''notification'' with the word ''identification'' so the sentence reads as follows: ''For each anticipated fuel type, the identification of whether you or a fuel supplier will be conducting the fuel specification analysis.''
63.7521(g)(2)(vi)	• Revised this paragraph to indicate that, when using a fuel supplier's fuel analysis, the owner or operator is not required to submit the information in 40 CFR 63.7521(g)(2)(iii). Commenters found difficulties when they purchased fuel from another source.
63.7525(a)(2)(vi)	• Language was added because 40 CFR part 75 does not address CO monitoring and does not fully address the moisture correction. *See* section IV.B of the preamble.
63.7525(b) and (b)(1)	• Removed the word certify since PM CPMS does not have a performance specification. *See* section III.C of the preamble.

TABLE 2—SUMMARY OF TECHNICAL CORRECTIONS AND CLARIFICATIONS SINCE JANUARY 2015 PROPOSAL—Continued

Section of subpart DDDDD (40 CFR part 63)	Description of correction (40 CFR part 63)
63.7525(g)(3)	• Revised the paragraph to clarify that the pH monitor is to be calibrated each day and not performance evaluated which is covered in 40 CFR 63.7525(g)(4).
63.7530(c)(3), (c)(4), and (c)(5)	• Revised equations 7, 8, and 9 to clarify that for ''Qi'' the highest content of chlorine, Hg, and TSM is used only for initial compliance and the actual fraction is used for continuous compliance demonstration.
63.7530(d)	• Paragraphs 63.7530(d) and 63.7545(e)(8)(i) contained requirements that were similar in that they both required the submittal of a signed statement or certification of compliance that an initial tune-up of the subject unit has been completed. • Paragraph 63.7530(d) was deleted and 63.7545(e)(8)(i) was modified to clarify that the requirement to include a signed statement that the tune-up was conducted is applicable to all of the boilers and process heaters covered by 40 CFR part 63, subpart DDDDD.
63.7530(e)	• Amended paragraph to clarify that the energy assessment is also considered to have been completed if the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.
63.7540(a)(2)	• Corrected the typographical error in the proposed regulatory text so that it has the proper cross-reference: 40 CFR 63.7555(d).
63.7540(a)(10)(i)	• Revised to provide owners and operators the flexibility to perform burner inspections at any time prior to tune-up.
63.7540(a)(12)	• Revised this paragraph to clarify the O_2 set point for a source not subject to emission limits.
63.7540(a)(14)(i) and (15)(i)	• Clarified the length of the performance test depending on the basis of the rolling average for each operating parameter, for internal rule consistency.
63.7545(e)	• Clarification that notification for these sources is due within 60 days.
63.7545(e)(2)(iii)	• Added a requirement to state the basis of the 30-day rolling average for each operating parameter, for internal rule consistency.
63.7545(e)(8)(i)	• Paragraphs 63.7530(d) and 63.7545(e)(8)(i) contained requirements that were similar in that they both required the submittal of a signed statement or certification of compliance that an initial tune-up of the subject unit has been completed. • Paragraph 63.7530(d) was deleted and 63.7545(e)(8)(i) was modified to clarify that the requirement to include a signed statement that the tune-up was conducted is applicable to all of the boilers and process heaters covered by 40 CFR part 63, subpart DDDDD.
63.7550(b)(1)	• Clarified that the first reporting period for units submitting an annual, biennial, or 5 year compliance report ends on December 31 within 1, 2, or 5 years, as applicable, after the initial compliance date.
63.7550(b)(5)	• Paragraph was included in the March 2011 rule and in the December 2011 reconsideration proposal, but inadvertently removed from the January 2013 final. The text has been reinserted.
63.7550(c)(5)(xvi)	• Clarification that a rolling average is not an arithmetic mean. An arithmetic mean requires more space in a data acquisition system and more effort to review the information for accuracy. Furthermore, the intent is that ALL readings for CEMS and only deviations for non-CEMS are required.
63.7555(d)(11) and (12)	• Text added to clarify that the new requirements apply only if startup definition 2 is selected. • Changed from ''fired'' to ''fed'' to alleviate concerns about units firing solid fuels on a grate or in a FBC where the residual material in the unit keeps burning after fuel feed to the unit is stopped. • Changed from the list of fuels (''coal/solid fossil fuel, biomass/biobased solids, heavy liquid fuel, or gas 2 (other) gases'') to ''fuels that are not clean fuels'' as an acknowledgement that additional clean fuels could be named.
63.7570(b)(1)	• Removed ''non-opacity'' since opacity is not an emission limit, but instead an operating limit. • Added ''except as specified in § 63.7555(d)(13)'' to clarify the procedures for requesting an alternative timeframe with the PM controls requirement to the permitting authority.
63.7575	• Revised definition of energy assessment to include both process heaters and boilers.
63.7575	• Revised definition of minimum sorbent injection rate to clarify that the ratio of sorbent to sulfur applies only to fluidized bed boilers that do not have sorbent injection systems installed.
63.7575	• Revised definition of 30-day rolling average for internal rule consistency. • Revised definition of liquid fuel to remove ''comparable fuels as defined under 40 CFR 261.38.'' This section of the part 261 was vacated by the Court.
63.7575	• Edited definition of operating day and added a definition of rolling average to clarify the procedures for demonstration of compliance.
Table 1 to subpart DDDDD (footnotes c and d)	• Revised footnote ''c'' to change ''January 31, 2013'' to ''April 1, 2013'' to make consistent with effective date of final rule.

TABLE 2—SUMMARY OF TECHNICAL CORRECTIONS AND CLARIFICATIONS SINCE JANUARY 2015 PROPOSAL—Continued

Section of subpart DDDDD (40 CFR part 63)	Description of correction (40 CFR part 63)
	• Revised footnote "d" to clarify that CO concentration on a dry basis corrected to 3-percent O_2 can be calculated using data from the CO_2 CEMS and equations contained in EPA Method 19 instead of an initial compliance test. • This revision also applies to footnote "c" in the following tables: Table 2, Table 12, and Table 13 to subpart DDDDD.
Table 4 to subpart DDDDD	• Items 3, 4, and 6, insert "or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation" to be consistent with other operating limits. • Item 7, insert 30-day rolling average before the term "operating load" since the load parameter includes an averaging time. • Added a footnote to clarify that an acid gas scrubber is a control device that uses an alkaline solution.
Tables 4 and 8 to subpart DDDDD	• Continuous compliance is based on monthly fuel analysis and there are no operating limits related to fuel. Fuel analysis language is deleted from Table 4, item 7 and moved to Table 8, line 8.
Table 6 to subpart DDDDD	• Clarification: References to Equations 7, 8, and 9 in 40 CFR 63.7530 are incorrect in items 1.g, 2.g, and 4.g of Table 6. • Move EPA Method 1631, EPA Method 1631E, and EPA 821–R–01–013 from line 1.a to 1.f because these methods cover the analytical method, not the sample collection method. • Remove ASTM D4177 and D4057 from line 1.e and 2.e because these are sampling methods, not methods for determining moisture.
Table 7 to subpart DDDDD (item 5)	• Revised Table 7—item 5 by adding "highest hourly" to resolve an inconsistency with Table 4—item 8 and Table 8—item 10. • Added a footnote to clarify how to set operating parameters when multiple tests are conducted. • Added a footnote to clarify that future tests can confirm operating scenarios.
Table 8 to subpart DDDDD (lines 9.c, 10.c, and 11.c; footnotes).	• Revised to clarify how to set operating parameters, such as load, when multiple performance test conditions are required. The wording in Table 8, lines 9.c, 10.c, and 11.c was revised to be consistent with the wording in lines 2.c, 4.c, 5.c, 6.c, and 7.c.
Table 10 to subpart DDDDD	• For 63.6(g), revised the 3rd column to say "Yes, except § 63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2)." The edit is consistent with the revision to 40 CFR 63.7555(d)(13). • For 63.6(h)(2) to (h)(9), revised the 3th column to say "No." The edit is consistent with the revision to 40 CFR 63.7570(b).
Table 13 to subpart DDDDD	• Revise the heading to change "January 31, 2013" to "April 1, 2013" to make consistent with effective date of final rule.

V. Other Actions We Are Taking

Section 307(d)(7)(B) of the CAA states that "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b))."

As to the first procedural criterion for reconsideration, a petitioner must show why the issue could not have been presented during the comment period, either because it was impracticable to raise the issue during that time or because the grounds for the issue arose after the period for public comment (but within 60 days of publication of the final action). The EPA is denying the petitions for reconsideration on a number of issues because this criterion has not been met. In many cases, the petitions reiterate comments made on the proposed December 2011 rule during the public comment period for that rule. On those issues, the EPA responded to those comments in the final rule and made appropriate revisions to the proposed rule after consideration of public comments received. It is well established that an agency may refine its proposed approach without providing an additional opportunity for public comment. *See Community Nutrition Institute* v. *Block,* 749 F.2d at 58 and *International Fabricare Institute* v. *EPA*, 972 F.2d 384, 399 (D.C. Cir. 1992) (notice and comment is not intended to result in "interminable back-and-forth[,]" nor is agency required to provide additional opportunity to comment on its response to comments) and *Small Refiner Lead Phase-Down Task Force* v. *EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) ("notice requirement should not force an agency endlessly to repropose a rule because of minor changes").

In the EPA's view, an objection is of central relevance to the outcome of the rule only if it provides substantial support for the argument that the promulgated regulation should be revised. *See Union Oil* v. *EPA*, 821 F.2d 768, 683 (D.C. Cir. 1987) (the Court declined to remand the rule because petitioners failed to show substantial likelihood that the final rule would have been changed based on information in the petition). *See* also the EPA's Denial of the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202 of the Clean Air Act, 75 FR at 49556, 49561 (August 13, 2010). *See* also, 75 FR at 49556, 49560–49563 (August 13, 2010) and 76 FR at 4780, 4786–4788 (January 26, 2011) for additional discussion of the standard for reconsideration under CAA section 307(d)(7)(B).

This action includes our final decision to deny the requests for reconsideration with respect to all issues raised in the petitions for reconsideration of the final boiler and process heater rule for which we did not grant reconsideration.

In this final decision, several changes that are corrections, editorial changes, and minor clarifications have been made. These changes made petitioners' comments moot. Therefore, we are denying reconsideration of these issues, as described below.

A. Petitioners' Comments Impacted by Technical Corrections

1. Operating Capacity Limitation

Issue 1: The petitioners (AF&PA, CIBO/ACC) requested that the EPA resolve language conflicts in Tables 4, 7, and 8. Specifically, they claimed there is a conflict as to whether you use the highest hourly average operating load times 1.1 as the operating limit or the test average operating load times 1.1 as the operating limit. The petitioners contended that Table 7 to subpart DDDDD of part 63, item 5 should be revised to clearly state that the limit is set based on the highest hourly average during the performance test times 1.1.

Response to Issue 1: Item 5.c of Table 7 to subpart DDDDD of part 63 has been revised to correctly state, consistent with Tables 4 and 8 to subpart DDDDD of part 63, that the highest hourly average of the three test run averages during the performance test should be multiplied by 1.1 (110 percent) and used as your operating limit. The petitioners' comments are, therefore, now moot and we are denying reconsideration on this issue.

2. Averaging Time for Operating Load Limits

Issue 2: Petitioners (CIBO/ACC) requested clarification of operating load limits. The rule implies that the 110-percent load limit established during a performance test is instantaneous. The area source ICI boiler rule operating load requirement includes a 30-day rolling average period (*see* Table 7 to subpart DDDDD of part 63, Item 9–78 FR 7521). By contrast, the EPA did not add the 30-day rolling average to the Boiler MACT rule operating load requirement (*see* Table 8 to subpart DDDDD of part 63, Item 10–78 FR 7205). The EPA did, however, add the 30-day average to other requirements (*see* Table 8 to subpart DDDDD of part 63, items 2, 4, 5, 6, 7, 9, 11–78 FR 7204–7205).

The petitioners note that operating parameter limits were raised in public comments submitted on the 2013 Boiler MACT. Specifically, a commenter (AF&PA) requested a change be made in Table 4 to subpart DDDDD of part 63, item 8 (add ''30-day average'' prior to ''operating load''). The operating parameter ranges are established using test data obtained at steady state, so a 30-day averaging period allows for some fluctuations that will occur over the range of operating conditions.

Response to Issue 2: Table 8 to subpart DDDDD of part 63 has been amended to clarify that operating load compliance is demonstrated with a 30-day average, as specified in 40 CFR 63.7525(d). Table 4 to subpart DDDDD of part 63, item 7 (previously item 8 as noted by the petitioner), has also been clarified to reflect that the affected source must maintain the 30-day rolling average operating load of each unit. The petitioners' comments are, therefore, now moot and we are denying reconsideration on this issue.

3. A Gas Fired Boiler, Capacity >25MW, Is an EGU, It Is Not Subject to UUUUU, and Should Not Be Subject to the Boiler MACT

Issue 3: Petitioners (UARG/NHPC) alleged that the EPA has broadened the applicability of 40 CFR part 63, subpart DDDDD with regard to EGUs by stating that only ''[a]n electric utility steam generating unit (EGU) covered by subpart UUUUU of [part 63]'' is ''not subject to'' the Boiler MACT. Because 40 CFR part 63, subpart UUUUU does not cover all EGUs, the language in 40 CFR 63.7491(a) seems unlawful because it suggests that some boilers that are EGUs could be subject to 40 CFR part 63, subpart DDDDD. Under 40 CFR 63.9983(b), natural gas-fired EGUs (as defined in 40 CFR part 63, subpart UUUUU) are not subject to 40 CFR part 63, subpart UUUUU, but would not seem to be exempt from 40 CFR part 63, subpart DDDDD. Narrowing the exclusion in 40 CFR 63.7491(a) cannot be a ''logical outgrowth'' of the proposed rule.

The petitioners point out that ''Natural gas-fired electric utility steam generating unit'' is defined in 40 CFR part 63, subpart UUUUU as ''an electric utility steam generating unit meeting the definition of 'fossil fuel-fired' that is not a coal-fired, oil-fired, or integrated gasification combined cycle (IGCC) electric utility steam generating unit and that burns natural gas for more than 10.0 percent of the average annual heat input during any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year'' 40 CFR 63.10042. As a result, natural gas-fired EGUs for purposes of 40 CFR part 63, subpart UUUUU include those units that combust only natural gas as well as those units that combust natural gas for more than the proportion(s) specified in 40 CFR 63.10042 and some other fuel(s) (*e.g.,* oil) for the remainder of heat input, as long as they are not an IGCC unit and do not combust coal or oil in sufficient quantity to meet the definition of ''coal-fired'' or ''oil-fired'' EGU.

The petitioners refer to CAA section 112(n)(1)(A), which requires the EPA to conduct a health study of the effects of EGU HAP emissions prior to regulating HAP emissions from EGUs under CAA section 112. Then, if EGU HAP emissions pose a threat to public health, the EPA can regulate those emissions only as ''appropriate and necessary.'' The EPA already has regulated under 40 CFR part 63, subpart UUUUU all those EGUs for which the Administrator has made the statutorily required finding under CAA section 112(n)(1)(A)—*i.e.,* coal-fired and oil-fired EGUs; the EPA has no basis to regulate any other EGU under 40 CFR part 63, subpart DDDDD. That conclusion is consistent with the EPA's March 21, 2011, final rule and proposed rule on reconsideration, both of which made clear that no boiler meeting the definition of EGU was subject to 40 CFR part 63, subpart DDDDD.

Petitioners also allege that issues regarding the EGU definition in 40 CFR part 63, subpart DDDDD were raised in public comments submitted on the 2013 Boiler MACT. Specifically, the commenter (UARG) requested that the EGU definition in 40 CFR part 63, subpart DDDDD be consistent with relevant definitions in 40 CFR part 63, subpart UUUUU, and remain that way even after the EPA finalizes its revisions to 40 CFR part 63, subpart UUUUU. The EPA should revise the definition in 40 CFR 63.7575 of subpart DDDDD to incorporate, rather than restate, the definition of applicable ''fossil fuel-fired'' EGU in 40 CFR 63.10042 of the MATS rule.

Response to Issue 3: As stated in the June 2010 proposal (75 FR 32016), it is and has always been the EPA's intent that biomass boilers are regulated under either the Boiler MACT or the area source ICI boiler rules. The 2010 Boiler MACT proposal stated:

> The CAA specifically requires that fossil fuel-fired steam generating units of more than 25 megawatts that produce electricity for sale (*i.e.,* utility boilers) be reviewed separately by EPA. Consequently, this proposed rule would not regulate fossil fuel-fired utility boilers greater than 25 megawatts, but would regulate fossil fuel-fired units less than 25 megawatts and all utility boilers firing a non-fossil fuel that is not a solid waste.

The Boiler MACT defines the biomass/bio-based solid subcategory as any boiler or process heater that burns at least 10-percent biomass or bio-based solids on an annual heat input basis. The EPA disagrees with the commenter who recommends that EPA simply adopt provisions from the MATS rule into the Boiler MACT rule. We considered what would be the maximum amount of fuel that can be co-fired in a boiler that is designed to burn a different fuel type. We are aware that boilers are designed for specific fuel types and will frequently encounter operational problems if a fuel with characteristics other than those originally specified is fired in amounts above a certain level. The purpose of 63.7491(a) is, in part, to identify a threshold of natural gas operation above which EPA is reasonably certain that the unit is designed to operate on natural gas. At a level below that threshold, the EPA cannot be certain that the unit is not of a different type, designed to burn other fuels. In this final rule, the EPA edited text in 40 CFR 63.7491(a) from ''An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part or a natural gas-fired EGU as defined in subpart UUUUU of this part firing at least 90 percent natural gas on an annual heat input basis.'' to ''. . . at least . . . 85 percent . . .'' This change was made to address variation in heat input of biomass fuels. This clarification does not change the underlying applicability of biomass EGU boilers under the Boiler MACT rule.

With respect to the petitioners' reference to CAA section 112(n)(1)(A), the EPA disagrees that this provision is relevant here, as biomass boilers are not EGUs, but instead are classified as ICI boilers. Therefore, because the petitioners did not demonstrate that it was impracticable to comment on this issue during the comment period on the 2010 proposed rule, the EPA is denying reconsideration on this issue.

4. Use of the Publication Date Rather Than the Effective Date of the Rule To Establish Various Compliance and Reporting Dates

Issue 4: Petitioner (API) alleged that the compliance schedules are based on the date of publication rather than the effective date. Using the publication date rather than the effective date conflicts with certain CAA provisions and certain 40 CFR, part 63 general provisions.

Response to Issue 4: With respect to existing units, the petitioner's allegation is incorrect. Section 112(i)(3)(A) of the CAA states ''After the effective date of any emission standard . . . the Administrator shall establish a compliance date . . . for . . . existing source, which shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date . . .'' However, it is appropriate that compliance provisions applicable to new units should be based on the effective date because, otherwise, as stated in 40 CFR 63.7495(a), new units would be required to comply with the subpart by the publication date even though the amendments have not yet taken effect. Wherever January 31, 2013, was specified for new affected units as a compliance date or a basis for compliance activity, the date has been revised to April 1, 2013. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

5. Existing EGUs That Become Subject to the Boiler MACT After January 31, 2013 Do Not Get the Intended 180-Day Period for Demonstrating Compliance

Issue 5: Petitioner (UARG, supplemental July 3, 2013, petition) objected to the language in 40 CFR 63.7510(i), which states that ''For an existing EGU that becomes subject after January 31, 2013, you must demonstrate compliance within 180 days after becoming an affected source'' (78 FR 7165). The petitioner argued the provision is inconsistent with the existing source compliance dates in 40 CFR 63.7495(b) and (f), which require compliance by January 31, 2016, and the existing source deadline for demonstrating compliance in 40 CFR 63.7510(e), which requires completion of the initial compliance demonstration within 180 days after the January 31, 2016, compliance date (78 FR at 7162–63, 7165).

Response to Issue 5: For consistency and to correct the inadvertent error of failing to change the date, the compliance date in 40 CFR 63.7510(i) has been revised from 2013 to 2016. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

6. Using Fuel Analysis Rather Than Performance Testing Required Use of the 90th Percentile Confidence Level; a Monthly Average Is More Appropriate

Issue 6: Petitioner (Eastman) requested clarification of the methodology that provides facilities with multiple combustion units the ability to demonstrate compliance with the limits through emissions averaging across affected units. Specifically, the petitioner urged modification of Table 6 to 40 CFR part 63, subpart DDDDD to delete references to equations requiring use of the 90th percentile.

Response to Issue 6: Edits to Table 6 to subpart DDDDD of 40 CFR part 63 have been made to delete the inadvertent references to equations requiring the use of the 90th percentile. These equations are required only for determining initial compliance as specified in 40 CFR 63.7530(c). The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

7. Gas 1 Unit Requirements

Issue 7: Petitioner (CIBO/NEDACAP) alleged that to meet 40 CFR 63.7555(i) and (j) recordkeeping requirements, each regulated gas 1 boiler, regardless of size, needs electronic controls, a recording device, individual gas meters, and sensors to detect both steam/hot water flow and fuel cycling events. The petitioner further claimed that records of startup and shutdown for gas 1 units are irrelevant to emission control or enforcement of the Boiler MACT requirements because their installation and operation provide no environmental benefits.

Response to Issue 7: The startup and shutdown recordkeeping provisions in 40 CFR 63.7555(i) and (j) have been removed. These paragraphs were inadvertently not deleted when the rule was amended. These paragraphs were intended to be deleted because 40 CFR 63.7555(d) was amended incorporating these recordkeeping requirements. These recordkeeping requirements are intended only for sources subject to emission standards, whereas 40 CFR 63.7555(i) and (j) have the unintended purpose of requiring sources not subject to emission standards to startup and shutdown recordkeeping requirements. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

8. Gas 1 Reporting Requirements

Issue 8: Petitioner (CIBO/NEDACAP) asked for clarity with respect to the operating time reporting in 40 CFR 63.7550(c)(5)(iv) for gas 1 units. Specifically, ''operating time'' is not a defined term and it is unclear whether operating time must be reported separately for each unit. Furthermore, the petitioner alleged that operating time (like records of startup and shutdown) adds no information that is useful in determining compliance, nor is it useful in calculating emissions from reported units, since emissions are related to fuel combusted, not to total operating time.

Response to Issue 8: Operating time reporting in 40 CFR 63.7550(c)(5)(iv) has been removed from 40 CFR 63.7550(c)(1), which effectively removes the reporting requirement for gas 1 units. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

9. Sampling for Other Gas 1 Fuels

Issue 9: Petitioner (CIBO/NEDACAP) asked for clarifying text in 40 CFR 62.7521 to parallel Table 6 to subpart DDDDD of part 63, item 3.b alternative compliance approach for cases where sampling and analysis of the fuel gas itself are not possible or practical.

Response to Issue 9: Text describing the compliance procedures, applicable to other gas 1 fuels in 40 CFR 63.7521(f), has been amended as a technical correction. When the rule was amended the EPA added a second compliance procedure that was intended to be an alternative approach but the amendments inadvertently failed to add the ''or'' after the first compliance procedure. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

10. Fuel Analysis Plan for Gas 1 Sampling

Issue 10: Petitioner (CIBO/NEDACAP) alleged that the Fuel Analysis Plan requirements for other gas 1 fuels are more onerous than those required for solid and liquid fuels. There is no logical reason to require submission of the fuel analysis plan to the Administrator for review and approval for other gas 1 fuels when only alternative analytical methods listed in Table 6 to subpart DDDDD of part 63 are used; 40 CFR 63.7521(g) should be amended.

Response to Issue 10: Administrator review and approval for other gas 1 fuels requirement in 40 CFR 63.7521(g) has been revised to clarify the intended scope of the Fuel Analysis Plan requirements and to be consistent with 40 CFR 63.7521(b)(1). As specified in 40 CFR 63.7521(b)(1), a fuel analysis plan is required to be submitted for Administrator review and approval only when alternative methods other than those listed in Table 6 to subpart DDDDD of part 63 are used. The petitioner's comments are, therefore, now moot and we are denying reconsideration on this issue.

11. Affirmative Defense

Issue 11: Petitioner (FSI) asked that the EPA amend the affirmative defense provisions included in 40 CFR 63.7501 or otherwise clarify in the rule the scope of the affirmative defense for violations that occur during malfunctions. The petitioner also asked that subpart A of 40 CFR part 63, which defines emission standard as ''a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act,'' provide additional guidance concerning the proper interpretation of 40 CFR 63.7501.

Response to Issue 11: The EPA has removed affirmative defense provisions from 40 CFR part 63, subpart DDDDD, as discussed in section IV.C of this preamble. Because the petitioner has not demonstrated that it was impracticable to comment on this issue during the public comment period on the December 2011 proposed rule, and because the issue is now moot, the EPA is denying this petition.

B. Petitions Related to Ongoing Litigation

1. Authority To Require an Energy Assessment

Issue 12: Petitioners (AF&PA/FSI) alleged that a beyond the floor requirement of an energy assessment is outside EPA's authority for setting emissions standards under CAA section 112(d)(1) ''for each category or subcategory of major sources and area sources.'' The EPA has defined the source category for these rules to include only specified types of boilers and process heaters and, therefore, those are the only sources for which the EPA may set standards under these rules.

The petitioners also alleged that the energy assessment requirement is not an ''emissions standard'' as that term is defined in the CAA and, therefore, the EPA does not have authority to prescribe such requirements. Furthermore, as a practical matter, even if energy efficiency projects are implemented, there is no guarantee that there will be a corresponding reduction in HAP emissions from affected boilers and process heaters.

Response to Issue 12: Petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period on the proposed Boiler MACT. In fact, petitioners provided the same comments during that comment period, and subsequently challenged EPA's establishment of the energy assessment requirement. That issue is currently pending before the Court in *U.S. Sugar* v. *EPA* (No. 11–1108). Therefore the EPA is denying the petition for reconsideration of this issue.

2. Energy Assessment Requirement

Issue 13: Issues regarding the owner or operator obligations after the energy assessment is completed were raised in public comments submitted on the 2013 Boiler MACT. Specifically, commenters (AF&PA/FSI) asked that the EPA confirm that the Boiler MACT does not require a facility owner or operator to implement any of the recommendations contained in the energy assessment report.

Response to Issue 13: Comments on this issue have been previously submitted and the EPA responded to those comments. AF&PA made this same comment during the public comment period on the Boiler MACT, and the EPA responded to that in the Beyond-the-Floor Analysis Section (pp. 1428–1702) of the February 2011 Response To Comment document, explaining that the rule does not require owners and operators to implement the recommendations of the energy assessment, but that the EPA expects that sources will do so in order to realize the cost savings from those recommendations. Because petitioners have not demonstrated that it was impracticable to comment on these issues during the public comment period on the proposed Boiler MACT, the EPA is denying the petition for reconsideration of this issue.

C. Other Petitions

1. Expanded Exemption for Limited Use Units

Issue 14: Petitioner (Sierra Club) objected to the 2013 Boiler MACT proposed rule, which revised the definition of ''limited-use units'' to include all units that operate at 10 percent of their full annual capacity (78 FR 7144). A unit that operated full time at 10-percent capacity would qualify, as would a unit that operated for one-third of the year at 30-percent capacity. The petitioner also disputed the EPA's finding that ''it is technically infeasible to schedule stack testing for these limited use units since these units serve as back up energy sources and their operating schedules can be intermittent and unpredictable.''

Response to Issue 14: The EPA is denying the petition for reconsideration on this issue because the petitioner previously submitted comments on this issue, and the EPA responded to those comments in finalizing the definition of a limited use unit at that time (76 FR 15633, March 21, 2011).

The 2013 revision in the final amendments to the Boiler MACT was a logical outgrowth of the comments received during the public comment period. *See NRDC* v. *Thomas,* 838 F.2d 1224, 1242 (D.C. Cir. 1988) and *Small Refiner Lead Phase-Down Task Force* v. *EPA,* 705 F.2d at 547 (the agency may make changes to proposed rule without triggering new round of comments, where changes are logical outgrowth of proposal and comments).

2. Failure to Set Standards Requiring MACT (*i.e.,* Beyond the Floor)

Issue 15: Petitioner (Sierra Club) asserted that the EPA failed to assure that the standards it revised in the final rule reflect the maximum achievable degree of reduction in emissions, as required by CAA section 112(d)(2). The commenter noted that for existing sources, 10 of the Hg standards, five of the PM standards, and 11 of the CO limits were revised in the final rule. The petitioner also noted that two of the PM limits and 11 of the CO limits for new sources were weakened in the final rule. The petitioner asserted that the EPA did not propose any of these changes, nor did it discuss them in its proposed rule (78 FR 7145).

Response to Issue 15: The EPA is denying the petition for reconsideration on this issue because the changes to the standards between the 2011 and 2013 final rules were based only on changes to the underlying dataset to reflect unit shutdowns or corrections to emission test run data and on changes made to the subcategories after consideration of comments received on the proposed rule. These changes were discussed in the MACT Floor Memorandum for the final rule (*See* Docket ID No.: EPA–HQ–2002–0058–3836), as well as documented in the database for the final rule (See Docket ID No.: EPA–HQ–OAR–2002–0058–3835). There were no significant changes to the methodology used to calculate the MACT standards. Therefore, the petition does not raise an issue of central relevance to this rulemaking as it does not demonstrate that there is a substantial likelihood that the final rule would have changed based on the information in the petition.

3. Beyond the Floor PM Standards

Issue 16: The petitioner (Sierra Club) objected to the EPA's final ''beyond the floor'' PM standards for certain categories of new biomass units. The petitioner claimed that the EPA did not provide an explanation of its conclusion that ''[w]e did not identify any beyond the floor options for existing source PM limits or new and existing limits for other pollutants as technically feasible or cost effective'' (78 FR 7145). The petitioner alleged that such cursory and unexplained conclusion that no beyond the floor standards are technically feasible or cost effective is both unlawful and arbitrary. Moreover, the petitioner also alleges that because the EPA did not propose the standards contained in the 2013 rule and did not discuss changing the level of these standards in its proposed rule, it was ''impracticable'' to object to the EPA's failure to set more stringent standards during the public comment period. 42 United States Code (U.S.C.) 7607(d)(7)(B). Likewise, the petitioner indicated it was impracticable to object to the EPA's rationale for not setting more stringent standards.

Response to Issue 16: The EPA disagrees with the petitioner's claim that we failed to set standards based on the degree of emission reduction that can be achieved. The EPA must consider cost, non-air quality health and environmental impacts, and energy requirements in connection with any standards that are more stringent than the MACT floor (beyond the floor controls). The EPA's beyond the floor analysis did evaluate these factors in determining PM standards for certain categories of new biomass units.

To the extent the petitioner is concerned about the degree of emission reduction that can be achieved, that issue does not warrant reconsideration. The EPA made changes based on new data and changes to subcategories, but the methodology essentially remained the same, including the beyond the floor methodology in the final rule. The petitioner did not provide data or information that was unavailable at the time the EPA proposed the rule. Therefore, the EPA is denying reconsideration of this issue.

4. No Allowance for Liquid Firing in Gas 1 or Gas 2 Units; Other Subcategories Allow for Less Than 10 Percent Annual Heat Input

Issue 17: Petitioners (API, CIBO/ACC) contended that the gas 1 subcategory should place no restriction on liquid (*e.g.,* oil) firing during startup. In the 2013 final amendments to the Boiler MACT, there is no allowance for liquid fuel firing in units in the gas 1 or gas 2 subcategories except under the gas curtailment or interruption provisions, whereas other subcategories allow use of liquid fuels for less than 10-percent annual heat input basis (78 FR 7193). The definition for the gas 1 subcategory should read ''Unit designed to burn gas 1 subcategory includes any boiler or process heater that burns at least 90-percent natural gas, refinery gas, and/or other gas 1 fuels on a heat input basis on an annual average and less than 10 percent of any solid or liquid fuel.'' The definitional change would simplify the process of determining whether a unit qualifies for the gas 1 subcategory.

Issues regarding the consistency between the exempt unit description in 40 CFR part 63, subpart DDDDD and the definition of an oil-fired EGU in 40 CFR part 63, subpart UUUUU were raised in public comments submitted on the 2013 Boiler MACT. Specifically, a commenter (DTE Energy) argued that subpart UUUUU allows for ''high'' usage in one calendar year without becoming an affected unit so long as the 10-percent annual average heat input during 3 consecutive calendar years is not exceeded.

Response to Issue 17: Because the EPA received comments that gas 1 subcategory units should allow for limited use of liquid fuel in the June 4, 2010, proposal and petitioners have not demonstrated that it was impractical for them to comment, we are denying the petition for reconsideration on this issue.

In addition, the petitioners have provided no new data or information that calls into question the underlying determination.

5. Refine and Clarify the Scope of the Subcategory for Hybrid Suspension/Grate Boilers

Issue 18: Petitioner (SugarCane Growers) asked that the definition of a hybrid suspension/grate (HSG) boiler needs clarification; there are facilities that are unsure whether their boilers fit within the HSG subcategory. Specifically, the petitioner requested that the definition add a phrase referring to the fact that an HSG boiler is ''highly integrated into the production process via steam connections with the sugar mill and the boiler primarily combusts fuels that are generated on-site by the mill.''

Response to Issue 18: The EPA has made a minor technical correction to the final HSG boiler definition that helps clarify the intent of the subcategory. The moisture content threshold of 40 percent on an as-fired annual heat input basis is to be demonstrated by monthly fuel analysis. By requiring demonstration on a monthly fuel analysis, the moisture in the fuel piles will need to be consistently high from month to month in order to meet the 40 percent moisture threshold. Beyond this minor clarification, the EPA is denying this petition for reconsideration because the petition does not demonstrate that the petitioner lacked the opportunity to comment on this definition, and we continue to believe that the definition is specifically clear as to whether specific boilers fit within the definition. The definition reflects a logical outgrowth of the comments received during the comment period. (see 76 FR 15634, March 21, 2011).

6. Applicability Based on Commercial and Industrial Solid Waste Incineration (CISWI) Recordkeeping Requirements

Issue 19: The petitioner (API) alleged that it is unreasonable to have Boiler MACT applicability determined based on a recordkeeping requirements contained in the CISWI rule, and added that nothing in the Boiler MACT proposal requested comment on the CISWI definition of traditional fuels. The petitioner alleged that any unit that uses any material not specifically listed in the traditional fuels definition is a CISWI unit, rather than a Boiler MACT unit, unless it keeps specific records that the CISWI rule requires. The definitions of CISWI unit in the February 7, 2013, final amendments to the CISWI NSPS standard and the associated emission guideline include the sentence ''If the operating unit burns materials other than traditional fuels as defined in § 241.2 that have been discarded, and you do not keep and produce records as required by [§ 60.2740(u) or § 60.2175(v)], the operating unit is a CISWI unit.''

Response to Issue 19: The EPA is denying this petition because it is not of central relevance. The issue addresses recordkeeping requirements in the CISWI rule, not requirements in the Boiler MACT. To ensure that owners or operators of units combusting materials review and apply the non-waste provisions in the Solid Waste Definition Rule, the EPA requires owners or operators that combust materials that are not clearly listed as traditional fuels document how the materials meet the legitimacy criteria and/or the processing requirements in the Solid Waste Definition Rule. Failure of a source owner or operator to correctly apply the non-waste criteria would result in incorrect self-assessments as to whether their combustion units are subject to CISWI. Requiring sources to document how the non-waste criteria apply to the materials combusted will both improve self-assessments of applicability, and will assist the EPA and states in the proper identification of sources subject to CISWI.

7. Definitions for Rolling Averages Are Inconsistent With Other Rule Requirements, and Increase Burdens

Issue 20: The petitioner (API) alleged that both 10- and 30-day rolling average definitions, if read literally, say owners or operators must average a total of 240 or 720 hours of valid data, regardless of the calendar period they span, rather than requiring that only hours within the last 240 or 720 calendar hours that contain valid data be averaged. As a result, since the number of hours of valid data over any calendar period is constantly varying, the time period covered by each average will vary. Individual hours will be counted in varying numbers of averages, and all units at a facility will end up on different, constantly varying averaging schedules. This approach is also inconsistent with the definition of ''daily block average,'' which calls for averaging all valid data occurring within each daily 24-hour period and includes other averaging requirements. Revisions to the definitions of 10-day rolling average and 30-day rolling average should be amended.

Response to Issue 20: The EPA is denying this petition because it is not of central relevance to this rulemaking for the reasons set forth below. The definitions of 10- and 30-day rolling averages include the word ''valid.'' Valid data excludes hours during startup and shutdown and data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan. Further, the 30-day rolling average for CO CEMS has been revised to clarify that for CO CEMS, the 720 hours should be consecutive, but not necessarily continuous to reflect intermittent operations.

8. CO Limits for Hybrid Suspension Grate Boilers

Issue 21: The petitioner (FSI) alleged that the CO CEMS emission limit for existing HSG boilers is set at the same level as the CO CEMS limit for new HSG boilers, because the EPA has CO CEMS data for only one HSG boiler. The CO CEMS limit for existing boilers should be revised to account for the variability in the emissions data for existing HSG boilers, as reflected by the EPA's stack test data for such boilers.

Response to Issue 21: CO CEM data were only available for one unit. Therefore, the alternative CO CEMS-based limit is the same for both new and existing units. The petitioner could have provided additional data to the EPA prior to the close of the comment period for the final rule. Indeed, the EPA modified several emission limits upon receipt of new data. Setting emission limits based on available data is consistent with MACT floor methodology. Therefore, the EPA is denying the petition for reconsideration.

9. Correction of Math Error

Issue 22: The petitioner (FSI) alleged that a math (*i.e.,* conversion) error was committed when converting stack test data within the EPA's emissions database. According to the petitioner, this error significantly affected the EPA's determination of the MACT floor for CO emissions from the existing HSG boilers. The petitioner stated that the EPA should correct this error and then use its existing emissions database to re-determine the CO emission limit for existing HSG boilers. The petitioner calculated a revised CO emission limit for existing HSG boilers of 3,500 ppm by dry volume at 3-percent O_2.

Response to Issue 22: As discussed in section IV.E of this preamble, the EPA has finalized the correction to the CO limit for this subcategory.

10. Conducting Tune-ups at Seasonally Operated Boilers

Issue 23: The petitioner (FSI) alleged that collecting meaningful CO data before and after an annual tune-up will be problematic because HSG boilers are operated on a seasonal basis and the annual tune-ups will be performed between the annual harvest seasons. With regard to these seasonally operated boilers, the Boiler MACT should explicitly acknowledge that the ''before'' measurement will be taken at the end of one harvest season and the ''after'' measurement will be taken at the beginning of a different harvest.

Response to Issue 23: The EPA is denying reconsideration on this issue. The EPA believes the rule is sufficiently clear on the timing of a tune-up and refers the petitioner to 40 CFR 63.7540(a)(10). If the unit is not operating on the required date for a tune-up (*i.e.,* because it is a seasonal boiler, or because it is down for maintenance, for example), the tune-up must be conducted within 30 days of startup. Before and after measurements are not seasons apart, instead they are within minutes or hours (depending on how long it takes to make adjustments). *See* the tune-up guide for additional guidance (*http://www.epa.gov/ttn/atw/boiler/imptools/boiler_tune-up_guide-v1.pdf*).

VI. Impacts of This Final Rule

This action finalizes certain provisions and makes technical and clarifying corrections, but does not promulgate substantive changes to the January 2013 final Boiler MACT (78 FR 7138). Therefore, there are no environmental, energy, or economic impacts associated with this final action. The impacts associated with the Boiler MACT are discussed in detail in the January 2013 final amendments to the Boiler MACT.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations (40 CFR part 63, subpart DDDDD) and has assigned OMB control number 2060–0551. This action is believed to result in no changes to the information collection requirements of the January 2013 final amendments to the Boiler MACT, so that the information collection estimate of project cost and hour burden from the final Boiler MACT have not been revised.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This action finalizes the EPA's response to petitions for reconsideration on three issues of the Boiler MACT as well as minor changes to the rule to correct and clarify implementation issues raised by stakeholders.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This rule promulgates amendments to the January 2013 final Boiler MACT provisions, but the amendments are mainly clarifications to existing rule language to aid in implementation, or are being made to maintain consistency with other, more recent, regulatory actions. Therefore, the action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. This action clarifies certain components of the January 2013 final Boiler MACT. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern any such environmental health risks or safety risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This action does not involve any new technical standards from those contained in the March 21, 2011, final rule. Therefore, the EPA did not consider the use of any voluntary consensus standards. *See* 76 FR 15660–15662 for the NTTAA discussion in the March 21, 2011, final rule.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment.

The environmental justice finding in the January 2013 final amendments to the Boiler MACT remain relevant in this action, which finalizes three aspects of the Boiler MACT as well as finalizing minor changes to the rule to correct and clarify implementation issues raised by stakeholders.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances.

Dated: November 5, 2015.

Gina McCarthy,

Administrator.

For the reasons cited in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart DDDDD—[Amended]

■ 2. Section 63.7491 is amended by revising paragraphs (a), (j), and (l) and adding paragraph (n) to read as follows:

§ 63.7491 Are any boilers or process heaters not subject to this subpart?

* * * * *

(a) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part or a natural gas-fired EGU as defined in subpart UUUUU of this part firing at least 85 percent natural gas on an annual heat input basis.

* * * * *

(j) Temporary boilers and process heaters as defined in this subpart.

* * * * *

(l) Any boiler or process heater specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

* * * * *

(n) Residential boilers as defined in this subpart.

■ 3. Section 63.7495 is amended by revising paragraphs (a), (e), and (f) and adding paragraphs (h) and (i) to read as follows:

§ 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.

* * * * *

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in § 63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of § 60.2145(a)(2) and (3) or § 60.2710(a)(2) and (3).

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.

* * * * *

(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.

(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.

■ 4. Section 63.7500 is amended by revising paragraphs (a)(1) introductory text, (a)(1)(ii), (a)(1)(iii), and (f) to read as follows:

§ 63.7500 What emission limitations, work practice standards, and operating limits must I meet?

(a) * * *

(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under § 63.7522. The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate either steam, cogenerate steam with electricity, or both. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate only electricity. Boilers that perform multiple functions (cogeneration and electricity generation) or supply steam to common headers would calculate a total steam energy output using equation 21 of § 63.7575 to demonstrate compliance with the output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart. If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in paragraphs (a)(1)(i) through (iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

* * * * *

(ii) If your boiler or process heater commenced construction or reconstruction on or after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.

(iii) If your boiler or process heater commenced construction or reconstruction on or after December 23, 2011 and before April 1, 2013, you may comply with the emission limits in Table 1 or 13 to this subpart until January 31, 2016.

* * * * *

(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart.

§ 63.7501 [Removed and Reserved]

■ 5. Section 63.7501 is removed and reserved.

■ 6. Section 63.7505 is amended by revising paragraphs (a), (c), and (d) introductory text and adding paragraph (e) to read as follows:

§ 63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f).

* * * * *

(c) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to § 63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

* * * * *

(e) If you have an applicable emission limit, and you choose to comply using definition (2) of ''startup'' in § 63.7575, you must develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this subpart. The SSP must be maintained onsite and available upon request for public inspection.

■ 7. Section 63.7510 is amended by revising paragraphs (a) introductory text, (a)(2)(ii), (c), (e), (g), and (i) and adding paragraph (k) to read as follows:

§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:

* * * * *

(2) * * *

(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those Gas 1 fuels according to § 63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those non-Gas 1 gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those non-Gas 1 fuels according to § 63.7521 and Table 6 to this subpart.

* * * * *

(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to § 63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, as specified in § 63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section.

* * * * *

(e) For existing affected sources (as defined in § 63.7490), you must complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete an initial tune-up by following the procedures described in § 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in § 63.7495, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in § 63.7495.

* * * * *

(g) For new or reconstructed affected sources (as defined in § 63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in § 63.7515(d) following the initial compliance date specified in § 63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in § 63.7515(d).

* * * * *

(i) For an existing EGU that becomes subject after January 31, 2016, you must demonstrate compliance within 180 days after becoming an affected source.

* * * * *

(k) For affected sources, as defined in § 63.7490, that switch subcategories consistent with § 63.7545(h) after the initial compliance date, you must demonstrate compliance within 60 days of the effective date of the switch, unless you had previously conducted your compliance demonstration for this subcategory within the previous 12 months.

■ 8. Section 63.7515 is amended by revising paragraphs (d), (e), and (h) to read as follows:

§ 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?

* * * * *

(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to § 63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in § 63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in § 63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in § 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in § 63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.

(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to § 63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in § 63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.

* * * * *

(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra-low sulfur liquid fuel, you do not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.

* * * * *

■ 9. Section 63.7521 is amended by:

■ a. Revising paragraph (a).

■ b. Revising paragraph (c) introductory text.

■ c. Revising paragraph (c)(1)(ii).

■ d. Revising paragraph (f) introductory text.

■ e. Revising paragraphs (g) introductory text, (g)(2)(ii), and (g)(2)(vi).

■ f. Revising paragraph (h).

The revisions read as follows:

§ 63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section.

* * * * *

(c) You must obtain composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. At a minimum, for demonstrating initial compliance by fuel analysis, you must obtain three composite samples. For monthly fuel analyses, at a minimum, you must obtain a single composite sample. For fuel analyses as part of a performance stack test, as specified in § 63.7510(a), you must obtain a composite fuel sample during each performance test run.

(1) * * *

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing.

* * * * *

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in § 63.7575, you must conduct a fuel specification analyses for mercury according to the procedures in paragraphs (g) through (i) of this section and Table 6 to this subpart, as applicable, except as specified in paragraph (f)(1) through (4) of this section, or as an alternative where fuel specification analysis is not practical, you must measure mercury concentration in the exhaust gas when firing only the gaseous fuel to be demonstrated as an other gas 1 fuel in the boiler or process heater according to the procedures in Table 6 to this subpart.

* * * * *

(g) You must develop a site-specific fuel analysis plan for other gas 1 fuels according to the following procedures and requirements in paragraphs (g)(1) and (2) of this section.

* * * * *

(2) * * *

(ii) For each anticipated fuel type, the identification of whether you or a fuel supplier will be conducting the fuel specification analysis.

* * * * *

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart. When using a fuel supplier's fuel analysis, the owner or operator is not required to submit the information in § 63.7521(g)(2)(iii).

(h) You must obtain a single fuel sample for each fuel type for fuel specification of gaseous fuels.

* * * * *

■ 10. Section 63.7522 is amended by:

■ a. Revising paragraphs (c), (d), (f)(1) introductory text, (g)(1), (g)(3) introductory text, and (i).

■ b. Revising parameters ''En'' and ''ELi'' of Equation 6 in paragraph (j)(1).

The revisions read as follows:

§ 63.7522 Can I use emissions averaging to comply with this subpart?

* * * * *

(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on April 1, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on April 1, 2013.

(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are subject to numeric emission limits following the compliance date specified in § 63.7495.

* * * * *

(f) * * *

(1) For each calendar month, you must use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual electrical generation for the month if you are complying with the emission limits on an electrical generation (output) basis.

* * * * *

(g) * * *

(1) If requested, you must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

* * * * *

(3) If submitted upon request, the Administrator shall review and approve or disapprove the plan according to the following criteria:

* * * * *

(i) For a group of two or more existing units in the same subcategory, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.

(j) * * *

(1) * * *

* * * * *

En = HAP emission limit, pounds per million British thermal units (lb/MMBtu) or parts per million (ppm).
Eli = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu or ppm.

* * * * *

■ 11. Section 63.7525 is amended by:
■ a. Revising paragraphs (a) introductory text, (a)(1), (a)(2) introductory text, (a)(3), and (a)(5).
■ b. Adding paragraph (a)(2)(vi).
■ c. Revising paragraphs (b) introductory text, (b)(1) introductory text, and (b)(1)(iii).
■ d. Revising paragraphs (g)(3) and (4).
■ e. Revising paragraphs (m) introductory text and (m)(2).

The revisions and addition read as follows:

§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must install, operate, and maintain an oxygen analyzer system, as defined in § 63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO_2)) according to the procedures in paragraphs (a)(1) through (6) of this section.

(1) Install the CO CEMS and oxygen (or CO_2) analyzer by the compliance date specified in § 63.7495. The CO and oxygen (or CO_2) levels shall be monitored at the same location at the outlet of the boiler or process heater. An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the CO emissions limit be determined using CO_2 as a diluent correction in place of oxygen at 3 percent. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3 percent oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

(2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you must install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B; part 75 of this chapter (if an CO_2 analyzer is used); the site-specific monitoring plan developed according to § 63.7505(d); and the requirements in § 63.7540(a)(8) and paragraph (a) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, a site-specific monitoring plan developed according to § 63.7505(d), and the requirements in § 63.7540(a)(8) and paragraph (a) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart.

* * * * *

(vi) When CO_2 is used to correct CO emissions and CO_2 is measured on a wet basis, correct for moisture as follows: Install, operate, maintain, and quality assure a continuous moisture monitoring system for measuring and recording the moisture content of the flue gases, in order to correct the measured hourly volumetric flow rates for moisture when calculating CO concentrations. The following continuous moisture monitoring systems are acceptable: A continuous moisture sensor; an oxygen analyzer (or analyzers) capable of measuring O_2 both on a wet basis and on a dry basis; or a stack temperature sensor and a moisture look-up table, *i.e.,* a psychrometric chart (for saturated gas streams following wet scrubbers or other demonstrably saturated gas streams, only). The moisture monitoring system shall include as a component the automated data acquisition and handling system (DAHS) for recording and reporting both the raw data (*e.g.,* hourly average wet- and dry basis O_2 values) and the hourly average values of the stack gas moisture content derived from those data. When a moisture look-up table is used, the moisture monitoring system shall be represented as a single component, the certified DAHS, in the monitoring plan for the unit or common stack.

(3) Complete a minimum of one cycle of CO and oxygen (or CO_2) CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen (or CO_2) data concurrently. Collect at least four CO and oxygen (or CO_2) CEMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed.

* * * * *

(5) Calculate one-hour arithmetic averages, corrected to 3 percent oxygen (or corrected to an CO_2 percentage determined to be equivalent to 3 percent oxygen) from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages required shall be used to calculate the 30-day or 10-day rolling average emissions. Use Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7 for calculating the average CO concentration from the hourly values.

* * * * *

(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraph (b)(5) through (8) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (*e.g.,* bag leak detectors, ESP secondary power, and PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.

(1) Install, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with § 63.7505(d), the requirements in § 63.7540(a)(9), and paragraphs (b)(1)(i) through (iii) of this section.

* * * * *

(iii) The PM CPMS must have a documented detection limit of 0.5 milligram per actual cubic meter, or less.

* * * * *

(g) * * *

(3) Calibrate the pH monitoring system in accordance with your monitoring plan and according to the

manufacturer's instructions. Clean the pH probe at least once each process operating day. Maintain on-site documentation that your calibration frequency is sufficient to maintain the specified accuracy of your device.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

* * * * *

(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you elect to use an SO_2 CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to either part 60 or part 75 of this chapter.

* * * * *

(2) For on-going quality assurance (QA), the SO_2 CEMS must meet either the applicable daily and quarterly requirements in Procedure 1 of appendix F of part 60 or the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: You must perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less.

* * * * *

■ 12. Section 63.7530 is amended by:

■ a. Revising paragraph (a) and paragraph (b) introductory text.

■ b. Revising parameter ''Qi'' of Equation 7 in paragraph (b)(1)(iii), Equation 8 in paragraph (b)(2)(iii), and Equation 9 in paragraph (b)(3)(iii).

■ c. Revising parameter ''n'' of Equation 14 in paragraph (b)(4)(ii)(D).

■ d. Revising paragraph (b)(4)(ii)(F).

■ e. Redesignating paragraphs (b)(4)(iii) through (viii) as paragraphs (b)(4)(iv) through (ix) and adding new paragraph (b)(4)(iii).

■ f. Revising parameters ''Ci90'' and ''Qi'' of Equation 16 in paragraph (c)(3), parameters ''Hgi90'' and ''Qi'' of Equation 17 in paragraph (c)(4), and parameters ''TSMi90'' and ''Qi'' of Equation 18 in paragraph (c)(5).

■ g. Removing and reserving paragraph (d).

■ h. Revising paragraphs (e), (h), and (i)(3).

The revisions and additions read as follows:

§ 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to § 63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by § 63.7510(a)(2). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to § 63.7525.

(b) If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in § 63.7510(a)(2). (Note that § 63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) * * *

(iii) * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(2) * * *

(iii) * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content during the initial compliance test. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(3) * * *

(iii) * * *

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(4) * * *

(ii) * * *

(D) * * *

n = is the number of valid hourly parameter values collected over the previous 30 operating days.

* * * * *

(F) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

(iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in § 63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.

(iv) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)

(v) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vi) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vii) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.

(viii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

(ix) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO_2 CEMS is to install and operate the SO_2 according to the requirements in § 63.7525(m) establish a maximum SO_2 emission rate equal to the highest hourly average SO_2 measurement during the most recent three-run performance test for HCl.

(c) * * *

(3) * * *

Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(4) * * *

Hgi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(5) * * *

TSMi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

* * * * *

(e) You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 to this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

* * * * *

(h) If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart.

(i) * * *

(3) You establish a unit-specific maximum SO_2 operating limit by collecting the maximum hourly SO_2 emission rate on the SO_2 CEMS during the paired 3-run test for HCl. The maximum SO_2 operating limit is equal to the highest hourly average SO_2 concentration measured during the HCl performance test.

■ 13. Section 63.7533 is amended by revising paragraph (e) to read as follows:

§ 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

* * * * *

(e) The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is subject to numeric emission limits, following the compliance date specified in § 63.7495.

* * * * *

■ 14. Section 63.7535 is amended by revising paragraphs (c) and (d) to read as follows:

§ 63.7535 Is there a minimum amount of monitoring data I must obtain?

* * * * *

(c) You may not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report.

■ 15. Section 63.7540 is amended by:
■ a. Revising paragraph (a)(2).
■ b. Revising paragraphs (a)(3) introductory text and (a)(3)(iii).
■ c. Revising paragraphs (a)(5) introductory text and (a)(5)(iii).
■ d. Revising paragraph (a)(8)(ii).
■ e. Revising paragraph (a)(10) introductory text.
■ f. Revising paragraph (a)(10)(i).
■ g. Revising paragraph (a)(10)(vi) introductory text.
■ h. Revising paragraphs (a)(12).
■ i. Revising paragraphs (a)(14)(i) and (a)(15)(i).
■ j. Revising paragraphs (a)(17) introductory text and (a)(17)(iii).
■ k. Revising paragraph (a)(18)(i).
■ l. Revising paragraph (a)(19)(iii).
■ m. Revising paragraph (d).

The revisions read as follows:

§ 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

(a) * * *

(2) As specified in § 63.7555(d), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

(i) Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

(ii) Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 16 of § 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate.

* * * * *

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 16 of § 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

* * * * *

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 17 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.

* * * * *

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 17 of § 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

* * * * *

(8) * * *

(ii) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is subject to numeric emission limits.

* * * * *

(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

* * * * *

(vi) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,

* * * * *

(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in § 63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

* * * * *

(14) * * *

(i) Operate the mercury CEMS in accordance with performance specification 12A of 40 CFR part 60, appendix B or operate a sorbent trap based integrated monitor in accordance with performance specification 12B of 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in § 63.7545(e)(2)(iii) for mercury CEMS or it must be 720 hours if you specified a 720 hour basis in § 63.7545(e)(2)(iii) for mercury CEMS. For each day in which the unit operates, you must obtain hourly mercury concentration data, and stack gas volumetric flow rate data.

* * * * *

(15) * * *

(i) Operate the continuous emissions monitoring system in accordance with the applicable performance specification in 40 CFR part 60, appendix B. The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in § 63.7545(e)(2)(iii) for HCl CEMS or it must be 720 hours if you specified a 720 hour basis in § 63.7545(e)(2)(iii) for HCl CEMS. For each day in which the unit operates, you must obtain hourly HCl concentration data, and stack gas volumetric flow rate data.

* * * * *

(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 18 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.

* * * * *

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 18 of § 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

* * * * *

(18) * * *

(i) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis.

* * * * *

(19) * * *

(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (v) of this section.

* * * * *

(d) For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart.

■ 16. Section 63.7545 is amended by revising paragraphs (e) introductory text, (e)(8)(i), adding paragraph (e)(2)(iii), and revising paragraph (h) introductory text to read as follows:

§ 63.7545 What notifications must I submit and when?

* * * * *

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable. If you are not required to conduct an initial compliance demonstration as specified in § 63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) of this section and must be submitted within 60 days of the compliance date specified at § 63.7495(b).

* * * * *

(2) * * *

(iii) Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.

* * * * *

(8) * * *

(i) ''This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in § 63.7540(a)(10)(i) through (vi).''

* * * * *

(h) If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

* * * * *

■ 17. Section 63.7550 is amended by revising paragraphs (b), (c)(1) through (4), (c)(5)(viii) and (xvi), adding paragraph (c)(5)(xviii), and revising paragraph (d) introductory text, (d)(1), and (h) to read as follows:

§ 63.7550 What reports must I submit and when?

* * * * *

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

(1) The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in § 63.7495.

(2) The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in § 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

(3) Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

(4) Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this

chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) * * *

(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.

(2) If you are complying with the fuel analysis you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (vi), (x), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(3) If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in (c)(5)(i) through (iii), (vi), (vii), (viii), (ix), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.

(4) If you are complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii), and paragraph (e) of this section.

(5) * * *

(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 17 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of § 63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

* * * * *

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO_2, and mercury), 10 day rolling average values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.

* * * * *

(xviii) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of § 63.7555(d).

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.

(1) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

* * * * *

(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.

(1) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any fuel analyses, following the procedure specified in either paragraph (h)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (h)(2)(i) or (ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT

Web site. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

(3) You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (*http://www.epa.gov/ttn/chief/cedri/index.html*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.

■ 18. Section 63.7555 is amended by:
■ a. Adding paragraph (a)(3).
■ b. Removing paragraph (d)(3).
■ c. Redesignating paragraphs (d)(4) through (11) as paragraphs (d)(3) through (10).
■ d. Revising newly designated paragraphs (d)(3), (d)(4), and (d)(8).
■ e. Adding new paragraph (d)(11) and paragraphs (d)(12) and (d)(13).
■ f. Removing paragraphs (i) and (j).

The additions and revisions read as follows:

§ 63.7555 What records must I keep?

(a) * * *

(3) For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.

* * * * *

(d) * * *

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

* * * * *

(8) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 18 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

* * * * *

(11) For each startup period, for units selecting paragraph (2) of the definition of "startup" in § 63.7575 you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.

(12) If you choose to rely on paragraph (2) of the definition of "startup" in § 63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (*e.g.,* CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in paragraphs (d)(12)(i) through (iii) of this section.

(i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(ii) For a boiler or process heater with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(iii) For a boiler or process heater with a wet scrubber needed for filterable PM control, record the scrubber's liquid flow rate and the pressure drop during each hour of startup.

(13) If you choose to use paragraph (2) of the definition of "startup" in § 63.7575 and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of

definition of ''startup'' in § 63.7575 or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement, as described below.

(i) The request shall provide evidence of a documented manufacturer-identified safety issue.

(ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.

(iii) In addition, the request shall contain documentation that:

(A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;

(B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and

(C) Identifies with specificity the details of the manufacturer's statement of concern.

(iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

* * * * *

■ 19. Section 63.7570 is amended by revising paragraph (b) to read as follows:

§ 63.7570 Who implements and enforces this subpart?

* * * * *

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency, however, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g), except as specified in § 63.7555(d)(13).

(2) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90, and alternative analytical methods requested under § 63.7521(b)(2).

(3) Approval of major change to monitoring under § 63.8(f) and as defined in § 63.90, and approval of alternative operating parameters under §§ 63.7500(a)(2) and 63.7522(g)(2).

(4) Approval of major change to recordkeeping and reporting under § 63.10(e) and as defined in § 63.90.

■ 20. Section 63.7575 is amended by:

■ a. Revising the definition for ''30-day rolling average.''

■ b. Removing the definition for ''Affirmative defense.''

■ c. Adding in alphabetical order a definition for ''Clean dry biomass.''

■ d. Revising the definition for ''Energy assessment.''

■ e. Adding in alphabetical order a definition for ''Fossil fuel.''

■ f. Revising the definitions for ''Hybrid suspension grate boiler,'' ''Limited-use boiler or process heater,'' ''Liquid fuel,'' ''Load fraction,'' ''Minimum sorbent injection rate,'' ''Operating day,'' and ''Oxygen trim system.''

■ g. Adding in alphabetical order a definition for ''Rolling average''.

■ h. Revising the definitions for ''Shutdown,'' ''Startup,'' ''Steam output,'' and ''Temporary boiler.''

■ i. Adding in alphabetical order a definition for ''Useful thermal energy.''

The revisions and additions read as follows:

§ 63.7575 What definitions apply to this subpart?

* * * * *

30-day rolling average means the arithmetic mean of the previous 720 hours of valid CO CEMS data. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent. For parameters other than CO, 30-day rolling average means either the arithmetic mean of all valid hours of data from 30 successive operating days or the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating.

* * * * *

Clean dry biomass means any biomass-based solid fuel that have not been painted, pigment-stained, or pressure treated, does not contain contaminants at concentrations not normally associated with virgin biomass materials and has a moisture content of less than 20 percent and is not a solid waste.

* * * * *

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBtu) per year will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour on-site energy assessment.

(2) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of 0.3 to 1.0 TBtu/year will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 33 percent of the energy (*e.g.,* steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour on-site energy assessment.

(3) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity greater than 1.0 TBtu/year will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 on-site technical labor hours for every additional 1.0 TBtu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 20 percent of the energy (*e.g.,* steam, process heat, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use systems serving as the basis for the percent of affected boiler(s) and process heater(s) energy production in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (*e.g.,* product X manufacturing area; product Y drying area; Building Z).

* * * * *

Fossil fuel means natural gas, oil, coal, and any form of solid, liquid, or gaseous fuel derived from such material.

* * * * *

Hybrid suspension grate boiler means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler. Fluidized bed, dutch oven, and pile burner designs are not part of the hybrid suspension grate boiler design category.

* * * * *

Limited-use boiler or process heater means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not limited to, light liquid, heavy liquid, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, biodiesel, and vegetable oil.

Load fraction means the actual heat input of a boiler or process heater divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (*e.g.,* for 50 percent load the load fraction is 0.5). For boilers and process heaters that co-fire natural gas or refinery gas with a solid or liquid fuel, the load fraction is determined by the actual heat input of the solid or liquid fuel divided by heat input of the solid or liquid fuel fired during the performance test (*e.g.,* if the performance test was conducted at 100 percent solid fuel firing, for 100 percent load firing 50 percent solid fuel and 50 percent natural gas the load fraction is 0.5).

* * * * *

Minimum sorbent injection rate means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion not using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

* * * * *

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period. For calculating rolling average emissions, an operating day does not include the hours of operation during startup or shutdown.

* * * * *

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

* * * * *

Rolling average means the average of all data collected during the applicable averaging period. For demonstration of compliance with a CO CEMS-based emission limit based on CO concentration a 30-day (10-day) rolling average is comprised of the average of all the hourly average concentrations over the previous 720 (240) operating hours calculated each operating day. To demonstrate compliance on a 30-day rolling average basis for parameters other than CO, you must indicate the basis of the 30-day rolling average period you are using for compliance, as discussed in § 63.7545(e)(2)(iii). If you indicate the 30 operating day basis, you must calculate a new average value each operating day and shall include the measured hourly values for the preceding 30 operating days. If you select the 720 operating hours basis, you must average of all the hourly average concentrations over the previous 720 operating hours calculated each operating day.

Shutdown means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.

* * * * *

Startup means:

(1) Either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the useful thermal energy from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.

Steam output means:

(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,

(2) For a boiler that cogenerates process steam and electricity (also known as combined heat and power), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu at a rate of 10,000 Btu per kilowatt-hour generated (10 MMBtu per megawatt-hour), and

(3) For a boiler that generates only electricity, the alternate output-based emission limits would be the appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input (lb per MWh).

(4) For a boiler that performs multiple functions and produces steam to be used for any combination of paragraphs (1), (2), and (3) of this definition that includes electricity generation of paragraph (3) of this definition, the total energy output, in terms of MMBtu of steam output, is the sum of the energy content of steam sent directly to the process and/or used for heating (S_1), the energy content of turbine steam sent to process plus energy in electricity

according to paragraph (2) of this definition (S_2), and the energy content of electricity generated by a electricity only turbine as paragraph (3) of this definition ($MW_{(3)}$) and would be calculated using Equation 21 of this section. In the case of boilers supplying steam to one or more common heaters, S_1, S_2, and $MW_{(3)}$ for each boiler would be calculated based on the its (steam energy) contribution (fraction of total steam energy) to the common heater.

$$SO_M = S_1 + S_2 + (MW_{(3)}\ x\ CFn) \qquad \text{(Eq. 21)}$$

Where:

SO_M = Total steam output for multi-function boiler, MMBtu

S_1 = Energy content of steam sent directly to the process and/or used for heating, MMBtu

S_2 = Energy content of turbine steam sent to the process plus energy in electricity according to (2) above, MMBtu

$MW_{(3)}$ = Electricity generated according to paragraph (3) of this definition, MWh

CFn = Conversion factor for the appropriate subcategory for converting electricity generated according to paragraph (3) of this definition to equivalent steam energy, MMBtu/MWh

CFn for emission limits for boilers in the unit designed to burn solid fuel subcategory = 10.8

CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal = 11.7

CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass = 12.1

CFn for emission limits for boilers in one of the subcategories of units designed to burn liquid fuel = 11.2

CFn for emission limits for boilers in the unit designed to burn gas 2 (other) subcategory = 6.2

* * * * *

Temporary boiler means any gaseous or liquid fuel boiler or process heater that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler or process heater is not a temporary boiler or process heater if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or process heater or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler or process heater that replaces a temporary boiler or process heater at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, process heat, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

* * * * *

Useful thermal energy means energy (*i.e.,* steam, hot water, or process heat) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler or process heater.

* * * * *

■ 21. Table 1 to subpart DDDDD of part 63 is amended by:

■ a. Revising rows ‘‘3.a’’, ‘‘4.a’’, ‘‘5.a’’, ‘‘6.a’’, ‘‘7.a’’, ‘‘9.a’’, ‘‘10.a’’, ‘‘11.a’’, and ‘‘13.a’’.

■ b. Revising footnote ‘‘c’’; and

■ c. Adding footnote ‘‘d’’.

The revisions and addition read as follows:

As stated in § 63.7500, you must comply with the following applicable emission limits:

TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
	* *	* * *	* *	
3. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.	1 hr minimum sampling time.
4. Stokers/others designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.	1 hr minimum sampling time.

TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS—Continued

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
5. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.	1 hr minimum sampling time.
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	1.2E–01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average.	1 hr minimum sampling time.
7. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	5.8E–01 lb per MMBtu of steam output or 6.8 lb per MWh; 3-run average.	1 hr minimum sampling time.
	* *	* * *	* *	
9. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	2.2E–01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average.	1 hr minimum sampling time.
	* *	* * *	* *	
10. Suspension burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 10-day rolling average).	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average.	1 hr minimum sampling time.
	* *	* * *	* *	
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	330 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 10-day rolling average).	3.5E–01 lb per MMBtu of steam output or 3.6 lb per MWh; 3-run average.	1 hr minimum sampling time.
	* *	* * *	* *	
13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS)	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,[d] 30-day rolling average).	1.4 lb per MMBtu of steam output or 12 lb per MWh; 3-run average.	1 hr minimum sampling time.

TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS—Continued

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
*	* *	*	* *	*

* * * * * * *

[c] If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before April 1, 2013, you may comply with the emission limits in Tables 11, 12 or 13 to this subpart until January 31, 2016. On and after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

[d] An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

■ 22. Table 2 to subpart DDDDD of part 63 is amended by revising the rows ''3.a'', ''4.a'', ''5.a'', ''6.a'', ''7.a'', ''9.a'', ''10.a'', ''11.a'', ''13.a'', ''14.b'', and ''16.b'' and adding footnote ''c'' to read as follows:

As stated in § 63.7500, you must comply with the following applicable emission limits:

TABLE 2 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR EXISTING BOILERS AND PROCESS HEATERS

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
*	* *	*	* *	*
3. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.	1 hr minimum sampling time.
4. Stokers/others designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	160 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average.	1 hr minimum sampling time.
5. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average.	1 hr minimum sampling time.
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1.3E–01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average.	1 hr minimum sampling time.

TABLE 2 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR EXISTING BOILERS AND PROCESS HEATERS—Continued

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
7. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS)	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average.	1 hr minimum sampling time.
*	* *	*	* *	*
9. Fluidized bed units designed to burn biomass/bio-based solid.	a. CO (or CEMS)	470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	4.6E–01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average.	1 hr minimum sampling time.
*	* *	*	* *	*
10. Suspension burners designed to burn biomass/bio-based solid.	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average.	1 hr minimum sampling time.
*	* *	*	* *	*
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid.	a. CO (or CEMS)	770 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	8.4E–01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average.	1 hr minimum sampling time.
*	* *	*	* *	*
13. Hybrid suspension grate units designed to burn biomass/bio-based solid.	a. CO (or CEMS)	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	3.5 lb per MMBtu of steam output or 39 lb per MWh; 3-run average.	1 hr minimum sampling time.
*	* *	*	* *	*
14. Units designed to burn liquid fuel.	b. Mercury	2.0E–06[a] lb per MMBtu of heat input.	2.5E–06[a] lb per MMBtu of steam output or 2.8E–05 lb per MWh.	For M29, collect a minimum of 3 dscm per run; for M30A or M30B collect a minimum sample as specified in the method, for ASTM D6784,[b] collect a minimum of 2 dscm.

TABLE 2 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS FOR EXISTING BOILERS AND PROCESS HEATERS—Continued

[Units with heat input capacity of 10 million Btu per hour or greater]

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during startup and shutdown . . .	The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
*	* *	*	* *	*
16. Units designed to burn light liquid fuel.	b. Filterable PM (or TSM)	7.9E–03 [a] lb per MMBtu of heat input; or (6.2E–05 lb per MMBtu of heat input).	9.6E–03 [a] lb per MMBtu of steam output or 1.1E–01 [a] lb per MWh; or (7.5E–05 lb per MMBtu of steam output or 8.6E–04 lb per MWh).	Collect a minimum of 3 dscm per run.
*	* *	*	* *	*

* * * * * * *

[c] An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

■ 23. Table 3 to subpart DDDDD of part 63 is amended by revising the entries for "4," "5," and "6" and adding footnote "a" to read as follows:

As stated in § 63.7500, you must comply with the following applicable work practice standards:

TABLE 3 TO SUBPART DDDDD OF PART 63—WORK PRACTICE STANDARDS

If your unit is . . .	You must meet the following . . .
* * *	* * * *
4. An existing boiler or process heater located at a major source facility, not including limited use units.	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in § 63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in § 63.7575: a. A visual inspection of the boiler or process heater system. b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints. c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator. d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage. e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified. f. A list of cost-effective energy conservation measures that are within the facility's control. g. A list of the energy savings potential of the energy conservation measures identified. h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

TABLE 3 TO SUBPART DDDDD OF PART 63—WORK PRACTICE STANDARDS—Continued

If your unit is . . .	You must meet the following . . .
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup.	a. You must operate all CMS during startup. b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis. c. You have the option of complying using either of the following work practice standards. (1) If you choose to comply using definition (1) of "startup" in § 63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose, OR (2) If you choose to comply using definition (2) of "startup" in § 63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels[a]. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in § 63.7505(e). d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in § 63.7535(b). You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in § 63.7555.
6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown.	You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas. You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in § 63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in § 63.7555.

[a] As specified in § 63.7555(d)(13), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the "fuel firing + 1 hour" requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (*e.g.*, scrubber).

■ 24. Table 4 to subpart DDDDD of part 63 is revised to read as follows:

As stated in § 63.7500, you must comply with the applicable operating limits:

TABLE 4 TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS

When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .	You must meet these operating limits . . .
1. Wet PM scrubber control on a boiler or process heater not using a PM CPMS.	Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM emission limitation according to § 63.7530(b) and Table 7 to this subpart.

TABLE 4 TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS—Continued

When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .	You must meet these operating limits . . .
2. Wet acid gas (HCl) scrubber[a] control on a boiler or process heater not using a HCl CEMS.	Maintain the 30-day rolling average effluent pH at or above the lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the performance test demonstrating compliance with the HCl emission limitation according to § 63.7530(b) and Table 7 to this subpart.
3. Fabric filter control on a boiler or process heater not using a PM CPMS.	a. Maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average); or b. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.
4. Electrostatic precipitator control on a boiler or process heater not using a PM CPMS.	a. This option is for boilers and process heaters that operate dry control systems (*i.e.*, an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average). b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (*i.e.*, dry ESP). Maintain the 30-day rolling average total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(b) and Table 7 to this subpart.
5. Dry scrubber or carbon injection control on a boiler or process heater not using a mercury CEMS.	Maintain the minimum sorbent or carbon injection rate as defined in § 63.7575 of this subpart.
6. Any other add-on air pollution control type on a boiler or process heater not using a PM CPMS.	This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).
7. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.
8. Oxygen analyzer system	For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O_2 analyzer system as specified in § 63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a).
9. SO_2 CEMS	For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO_2 CEMS, maintain the 30-day rolling average SO_2 emission rate at or below the highest hourly average SO_2 concentration measured during the HCl performance test, as specified in Table 8.

[a] A wet acid gas scrubber is a control device that removes acid gases by contacting the combustion gas with an alkaline slurry or solution. Alkaline reagents include, but not limited to, lime, limestone and sodium.

■ 25. Table 5 to subpart DDDDD of part 63 is amended by revising the heading to the third column and adding footnote ''a'' to read as follows:

As stated in § 63.7520, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

TABLE 5 TO SUBPART DDDDD OF PART 63—PERFORMANCE TESTING REQUIREMENTS

To conduct a performance test for the following pollutant . . .	You must . . .	Using, as appropriate . . .

* * * * *

[a] Incorporated by reference, see § 63.14.

■ 26. Table 6 to subpart DDDDD of part 63 is revised to read as follows:

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in § 63.7575) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

Table 6 to Subpart DDDDD of Part 63—Fuel Analysis Requirements

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192,[a] or ASTM D7430,[a] or ASTM D6883,[a] or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for solid), or ASTM D4177[a] (for liquid), or ASTM D4057[a] (for liquid), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples.	EPA SW–846–3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] (for biomass), or EPA 3050[a] (for solid fuel), or EPA 821–R–01–013[a] (for liquid or solid), or equivalent.
	d. Determine heat content of the fuel type.	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a] for liquids and other solids, or ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type.	ASTM D3173,[a] ASTM E871,[a] or ASTM D5864,[a] or ASTM D240, or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or equivalent.
	f. Measure mercury concentration in fuel sample.	ASTM D6722[a] (for coal), EPA SW–846–7471B[a] or EPA 1631 or EPA 1631E (for solid samples), or EPA SW–846–7470A[a] (for liquid samples), or EPA 821–R–01–013 (for liquid or solid), or equivalent.
	g. Convert concentration into units of pounds of mercury per MMBtu of heat content.	For fuel mixtures use Equation 8 in § 63.7530.
2. HCl	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192,[a] or ASTM D7430,[a] or ASTM D6883,[a] or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples.	EPA SW–846–3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), or ASTM D5198[a] (for biomass), or EPA 3050[a] or equivalent.
	d. Determine heat content of the fuel type.	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), ASTM D5864, ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type.	ASTM D3173[a] or ASTM E871,[a] or D5864,[a] or ASTM D240,[a] or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or equivalent.
	f. Measure chlorine concentration in fuel sample.	EPA SW–846–9250,[a] ASTM D6721,[a] ASTM D4208[a] (for coal), or EPA SW–846–5050[a] or ASTM E776[a] (for solid fuel), or EPA SW–846–9056[a] or SW–846–9076[a] (for solids or liquids) or equivalent.
	g. Convert concentrations into units of pounds of HCl per MMBtu of heat content.	For fuel mixtures use Equation 7 in § 63.7530 and convert from chlorine to HCl by multiplying by 1.028.
3. Mercury Fuel Specification for other gas 1 fuels.	a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter, or	Method 30B (M30B) at 40 CFR part 60, appendix A–8 of this chapter or ASTM D5954,[a] ASTM D6350,[a] ISO 6978–1:2003(E),[a] or ISO 6978–2:2003(E),[a] or EPA–1631[a] or equivalent.
	b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater.	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A–8 of this chapter or Method 101A or Method 102 at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784[a] or equivalent.
4. TSM	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192,[a] or ASTM D7430,[a] or ASTM D6883,[a] or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for coal or biomass), or ASTM D4177,[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples.	EPA SW–846–3050B[a] (for solid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] or TAPPI T266[a] (for biomass), or EPA 3050[a] or equivalent.
	d. Determine heat content of the fuel type.	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or ASTM D5864[a] for liquids and other solids, or ASTM D240[a] or equivalent.
	e. Determine moisture content of the fuel type.	ASTM D3173[a] or ASTM E871,[a] or D5864, or ASTM D240,[a] or ASTM D95[a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177[a] (for liquid fuels) or ASTM D4057[a] (for liquid fuels), or equivalent.
	f. Measure TSM concentration in fuel sample.	ASTM D3683,[a] or ASTM D4606,[a] or ASTM D6357[a] or EPA 200.8[a] or EPA SW–846–6020,[a] or EPA SW–846–6020A,[a] or EPA SW–846–6010C,[a] EPA 7060[a] or EPA 7060A[a] (for arsenic only), or EPA SW–846–7740[a] (for selenium only).
	g. Convert concentrations into units of pounds of TSM per MMBtu of heat content.	For fuel mixtures use Equation 9 in § 63.7530.

[a] Incorporated by reference, see § 63.14.

■ 27. Table 7 to subpart DDDDD of part 63 is revised to read as follows:

As stated in § 63.7520, you must comply with the following requirements for establishing operating limits:

TABLE 7 TO SUBPART DDDDD OF PART 63—ESTABLISHING OPERATING LIMITS [a] [b]

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
1. PM, TSM, or mercury	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum scrubber pressure drop and minimum flow rate operating limit according to § 63.7530(b).	(1) Data from the scrubber pressure drop and liquid flow rate monitors and the PM, TSM, or mercury performance test.	(a) You must collect scrubber pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance tests. (b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers).	i. Establish a site-specific minimum total secondary electric power input according to § 63.7530(b).	(1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test.	(a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests. (b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	c. Opacity	i. Establish a site-specific maximum opacity level.	(1) Data from the opacity monitoring system during the PM performance test.	(a) You must collect opacity readings every 15 minutes during the entire period of the performance tests. (b) Determine the average hourly opacity reading for each performance test run by computing the hourly averages using all of the 15-minute readings taken during each performance test run. (c) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance with the PM (or TSM) emission limitation.
2. HCl	a. Wet scrubber operating parameters.	i. Establish site-specific minimum effluent pH and flow rate operating limits according to § 63.7530(b).	(1) Data from the pH and liquid flow-rate monitors and the HCl performance test.	(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.

TABLE 7 TO SUBPART DDDDD OF PART 63—ESTABLISHING OPERATING LIMITS [a b]—Continued

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
	b. Dry scrubber operating parameters.	i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(b). If different acid gas sorbents are used during the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent.	(1) Data from the sorbent injection rate monitors and HCl or mercury performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in § 63.7575, to determine the required injection rate.
	c. Alternative Maximum SO_2emission rate.	i. Establish a site-specific maximum SO_2emission rate operating limit according to § 63.7530(b).	(1) Data from SO_2 CEMS and the HCl performance test.	(a) You must collect the SO_2 emissions data according to § 63.7525(m) during the most recent HCl performance tests. (b) The maximum SO_2emission rate is equal to the highest hourly average SO_2emission rate measured during the most recent HCl performance tests.
3. Mercury	a. Activated carbon injection.	i. Establish a site-specific minimum activated carbon injection rate operating limit according to § 63.7530(b).	(1) Data from the activated carbon rate monitors and mercury performance test.	(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction, as defined in § 63.7575, to determine the required injection rate.

TABLE 7 TO SUBPART DDDDD OF PART 63—ESTABLISHING OPERATING LIMITS [a] [b]—Continued

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
4. Carbon monoxide for which compliance is demonstrated by a performance test.	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to § 63.7530(b).	(1) Data from the oxygen analyzer system specified in § 63.7525(a).	(a) You must collect oxygen data every 15 minutes during the entire period of the performance tests. (b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test.	a. Boiler or process heater operating load.	i. Establish a unit specific limit for maximum operating load according to § 63.7520(c).	(1) Data from the operating load monitors or from steam generation monitors.	(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test. (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

[a] Operating limits must be confirmed or reestablished during performance tests.

[b] If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests. For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

■ 28. Table 8 to subpart DDDDD of part 63 is amended by:

■ a. Revising the entries for rows ‘‘1.c’’ and ‘‘3.’’

■ b. Adding row ‘‘8.d’’.

■ c. Revising the entries for rows‘‘9.a,’’ ‘‘9.c,’’ ‘‘10,’’ and ‘‘11.c.’’

The revisions and addition read as follows:

As stated in § 63.7540, you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

TABLE 8 TO SUBPART DDDDD OF PART 63—DEMONSTRATING CONTINUOUS COMPLIANCE

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
* *	* * * * *
1. Opacity	c. Maintaining daily block average opacity to less than or equal to 10 percent or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation.
* *	* * * * *
3. Fabric Filter Bag Leak Detection Operation.	Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(7) are met.
* *	* * * * *
8. Emission limits using fuel analysis.	d. Calculate the HCl, mercury, and/or TSM emission rate from the boiler or process heater in units of lb/MMBtu using Equation 15 and Equations 17, 18, and/or 19 in § 63.7530.

TABLE 8 TO SUBPART DDDDD OF PART 63—DEMONSTRATING CONTINUOUS COMPLIANCE—Continued

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
9. Oxygen content	a. Continuously monitor the oxygen content using an oxygen analyzer system according to § 63.7525(a). This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.7525(a)(7).
* * *	* * * * *
11. SO_2 emissions using SO_2 CEMS.	c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the CO performance test.
10. Boiler or process heater operating load.	a. Collecting operating load data or steam generation data every 15 minutes.
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test according to § 63.7520(c).
* * *	* * * * *
	c. Maintaining the 30-day rolling average SO_2 CEMS emission rate to a level at or below the highest hourly SO_2 rate measured during the HCl performance test according to § 63.7530.

■ 29. Table 9 to subpart DDDDD of part 63 is amended by revising the entries for ''1.b'' and ''1.c'' to read as follows:

As stated in § 63.7550, you must comply with the following requirements for reports:

TABLE 9 TO SUBPART DDDDD OF PART 63—REPORTING REQUIREMENTS

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	....
	c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in § 63.7550(d); and	....
* *	* * * *	*

■ 30. Table 10 to subpart DDDDD of part 63 is amended by revising the rows associated with ''§ 63.6(g)'' and ''§ 63.6(h)(2) to (h)(9)'' to read as follows:

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

Citation	Subject	Applies to subpart DDDDD
* * * * * * *		
§ 63.6(g)	Use of alternative standards.	Yes, except § 63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2).
* * * * * * *		
§ 63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards.	No. Subpart DDDDD specifies opacity as an operating limit not an emission standard.
* * * * * * *		

■ 31. Table 11 to subpart DDDDD of part 63 is revised to read as follows:

TABLE 11 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER JUNE 4, 2010, AND BEFORE MAY 20, 2011

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
1. Units in all subcategories designed to burn solid fuel.	a. HCl	0.022 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis.	a. Mercury	8.0E–07 [a] lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b] collect a minimum of 4 dscm.
3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis.	a. Mercury	2.0E–06 lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b] collect a minimum of 4 dscm.
4. Units design to burn coal/solid fossil fuel.	a. Filterable PM (or TSM)	1.1E–03 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
5. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
6. Stokers designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.

TABLE 11 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER JUNE 4, 2010, AND BEFORE MAY 20, 2011—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
7. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
8. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
9. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.0E–02 lb per MMBtu of heat input; or (2.6E–05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
10. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.	a. CO	560 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.0E–02 lb per MMBtu of heat input; or (4.0E–03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
11. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	9.8E–03 lb per MMBtu of heat input; or (8.3E–05[a] lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
12. Suspension burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.0E–02 lb per MMBtu of heat input; or (6.5E–03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.

TABLE 11 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER JUNE 4, 2010, AND BEFORE MAY 20, 2011—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
13. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	1,010 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	8.0E–03 lb per MMBtu of heat input; or (3.9E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
14. Fuel cell units designed to burn biomass/bio-based solids.	a. CO	910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.0E–02 lb per MMBtu of heat input; or (2.9E–05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
15. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS)	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.6E–02 lb per MMBtu of heat input; or (4.4E–04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
16. Units designed to burn liquid fuel.	a. HCl	4.4E–04 lb per MMBtu of heat input.	For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	b. Mercury	4.8E–07[a] lb per MMBtu of heat input.	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.
17. Units designed to burn heavy liquid fuel.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	1.3E–02 lb per MMBtu of heat input; or (7.5E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
18. Units designed to burn light liquid fuel.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.0E–03[a] lb per MMBtu of heat input; or (2.9E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
19. Units designed to burn liquid fuel that are non-continental units.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.3E–02 lb per MMBtu of heat input; or (8.6E–04 lb per MMBtu of heat input).	Collect a minimum of 4 dscm per run.

TABLE 11 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER JUNE 4, 2010, AND BEFORE MAY 20, 2011—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
20. Units designed to burn gas 2 (other) gases.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. HCl	1.7E–03 lb per MMBtu of heat input.	For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	c. Mercury	7.9E–06 lb per MMBtu of heat input.	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
	d. Filterable PM (or TSM)	6.7E–03 lb per MMBtu of heat input; or (2.1E–04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.

[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 63.7515 if all of the other provision of § 63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see § 63.14.

[c] An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

■ 32. Table 12 to subpart DDDDD of part 63 is revised to read as follows:

TABLE 12 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER MAY 20, 2011, AND BEFORE DECEMBER 23, 2011

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
1. Units in all subcategories designed to burn solid fuel.	a. HCl	0.022 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
	b. Mercury	3.5E–06[a] lb per MMBtu of heat input	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
2. Units design to burn coal/solid fossil fuel.	a. Filterable PM (or TSM).	1.1E–03 lb per MMBtu of heat input; or (2.3E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
3. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
4. Stokers designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
5. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.

Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After May 20, 2011, and Before December 23, 2011—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
7. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E–02 lb per MMBtu of heat input; or (2.6E–05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel.	a. CO b. Filterable PM (or TSM).	460 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average. 3.0E–02 lb per MMBtu of heat input; or (4.0E–03 lb per MMBtu of heat input).	1 hr minimum sampling time. Collect a minimum of 2 dscm per run.
9. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS)	260 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	9.8E–03 lb per MMBtu of heat input; or (8.3E–05[a] lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
10. Suspension burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.0E–02 lb per MMBtu of heat input; or (6.5E–03 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	3.2E–03 lb per MMBtu of heat input; or (3.9E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
12. Fuel cell units designed to burn biomass/bio-based solids.	a. CO b. Filterable PM (or TSM).	910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average. 2.0E–02 lb per MMBtu of heat input; or (2.9E–05 lb per MMBtu of heat input).	1 hr minimum sampling time. Collect a minimum of 2 dscm per run.
13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS)	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.6E–02 lb per MMBtu of heat input; or (4.4E–04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.
14. Units designed to burn liquid fuel.	a. HCl	4.4E–04 lb per MMBtu of heat input	For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	b. Mercury	4.8E–07[a] lb per MMBtu of heat input	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 4 dscm.
15. Units designed to burn heavy liquid fuel.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	1.3E–02 lb per MMBtu of heat input; or (7.5E–05 lb per MMBtu of heat input).	Collect a minimum of 2 dscm per run.
16. Units designed to burn light liquid fuel.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	1.3E–03[a] lb per MMBtu of heat input; or (2.9E–05 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.

TABLE 12 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER MAY 20, 2011, AND BEFORE DECEMBER 23, 2011—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
17. Units designed to burn liquid fuel that are non-continental units.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test.	1 hr minimum sampling time.
	b. Filterable PM (or TSM).	2.3E–02 lb per MMBtu of heat input; or (8.6E–04 lb per MMBtu of heat input).	Collect a minimum of 4 dscm per run.
18. Units designed to burn gas 2 (other) gases.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average.	1 hr minimum sampling time.
	b. HCl	1.7E–03 lb per MMBtu of heat input	For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	c. Mercury	7.9E–06 lb per MMBtu of heat input	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
	d. Filterable PM (or TSM).	6.7E–03 lb per MMBtu of heat input; or (2.1E–04 lb per MMBtu of heat input).	Collect a minimum of 3 dscm per run.

[a] If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to § 63.7515 if all of the other provision of § 63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see § 63.14.

[c] An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

■ 33. Table 13 to subpart DDDDD of part 63 is amended by:

■ a. Revising the heading of the table.

■ b. Revising rows "2.a", "3.a", "4.a", "5.a", "6.a", "8.a", "9.a", "10.a", "12.a", "14.a", "15.a", and "16.a".

■ c. Adding footnote "c".

The revisions and addition read as follows:

TABLE 13 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER DECEMBER 23, 2011, AND BEFORE APRIL 1, 2013

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
*	* *	* * *	*
2. Pulverized coal boilers designed to burn coal/solid fossil fuel.	a. Carbon monoxide (CO) (or CEMS).	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
3. Stokers designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
4. Fluidized bed units designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
5. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel.	a. CO (or CEMS)	140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.

TABLE 13 TO SUBPART DDDDD OF PART 63—ALTERNATIVE EMISSION LIMITS FOR NEW OR RECONSTRUCTED BOILERS AND PROCESS HEATERS THAT COMMENCED CONSTRUCTION OR RECONSTRUCTION AFTER DECEMBER 23, 2011, AND BEFORE APRIL 1, 2013—Continued

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .	Using this specified sampling volume or test run duration . . .
*	* *	* * *	*
6. Stokers/sloped grate/others designed to burn wet biomass fuel.	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
8. Fluidized bed units designed to burn biomass/bio-based solids.	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
9. Suspension burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids.	a. CO (or CEMS)	810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids.	a. CO (or CEMS)	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 30-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
14. Units designed to burn heavy liquid fuel.	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 10-day rolling average).	1 hr minimum sampling time.
*	* *	* * *	*
15. Units designed to burn light liquid fuel.	a. CO (or CEMS)	130[a] ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen,[c] 1-day block average).	1 hr minimum sampling time.
*	* *	* * *	*
16. Units designed to burn liquid fuel that are non-continental units.	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling average).	1 hr minimum sampling time.
*	* *	* * *	*

* * * * * * *

[c] An owner or operator may request an alternative test method under § 63.7 of this chapter, in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO_2 correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO_2 being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

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Part II

Environmental Protection Agency

40 CFR Parts 60 and 63
Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2010–0682; FRL–9935–40–OAR]

RIN 2060–AQ75

Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review conducted for the Petroleum Refinery source categories regulated under national emission standards for hazardous air pollutants (NESHAP) Refinery MACT 1 and Refinery MACT 2. It also includes revisions to the Refinery MACT 1 and MACT 2 rules in accordance with provisions regarding establishment of MACT standards. This action also finalizes technical corrections and clarifications for the new source performance standards (NSPS) for petroleum refineries to improve consistency and clarity and address issues related to a 2008 industry petition for reconsideration. Implementation of this final rule will result in projected reductions of 5,200 tons per year (tpy) of hazardous air pollutants (HAP) which will reduce cancer risk and chronic health effects.

DATES: This final action is effective on February 1, 2016. The incorporation by reference of certain publications for part 63 listed in the rule is approved by the Director of the Federal Register as of February 1, 2016. The incorporation by reference of certain publications for part 60 listed in the rule were approved by the Director of the Federal Register as of June 24, 2008.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0682. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov*, or in hard copy at the EPA Docket Center, WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Brenda Shine, Sector Policies and Programs Division, Refining and Chemicals Group (E143–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711; telephone number: (919) 541–3608; fax number: (919) 541–0246; and email address: *shine.brenda@epa.gov.* For specific information regarding the risk modeling methodology, contact Mr. Ted Palma, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5470; fax number: (919) 541–0840; and email address: *palma.ted@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Ms. Maria Malave, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, William Jefferson Clinton Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564–7027; fax number: (202) 564–0050; and email address: *malave.maria@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

10/25 tpy	emissions equal to or greater than 10 tons per year of a single pollutant or 25 tons per year of cumulative pollutants
AEGL	acute exposure guideline levels
APCD	air pollution control devices
API	American Petroleum Institute
BAAQMD	Bay Area Air Quality Management District
BDT	best demonstrated technology
BLD	bag leak detectors
BSER	best system of emission reductions
Btu/ft^2	British thermal units per square foot
Btu/scf	British thermal units per standard cubic foot
CAA	Clean Air Act
CBI	confidential business information
CCU	catalytic cracking units
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
COMS	continuous opacity monitoring system
COS	carbonyl sulfide
CPMS	continuous parameter monitoring system
CRA	Congressional Review Act
CRU	catalytic reforming units
CS_2	carbon disulfide
DCU	delayed coking units
EPA	Environmental Protection Agency
ERPG	emergency response and planning guidelines
ERT	Electronic Reporting Tool
ESP	electrostatic precipitator
FCCU	fluid catalytic cracking unit
FGCD	fuel gas combustion device
FMP	flare management plan
FR	Federal Register
FTIR	Fourier transform infrared spectroscopy
GC	gas chromatograph
GHG	greenhouse gases
H_2S	hydrogen sulfide
HAP	hazardous air pollutants
HCl	hydrogen chloride
HCN	hydrogen cyanide
HF	hydrogen fluoride
HFC	highest fenceline concentration
HI	hazard index
HQ	hazard quotient
ICR	information collection request
IRIS	Integrated Risk Information System
km	kilometers
LAER	lowest achievable emission rate
lb/day	pounds per day
LDAR	leak detection and repair
LEL	lower explosive limit
LTD	long tons per day
MACT	maximum achievable control technology
MIR	maximum individual risk
mph	miles per hour
MPV	miscellaneous process vent
NAICS	North American Industry Classification System
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFS	near-field interfering source
NHVCZ	combustion zone net heating value
Ni	nickel
NO_X	nitrogen oxides
NRDC	Natural Resources Defense Council
NSPS	new source performance standards
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and standards
OECA	Office of Enforcement and Compliance Assurance
OEHHA	Office of Environmental Health Hazard Assessment
OEL	open-ended line
OMB	Office of Management and Budget
PM	particulate matter
$PM_{2.5}$	particulate matter 2.5 micrometers in diameter and smaller
ppbv	parts per billion by volume
ppm	parts per million

ppmv	parts per million by volume
PRA	Paperwork Reduction Act
PRD	pressure relief device [1]
psia	pounds per square inch absolute
psig	pounds per square inch gauge
REL	reference exposure level
REM Model	Refinery Emissions Model
RFA	Regulatory Flexibility Act
RTC	response to comment
RTR	Risk and Technology Review
SAB	Science Advisory Board
SBA	Small Business Administration
SCAQMD	South Coast Air Quality Management District
SCR	selective catalytic reduction
SISNOSE	significant economic impact on a substantial number of small entities
SO_2	sulfur dioxide
SRP	sulfur recovery plant
SRU	sulfur recovery unit
SSM	startup, shutdown and malfunction
TOSHI	target organ-specific hazard index
tpy	tons per year
UMRA	Unfunded Mandates Reform Act
URE	unit risk estimate
UV–DOAS	ultraviolet differential optical absorption spectroscopy
VCS	voluntary consensus standards
VOC	volatile organic compounds
°F	degrees Fahrenheit
ΔC	the concentration difference between the highest measured concentration and the lowest measured concentration
µg/m^3	micrograms per cubic meter

Background Information. On June 30, 2014, the EPA proposed revisions to both of the petroleum refinery NESHAP based on our residual risk and technology review (RTR). In that action, we also proposed to revise the NESHAP pursuant to CAA section 112(d)(2) and (3), to revise the SSM provisions in the NESHAP, and to make technical corrections to the NSPS to address issues related to reconsideration of the final NSPS subpart Ja rule in 2008. In this action, we are finalizing decisions and revisions for these rules. We summarize some of the more significant comments received regarding the proposed rule and provide our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is provided in the ''Response to Comment'' document, which is available in Docket ID No. EPA–HQ–OAR–2010–0682. The ''track changes'' version of the regulatory language that incorporates the changes in this final action is also available in the docket for this rulemaking.

Organization of this Document. This preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS FINAL ACTION

NESHAP and source category	NAICS [a] Code
Petroleum Refining Industry	324110

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source categories listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP or NSPS. If you have any questions regarding the applicability of any aspect of these NESHAP or NSPS, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this final action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *http://www.epa.gov/ttn/atw/petref.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* This information includes an overview of the RTR program, links to project Web sites

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[1] This term is common vernacular to describe the variety of devices regulated as pressure relief valves subject to the requirements in 40 CFR part 63 subpart CC.

for the RTR source categories, and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by February 1, 2016. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for the EPA to reconsider the rule ''[i]f the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, WJC Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

1. NESHAP

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAP) from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems or techniques, including but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. See CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than floors for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12-percent of existing sources in the category or subcategory (or the best-performing 5 sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake 2 different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every eight years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety and other relevant factors, an adverse environmental effect. The residual risk review is required within eight years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[2] For more information on the statutory authority for this rule, see 79 FR 36879.

2. NSPS

Section 111 of the CAA establishes mechanisms for controlling emissions of air pollutants from stationary sources. Section 111(b) of the CAA provides authority for the EPA to promulgate NSPS that apply only to newly constructed, reconstructed and modified sources. Once the EPA has elected to set NSPS for new and modified sources in a given source category, CAA section 111(d) calls for regulation of existing sources, with certain exceptions explained below.

Specifically, section 111(b) of the CAA requires the EPA to establish emission standards for any category of new and modified stationary sources that the Administrator, in his or her judgment, finds ''causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.'' The EPA has previously made endangerment findings under this section of the CAA for more than 60 stationary source categories and subcategories that are now subject to NSPS.

Section 111 of the CAA gives the EPA significant discretion to identify the affected facilities within a source category that should be regulated. To define the affected facilities, the EPA can use size thresholds for regulation and create subcategories based on source type, class or size. Emission limits also may be established either for equipment within a facility or for an entire facility. For listed source categories, the EPA must establish ''standards of performance'' that apply

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[2] The U.S. Court of Appeals has affirmed this approach of implementing CAA section 112(f)(2)(A): *NRDC* v. *EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

to sources that are constructed, modified or reconstructed after the EPA proposes the NSPS for the relevant source category.[3]

The EPA also has significant discretion to determine the appropriate level for the standards. Section 111(a)(1) of the CAA provides that NSPS are to reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. This level of control is commonly referred to as best demonstrated technology (BDT) or the best system of emission reduction (BSER). The standard that the EPA develops, based on the BSER achievable at that source, is commonly a numerical emission limit, expressed as a performance level (*i.e.,* a rate-based standard). Generally, the EPA does not prescribe a particular technological system that must be used to comply with a NSPS. Rather, sources remain free to elect whatever combination of measures will achieve equivalent or greater control of emissions.

Costs are also considered in evaluating the appropriate standard of performance for each category or subcategory. The EPA generally compares control options and estimated costs and emission impacts of multiple, specific emission standard options under consideration. As part of this analysis, the EPA considers numerous factors relating to the potential cost of the regulation, including industry organization and market structure, control options available to reduce emissions of the regulated pollutant(s) and costs of these controls.

B. How do the NESHAP and NSPS regulate air pollutant emissions from refineries?

The EPA promulgated the petroleum refinery NESHAP pursuant to CAA section 112(d)(2) and (3) for refineries located at major sources in two separate rules. On August 18, 1995, the first petroleum refinery MACT standard was promulgated in 40 CFR part 63, subpart CC (60 FR 43620). This rule is known as ''Refinery MACT 1'' and covers the ''Sources Not Distinctly Listed,'' meaning it includes all emissions sources from petroleum refinery process units, except those listed separately under the section 112(c) source category list and expected to be regulated by other MACT standards (for example, boilers and process heaters). Some of the emission sources regulated in Refinery MACT 1 include miscellaneous process vents (MPV), storage vessels, wastewater, equipment leaks, gasoline loading racks, marine tank vessel loading and heat exchange systems.

On April 11, 2002 (67 FR 17762), EPA promulgated a second MACT standard regulating certain process vents that were listed as a separate source category under CAA section 112(c) and that were not addressed as part of the Refinery MACT 1. This standard, which is referred to as ''Refinery MACT 2'', covers process vents on catalytic cracking units (CCU) (including FCCU), CRU and SRU and is codified as 40 CFR part 63, subpart UUU.

Finally, on October 28, 2009, we revised Refinery MACT 1 by adding MACT standards for heat exchange systems, which the EPA had not addressed in the original 1995 Refinery MACT 1 rule (74 FR 55686). In this same 2009 action, we updated the cross-references to the General Provisions in 40 CFR part 63. On June 20, 2013 (78 FR 37133), we promulgated minor revisions to the heat exchange provisions of Refinery MACT 1.

On September 27, 2012, Air Alliance Houston, California Communities Against Toxics and other environmental and public health groups filed a lawsuit alleging that the EPA missed statutory deadlines to review and revise Refinery MACT 1 and 2. The EPA reached an agreement to settle that litigation and entered into a Consent Decree. The Consent Decree provides for the Administrator to sign a final action no later than September 30, 2015.

Refinery NSPS subparts J and Ja regulated criteria pollutant emissions, including particulate matter (PM), sulfur dioxide (SO_2), nitrogen oxides (NO_X) and carbon monoxide (CO) from FCCU catalyst regenerators, fuel gas combustion devices (FGCD) and sulfur recovery plants. Refinery NSPS subpart Ja also regulates criteria pollutant emissions from fluid coking units and DCU.

The NSPS for petroleum refineries (40 CFR part 60, subpart J) were promulgated in 1974, amended in 1976 and amended again in 2008, following a review of the standards. As part of the review that led to the 2008 amendments to the Refinery NSPS subpart J, the EPA developed separate standards of performance for new process units (40 CFR part 60, subpart Ja). However, the EPA received multiple petitions for reconsideration on issues related to those standards. The Administrator granted the petitions for reconsideration. The EPA addressed petition issues related to process heaters and flares by promulgating amendments to the Refinery NSPS subparts J and Ja on September 12, 2012 (77 FR 56422). In this action, we are finalizing technical corrections and clarifications to NSPS subparts J and Ja raised by American Petroleum Institute (API) in their 2008 petition for reconsideration that were not addressed by the final NSPS amendments of 2012.

The petroleum refining industry consists of facilities that engage in converting crude oil into refined products, including liquefied petroleum gas, gasoline, kerosene, aviation fuel, diesel fuel, fuel oils, lubricating oils and feedstocks for the petrochemical industry. Currently, 142 facilities have emission sources regulated by either or both Refinery MACT 1 and 2.

Petroleum refinery activities start with the receipt of crude oil for storage at the refinery, include all the petroleum handling and refining operations, and terminate with loading of refined products into pipelines, tank or rail cars, tank trucks, or ships or barges that take products from the refinery to distribution centers. Petroleum-specific process units include FCCU and CRU. Other units and processes found at petroleum refineries (as well as at many other types of manufacturing facilities) include storage vessels and wastewater treatment plants. HAP emitted by this industry include organics (*e.g.,* acetaldehyde, benzene, formaldehyde, hexane, phenol, naphthalene, 2-methylnaphthalene, dioxins, furans, ethyl benzene, toluene and xylene); reduced sulfur compounds (*i.e.,* carbonyl sulfide (COS), carbon disulfide (CS2))); inorganics (*e.g.,* hydrogen chloride (HCl), hydrogen cyanide (HCN), chlorine, hydrogen fluoride (HF)); and metals (*e.g.,* antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, mercury, manganese and nickel (Ni)). This industry also emits criteria pollutants and other non-HAP, including NO_X, PM, SO_2, volatile organic compounds (VOC), CO, greenhouse gases (GHG) and total reduced sulfur.

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[3] Specific statutory and regulatory provisions define what constitutes a modification or reconstruction of a facility. 40 CFR 60.14 provides that an existing facility is modified and, therefore, subject to an NSPS, if it undergoes any physical change in the method of operation which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. 40 CFR 60.15, in turn, provides that a facility is reconstructed if components are replaced at an existing facility to such an extent that the capital cost of the new equipment/components exceed 50-percent of what is believed to be the cost of a completely new facility.

C. What changes did we propose for the Petroleum Refinery NESHAP and NSPS in our June 30, 2014, RTR proposal?

On June 30, 2014, the EPA published a proposed rule in the **Federal Register** addressing the RTR for the Petroleum Refinery NESHAP, 40 CFR part 63, subparts CC and UUU. The proposal also included changes pursuant to section 112(d)(2) and (3) and technical revisions to the NSPS. Specifically, we proposed:

(1) Pursuant to CAA sections 112(d)(2) and (3):

a. *Refinery MACT 1:*

- Adding MACT Standards for DCU decoking operations.
- Adding operational requirements for flares used as APCD in Refinery MACT 1 and 2.
- Adding requirements and clarifications for vent control bypasses in Refinery MACT 1.

b. *Refinery MACT 2:*

- Revising the CRU purge vent exemption.

(2) Pursuant to CAA sections 112(d)(6) and 112(f)(2):

- Revising Refinery MACT 1 to cross-reference the corresponding storage vessel requirements in the Generic MACT (40 CFR part 63, subpart WW, as applicable), and revising the definition of Group 1 storage vessels to include smaller capacity storage vessels and to include storage vessels storing materials with lower vapor pressures.

(3) Pursuant to CAA section 112(d)(6):

a. *Refinery MACT 1:*

- Allowing refineries to meet the leak detection and repair (LDAR) requirements in Refinery MACT 1 by monitoring for leaks using optical gas imaging in place of EPA Method 21, once the monitoring protocol set forth in Appendix K is promulgated.
- Amending the Marine Tank Vessel Loading Operations NESHAP, 40 CFR part 63, subpart Y, to delete the exclusion for marine vessel loading operations at petroleum refineries.
- Establishing a fenceline monitoring work practice standard to improve the management of fugitive emissions.

b. *Refinery MACT 2:*

- Incorporating requirements consistent with those in Refinery NSPS subpart Ja for FCCU including:
- Requiring the use of 3-hour averages rather than daily averages for parameter operating limits (*e.g.,* depending on the type of control device: Opacity, total power, secondary current, pressure drop, and/or liquid-to-gas ratio).
- Removing the Refinery NSPS subpart J incremental PM emissions allowance for post combustion devices when burning liquid or solid fuels, and removing the 30 percent opacity limit for units complying with NSPS subpart J.
- Adding requirements for FCCU controls to include bag leak detectors (BLD) as an option to continuous opacity monitoring system (COMS).
- Incorporating total power and the secondary current operating limits for electrostatic precipitators (ESP).
- Requiring daily checks of the air or water pressure to the spray nozzles on jet ejector-type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles.
- Requiring FCCU periodic performance testing on a frequency of once every 5 years, as opposed to the current rule, which only requires an initial performance test.
- Including a correlation equation for the use of oxygen-enriched air for SRU.
- Allowing SRU subject to Refinery NSPS subpart Ja with a capacity greater than 20 long tons per day (LTD) to comply with Refinery NSPS subpart Ja as a means of complying with Refinery MACT 2.

(4) Other proposed changes include:

- Removing exemptions from the rule requirements for periods of SSM in order to ensure that the NESHAP are consistent with the court decision in *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008).
- Clarifying requirements related to open-ended valves or lines.
- Adding electronic reporting requirements.
- Updating the General Provisions cross-reference tables.
- Making technical corrections and clarifications to NSPS subparts J and Ja.

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Petroleum Refinery source categories and amends the Petroleum Refinery NESHAP based on those determinations. This action also finalizes other changes to the NESHAP including revising Refinery MACT 1 and 2 pursuant to CAA section 112 (d)(2) and (3), including revising requirements for flares and pressure relief devices (PRD). This action finalizes changes to the SSM provisions to ensure that the subparts are consistent with the court decision in *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008), adds electronic reporting requirements in Refinery MACT 1 and 2; and updates the General Provisions cross-reference tables. Finally, this action finalizes technical corrections and clarifications to Refinery NSPS subparts J and Ja to address issues raised in the reconsideration of these rules.

A. What are the final NESHAP amendments based on the risk review for the Petroleum Refinery source categories?

The EPA is promulgating final amendments to the Petroleum Refinery NESHAP pursuant to CAA section 112(f) that expand the existing Refinery MACT 1 control requirements and extend these requirements to smaller tanks and tanks with lower vapor pressures. Specifically, consistent with the proposal, the EPA is amending Refinery MACT 1 by revising the definition of Group 1 storage vessels to include storage vessels with capacities greater than or equal to 20,000 gallons but less than 40,000 gallons if the maximum true vapor pressure is 1.0 psia or greater and to include storage tanks greater than 40,000 gallons if the maximum true vapor pressure is 0.75 psia or greater. The EPA is also adding a cross-reference to the storage vessel requirements in the Generic MACT (40 CFR part 63, subpart WW and subpart CC), which include requirements for guide pole controls and other fittings as well as inspection requirements. After considering the public comments, the final amendments include minor changes from our proposed requirements to clarify language and correct typographical and referencing errors.

B. What are the final NESHAP amendments based on the technology review for the Petroleum Refinery source categories?

1. Refinery MACT 1

We determined that there are developments in practices, processes and control technologies that warrant revisions to the MACT standards for this source category. Therefore, to satisfy the requirements of CAA section 112(d)(6), we are revising the MACT standards to amend 40 CFR part 63, subpart Y to delete the exclusion for marine vessel loading operations at petroleum refineries. Removing this exclusion will require small marine vessel loading operations (*i.e.,* operations with HAP emissions less than 10/25 tpy) and offshore marine vessel loading operations to use submerged filling based on the cargo filling line requirements in 46 CFR 153.282, as proposed.

We are also finalizing a fenceline monitoring work practice standard to improve the management of fugitive emissions and finalizing EPA Methods 325A and 325B to support the work practice, with some changes from proposal to address issues raised by commenters. Key revisions include: New provisions for reduced monitoring for facilities with consistently low fenceline concentrations; requirements for alternatives to passive monitoring; revised placement guidance to allow perimeter monitoring within a facility's property boundary provided all sources are encompassed within the monitoring perimeter; reductions in the number of monitors required for subareas and segregated areas; clarifications on monitor placement for internal roadways or other right-of-ways and marine docks; and revised timelines for submitting periodic reports (quarterly rather than semiannually) and implementing the work practice standard (2 years after promulgation rather than 3 years as proposed). We are also revising Refinery MACT 1 storage vessel requirements as described above under the risk review, as proposed.

2. Refinery MACT 2

We determined that there are developments in practices, processes and control technologies that warrant revisions to the MACT standards for this source category. Therefore, to satisfy the requirements of CAA section 112(d)(6), we are revising the Refinery MACT 2 standard for FCCU subject to Refinery NSPS subpart J or those electing to comply with the Refinery NSPS subpart J requirements. As proposed, we are removing the incremental PM limit when burning liquid or solid fuels. We are finalizing a 20-percent opacity operating limit evaluated on a 3-hour average, which differs from the proposal to eliminate the 30-percent opacity limit and instead allow only for a site-specific opacity operating limit or control device parameter monitoring. As proposed, we are finalizing requirements to make Refinery MACT 2 consistent with Refinery NSPS subpart Ja for FCCU by including 3-hour averages rather than daily averages for parameter operating limits, and by including 3-hour averages rather than daily averages for the site-specific opacity operating limit. We are also finalizing requirements, as proposed, for FCCU controls to include adding BLD as an option to COMS, incorporating total power and the secondary current operating limits for ESP and requiring daily checks of the air or water pressure to the spray nozzles on jet ejector-type wet scrubbers or other types of wet scrubbers equipped with atomizing spray nozzles.

Finally, we are finalizing, as proposed, requirements for FCCU periodic performance testing at a frequency of once every 5 years rather than the current requirements for a one-time initial performance test. However, for owners or operators complying with the Refinery NSPS subpart J option (with the 20-percent opacity operating limit discussed above), if the PM emissions are within 80-percent of the PM limit during any periodic performance test (*i.e.,* emissions exceed 0.8 lb PM/1,000 lbs of coke burn-off), the refinery owner or operator must conduct subsequent performance tests on an annual basis. Based on comments received, we are also adding requirements in the final rule for owners or operators of FCCU to conduct a one-time test for HCN emissions from the FCCU concurrent with their first periodic performance test, which must be conducted on or before August 1, 2017 for all FCCU subject to Refinery MACT 2.

For SRU, as proposed, we are finalizing a correlation equation for the use of oxygen-enriched air. Additionally, as proposed, we are finalizing requirements to allow sulfur recovery plants subject to Refinery NSPS subpart Ja with a capacity greater than 20 LTD to comply with Refinery NSPS subpart Ja as a means of complying with Refinery MACT 2.

C. What are the final NESHAP amendments pursuant to section 112(d)(2) & (3) for the Petroleum Refinery source categories?

1. Refinery MACT 1

We are finalizing MACT standards for DCU decoking operations that require that each coke drum be depressured to a closed blowdown system until the coke drum pressure is 2 psig with minor revisions from proposal. Specifically, we are finalizing provisions for existing DCU affected sources to average over a 60-cycle (*i.e.,* 60 batch) basis to comply with the 2 psig limit, rather than the proposed requirement to meet the 2 psig limit on a per venting event basis. In addition, we are finalizing requirements for new DCU affected sources to depressure to 2.0 psig on a per-event, not-to-exceed basis, adding one significant digit to the limit for new DCU affected sources. For both new and existing DCU affected sources, we are finalizing specific provisions for DCU with water overflow design and for double quenching.

We are finalizing operational requirements and the associated monitoring, recordkeeping and reporting requirements for flares used as APCD in Refinery MACT 1 and 2 with revisions to the requirements proposed. Prior to these amendments, Refinery MACT 1 and 2 cross-referenced the General Provisions requirements at 40 CFR 63.11(b). As proposed, this final action replaces the cross reference to the General Provisions and incorporates enhanced flare operational requirements directly into the Refinery MACT regulations. As proposed, the final rule amendments require that refinery flares operate with continuously lit pilot flames at all times. Consistent with our proposal, we are finalizing requirements for flares to operate with no visible emissions and comply with consolidated requirements related to flare tip velocity, but in the final rule these direct emissions limits apply when flare vent gas flow is below the smokeless capacity of the flare rather than at all times. Above the smokeless capacity of the flare, we are establishing a work practice standard related to the visible emissions and velocity limits; these work practice standards are described in more detail in section III.D.1 of this preamble.

We are finalizing new operational requirements related to combustion zone gas properties with revisions from proposal. In response to comments on the proposal, we are finalizing requirements that flares meet a minimum operating limit of 270 BTU/scf NHVcz on a 15-minute average, and are allowing refinery owners or operators to use a corrected heat content of 1,212 BTU/scf for hydrogen to demonstrate compliance with this operating limit. We had proposed two separate sets of limits, one being more stringent if an olefins/hydrogen mixture was present in the waste gas. For each set of limits, we proposed three different alternative combustion zone operating limits: One based on the combustion zone net heat content with no correction for the heat content of hydrogen, one based on the lower flammability limit and one based on the combustibles concentration. We proposed that these limits be determined on a 15-minute ''feed-forward'' block average approach (*i.e.,* compositional data are collected every 15 minutes, after which adjustments are made). We have included an additional option for refiners to comply where more frequent data are collected (using direct net heating value monitoring) to calculate the combustion limit using net heating value data from the same 15-minute block period. We are simplifying the compliance approach to a single operating limit based only on the combustion zone net heating value (with a hydrogen correction). As proposed, we are requiring refinery owners or operators to characterize the composition of waste gas, assist gas and fuel to demonstrate compliance with the operational requirements.

As proposed, we are also finalizing in this rule a burden reduction option to use grab sampling every 8 hours rather than continuous vent gas composition or heat content monitors. We are also including, based on public comment, provisions to conduct limited initial sampling and process knowledge to characterize flare gas composition for flares in ''dedicated'' service as an alternative to collecting grab samples during each specific event. We are finalizing a requirement for daily visible emissions observations as proposed, but, based on public comment, we are allowing owners or operators to use video surveillance cameras to demonstrate compliance with the visible emissions limit as an alternative to the daily visible emissions observations.

For PRD, we are finalizing requirements for monitoring systems that are capable of identifying and recording the time and duration of each pressure release to the atmosphere, as proposed. Certain PRD with low set pressures or low emission potential or in liquid service would not be subject to these monitoring requirements. We are finalizing requirements to minimize or prevent atmospheric releases of HAP through PRD. Instead of the proposed prohibition on such releases, we are finalizing work practice requirements that require both preventive measures as well as root cause analysis and corrective action that will incentivize refinery owners or operators to eliminate the causes of the releases.

We are finalizing requirements for bypass lines with minor revisions from those proposed. Specifically, we are not adopting the proposed requirement to install quantitative flow monitors and thus are leaving in place the requirement to use flow indicators on bypass lines. In addition, we are maintaining the requirements to estimate and report the quantity of organic HAP released. In response to public comment, we are also clarifying changes to remove the proposed reference to air intrusion and specifying that reporting of bypasses is only required when ''regulated material'' is discharged to the atmosphere as a result of a bypass of a control device.

We are also finalizing revisions to the definition of miscellaneous process vent, as proposed. These revisions include deletion of exclusions associated with episodic releases and vents from in situ sampling systems. As proposed, the final amendments require that these vents must meet the standards applicable to MPV.

2. Refinery MACT 2

For CRU vents, we are finalizing the vessel pressure limit exclusion of 5 psig to apply only to passive depressurization, as proposed.

D. What are the final NESHAP amendments addressing emissions during periods of SSM?

We are finalizing, as proposed, changes to Refinery MACT 1 and 2 to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. EPA is revising Table 6 of subpart CC of 40 CFR part 63 and Table 44 to subpart UUU of 40 CFR part 63 (the General Provisions Applicability Tables) to change several references related to requirements that apply during periods of SSM. We also are eliminating or revising certain recordkeeping and reporting requirements related to the eliminated SSM exemptions. We also are removing or modifying inappropriate, unnecessary or redundant language in the absence of the SSM exemption. Further, for certain emission sources in both MACT 1 and 2, we are establishing standards to address emissions during these periods. These are described below.

1. Refinery MACT 1

We are finalizing a work practice standard for PRD that requires refinery owners or operators to establish prevention measures for each PRD in organic HAP service. Under the work practice standard, where a direct release occurs, the refinery is required to perform root cause analysis and implement corrective action. The work practice standard also limits the number of events that a PRD may release to the atmosphere during a 3-year period, as explained further in the section IV.D. of this preamble.

We are also finalizing a work practice standard for emergency flaring events that requires refinery owners or operators to establish prevention measures, including the development of a flare management plan (FMP), and perform root cause analysis and implement corrective action following flaring events during which the velocity of waste gas going to the flare or visible emissions limits (*i.e.,* opacity) at the flare tip are exceeded, and to limit the number of these events allowed in a 3-year period, as explained further in section IV.D. of this preamble. Both of these work practice standards are consistent with the EPA's goal to improve the effectiveness of the rules. These requirements will provide a strong incentive for facilities, over time, to better operate their processes to prevent PRD and flare releases.

We are also finalizing requirements for opening process equipment to the atmosphere during maintenance events after draining and purging to a closed system, provided the hydrocarbon content is less than or equal to 10-percent of the lower explosive limit (LEL). For those situations where 10-percent LEL cannot be demonstrated, the equipment may be opened and vented to the atmosphere if the pressure is less than or equal to 5 psig, provided there is no active purging of the equipment to the atmosphere until the LEL criterion is met. This 5 psig allowance is only available during shutdown. We are also providing additional allowances for situations where it is not technically feasible to depressurize a control system where there is no more than 72 lbs VOC per day vented to the atmosphere, consistent with our Group 1 applicability cutoff for control of process vents, or for catalyst changeout activities where hydrotreater pyrophoric catalyst must be purged. Provisions to demonstrate that process equipment is opened only after the LEL, pressure or mass in the vessel requirement is met includes documenting the procedures for equipment openings and procedures for verifying that the openings meet the specific, above-discussed requirements using site-specific procedures used to de-inventory equipment for safety purposes (*i.e.,* hot work or vessel entry procedures).

2. Refinery MACT 2

The Refinery MACT 2 standards regulate all HAP emissions from the three refinery process vents subject to Refinery MACT 2. For FCCU, the standard specifies a CO limit as a surrogate for organic HAP and specifies a PM limit (or Ni limit) as a surrogate for metal HAP. Compliance with the organic HAP emissions limit is demonstrated using a continuous CO monitor; compliance with the metal HAP emissions limit is demonstrated using either COMS or control device parameter monitoring systems (CPMS). At proposal, with the removal of the exemptions in the Refinery MACT 2 rule for periods of startup and shutdown, we recognized the need for alternative standards during some startup and shutdown situations, and we proposed alternative requirements.

For this final rule, we are including a 1-percent minimum oxygen limit as an alternative to the 500 ppmv hourly CO limit during FCCU startup for partial burn FCCU with CO boilers, as proposed. We are extending that alternative limit to all FCCU and extending it to apply during shutdown.

We are not finalizing the proposed alternative opacity limit for FCCU during startup. Instead, based on public comments received, we are finalizing an alternative minimum cyclone face velocity limit as a means to demonstrate compliance with the PM limit during both startup and shutdown, regardless of the type of FCCU and its control device. We are finalizing alternative standards for sulfur recovery plant (SRP) incinerator temperature and excess oxygen limits during SRP shutdown, as proposed, and we are extending the proposed alternative standards to startup as well.

E. What other revisions to the NESHAP and NSPS are being promulgated?

We are finalizing technical amendments to NSPS subparts J and Ja with limited changes from what we proposed. First, in response to comments, we are revising the NSPS requirements that a flow sensor have a ''measurement sensitivity'' of no more than 5-percent of the flow rate to an ''accuracy'' requirement that the flow sensor have an accuracy of 5-percent of the flow rate. This change will make the requirements more clear and consistent between the flow meter requirements in the NSPS and the MACT standards since it is the same flow meter subject to these requirements. We are also revising flare flow rate accuracy requirements in Refinery NSPS subpart Ja to make them consistent with those we are finalizing in Refinery MACT 1. Finally, we are revising 40 CFR 60.101a(b) to begin as ''Except for flares and delayed coking units . . .'' to correct an inadvertent error. We proposed revisions to this sentence solely to allow sources subject to Refinery NSPS subpart J to comply with the provisions in Refinery NSPS subpart Ja instead. However, the words ''and delayed coking units'' were inadvertently omitted from the initial part of the sentence. Thus, as intended, we are finalizing revisions to this sentence to allow sources subject to Refinery NSPS subpart J to comply with the provisions in Refinery NSPS subpart Ja.

F. What are the requirements for submission of performance test data to the EPA?

As proposed, the EPA is taking a step to increase the ease and efficiency of data submittal and data accessibility. Specifically, the EPA is finalizing the requirement for owners or operators of Petroleum Refinery facilities to submit electronic copies of certain required performance test reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). The EPA believes that the electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment and will ultimately result in less burden on the regulated community. Electronic reporting can also eliminate paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to the affected facilities, air agencies, the EPA and the public.

As mentioned in the preamble of the proposal, the EPA Web site that stores the submitted electronic data, WebFIRE, will be easily accessible to everyone and will provide a user-friendly interface that any stakeholder could access. By making the records, data and reports addressed in this rulemaking readily available, the EPA, the regulated community and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having reports readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time.

We anticipate fewer or less substantial information collection requests (ICRs) in conjunction with prospective CAA-required technology and risk-based reviews may be needed. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Air agencies could benefit from more streamlined and automated review of the electronically submitted data. Having reports and associated data in electronic format will facilitate review through the use of software ''search'' options, as well as the downloading and analyzing of data in spreadsheet format. The ability to access and review air emission report information electronically will assist air agencies to more quickly and accurately determine compliance with the applicable regulations, potentially allowing a faster response to violations which could minimize harmful air emissions. This benefits both air agencies and the general public.

For a more thorough discussion of electronic reporting required by this rule, see the discussion in the preamble of the proposal. In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, air agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

G. What are the effective and compliance dates of the NESHAP and NSPS?

The final amendments to the NESHAP and NSPS in this action are effective on February 1, 2016. As proposed, new sources must comply with these requirements by the effective date of the final rule or upon startup, whichever is later.

As proposed, existing sources are required to comply with the final DCU and CRU requirements no later than 3 years after the effective date of the final rule. Similarly, as proposed, owners or operators are required to comply with the new operating and monitoring requirements for existing flares no later than 3 years after the effective date of the final rule.

We proposed to provide 3 years from the effective date of the final rule for refinery owners or operators to install and begin monitoring (collecting samples) around the fenceline of their existing facility. If refinery owners and operators determined that a site-specific monitoring plan was needed, they would also need to submit and receive approval for such a plan during the 3-year compliance period. Based on information submitted during the comment period, we are finalizing requirements that refinery owners or operators begin collecting samples around the fenceline within 2 years of the effective date of the final rule. Based on information submitted during the comment period, 1 year is sufficient time to identify proper monitoring locations and to install the required monitoring stations around the facility fenceline. However, owners or operators may need additional monitoring systems to account for near-field interfering sources (NFS), for which the development and approval of a site-specific fenceline monitoring plan is required. We expect that the site-specific fenceline monitoring plans can take an additional year to develop, submit and obtain approval. Consequently, we are providing 2 years from the effective date of the final rule for refinery owners or operators to install and begin collecting samples around the fenceline of their facility.

As proposed, we are requiring that existing sources comply with the submerged filling requirement for marine vessel loading on the effective date of the final rule.

As proposed, we are providing 18 months after the effective date of the final rule to conduct required performance tests and comply with any revised operating limits for FCCU.

We proposed to require refinery owners or operators to comply with the revisions to the SSM provisions of Refinery MACT 1 and 2 on the effective date of the final rule. As proposed, this final rule requires refinery owners or operators to comply with the limits in Refinery MACT 2 or the alternative limits in this final rule during startup and shutdown for FCCU and SRU on the effective date of the final rule.

The flare work practice standards for high-load flaring events (events exceeding the smokeless capacity of the flare) require development of FMP (or revision of an existing plan) to specifically consider emergency shutdown and other high load events. In this FMP, refinery owners or operators must consider measures that can be implemented to reduce the frequency and magnitude of these high-load flaring events. This may include installation of a flare gas recovery system. Additionally, the work practice standards will require refinery owners or operators to identify and implement measures that may involve process changes. Therefore, we are establishing a compliance date of 3 years from the effective date of the final rule for refinery owners or operators to comply with the work practice standards for high load flaring events. We also note that this compliance period is consistent with the compliance time provided for the flare operating limits.

For atmospheric PRD in HAP service we are establishing a work practice standard that requires a process hazard analysis and implementation of a minimum of three redundant measures to prevent atmospheric releases. Alternately, refinery owners or operators may elect to install closed vent systems to route these PRD to a flare, drain (for liquid thermal relief valves) or other control system. We anticipate that sources will need to identify the most appropriate preventive measures or control approach; design, install and test the system; install necessary process instrumentation and safety systems; and may need to time installations with equipment shutdown or maintenance outages. Therefore, we have established a compliance date of 3 years from the effective date of the final rule for refinery owners or operators to comply with the work practice standards for atmospheric PRD.

As proposed, we are requiring compliance with the electronic reporting provisions for performance tests conducted for Refinery MACT 1 and 2 on the effective date of the final rule.

Finally, we are finalizing additional requirements for storage vessels under CAA sections 112(d)(6) and (f)(2) with a compliance date 90 days after the effective date of the final rule, as proposed.

H. What materials are being incorporated by reference?

In this final rule, the EPA is including regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is incorporating by reference the following documents described in the amendments to 40 CFR 63.14:

- ASTM D1945–03 (Reapproved 2010), Standard Test Method for Analysis of Natural Gas by Gas Chromatography, (Approved January 1, 2010).
- ASTM D1945–14, Standard Test Method for Analysis of Natural Gas by Gas Chromatography.
- ASTM D6196–03 (Reapproved 2009), Standard Practice for Selection of Sorbents, Sampling, and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air, (Approved March 1, 2009).
- ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, (Approved October 1, 2010).
- ASTM D6348–12e1, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy.
- ASTM D6420–99 (Reapproved 2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry.
- ASTM UOP539–12, Refinery Gas Analysis by GC.
- BS EN 14662–4:2005, Ambient air quality—Standard method for the measurement of benzene concentrations—Part 4: Diffusive sampling followed by thermal desorption and gas chromatography, June 27, 2005.
- EPA–454/B–08–002, Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March 2008.
- EPA–454/R–99–005, Meteorological Monitoring Guidance for Regulatory Modeling Applications, February 2000.
- ISO 16017–2:2003(E): Indoor, ambient and workplace air—Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography—Part 2: Diffusive sampling, May 15, 2003.
- Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003.[4]

The EPA has made, and will continue to make, these documents available electronically through *www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the **ADDRESSES** section of this preamble for more information).

IV. What is the rationale for our final decisions and amendments to the Petroleum Refinery NESHAP and NSPS?

A. Residual Risk Review for the Petroleum Refinery Source Categories

1. What did we propose pursuant to CAA section 112(f) for the Petroleum Refinery source categories?

The results of our residual risk review for the Petroleum Refinery source categories were published in the June 30, 2014 proposal at (79 FR 36934 through 36942), and included assessment of chronic and acute inhalation risk, as well as multipathway and environmental risk, to inform our decisions regarding acceptability and ample margin of safety. The results indicated that both the actual and

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[4] The requirements in § 63.655(i)(5)(iii)(G) associated with this incorporation by reference have not changed, but are being modified to properly be incorporated into § 63.14(s).

allowable inhalation cancer risks to the individual most exposed are no greater than approximately 100-in-1 million, which is the presumptive limit of acceptability. In addition, the maximum chronic non-cancer target organ-specific hazard index (TOSHI) due to inhalation exposures was less than 1. The evaluation of acute non-cancer risks, which was conservative, showed acute risks below a level of concern. Based on the results of the refined site-specific multipathway analysis, we also concluded that the ingestion cancer risk to the individual most exposed through ingestion is considerably less than 100-in-1 million. In determining risk acceptability, we also evaluated population impacts because of the large number of people living near facilities in the source category. We estimated that 5-million people are exposed to increased cancer risks of greater than 1-in-1 million and 100,000 people are exposed to increased cancer risks of greater than 10-in-1 million, but, as noted previously, no individual is exposed to increased cancer risks of greater than 100-in-1 million. Considering the above information, we proposed that the risks remaining after implementation of the existing NESHAP for the Refinery MACT 1 and 2 source categories is acceptable. However, we noted that the risks based on allowable emissions are at the presumptive limit of acceptable risk, and that a large number of people are exposed to risks of greater than 1-in-1 million, and we solicited comment on whether EPA should conclude that the risk was unacceptable based on the health information before the Agency. We also proposed that the original Refinery MACT 1 and 2 MACT standards, along with the proposed requirements for storage vessels, provide an ample margin of safety to protect public health. Finally, we proposed that it is not necessary to set a more stringent standard to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

2. How did the risk review change for the Petroleum Refinery source categories?

As part of the final risk assessment, we conducted a screening level analysis of how the information we received during the public comment period, along with the changes we are making to the proposed rule, would change our proposed risk estimates (More details can be found in the ‘‘Final Residual Risk Assessment for the Petroleum Refining Source Sector’’, Docket ID No. EPA–HQ–OAR–2010–0682).

First, we received approximately 20 emissions inventory updates for specific facilities. These updates included revised emission estimates, revised release latitude/longitude locations and other release characteristic revisions. The updates provided evidence that the quantity of HAP emitted at these specific facilities is lower than considered in the risk modeling for the proposed rule. Our assessment of the effects of these changes suggests that the cancer maximum individual risk (MIR) based on actual emissions may be closer to 40-in-1 million, as opposed to 60-in-1 million, as projected at proposal. We did not quantify the reductions in chronic or acute non-cancer risks from these updates. We calculated allowable emissions using the Refinery Emissions Model (REM), which estimates emissions based on each refinery's capacities and throughputs [See discussion at 79 FR 36888, June 30, 2014.] The allowable emission estimates for point and fugitive sources were not specific to a particular latitude/longitude location so we assumed them to release from the centroid of the facility. Therefore, the predicted cancer MIR of approximately 100-in-1 million based on allowable emissions and reported in the proposal risk characterization does not change based on the submitted emissions revisions. We did not quantify changes to other actual risk metrics as part of the screening level analysis (*i.e.*, incidence, populations in risk bins, multipathway and ecological analyses), but we would expect some minor reductions from those presented in the proposed risk characterization.

Second, we are establishing work practice standards in the final rule for PRD releases and emergency flaring events, which under the proposed rule would not have been allowed. Thus, because we did not consider such non-routine emissions under our risk evaluation for the proposed rule, we performed a screening assessment of risk associated with these non-routine events for the final rule. [We provide further details on the screening approach in ‘‘Final Residual Risk Assessment for the Petroleum Refining Source Sector’’ in Docket ID No. EPA–HQ–OAR–2010–0682.] We extracted information on these events from the 2011 Petroleum Refinery ICR data that included the process unit identification, mass of emissions, duration of release, and description of the incident. We identified the highest HAP mass releases for both PRDs and flares from these non-routine events. We assumed these HAP emission releases could occur at any facility in the source category. Our analysis suggests that these HAP emissions could increase the MIR based on actual emissions by as much as 2-in-1 million. Because the PRD and flaring events were the worst case HAP mass emission release events reported in the 2011 Refinery ICR for the source category, we are assuming that actual and allowable risks are no different for these events (*i.e.*, a MIR of 2-in-1 million). A MIR increase of 2-in-1 million attributable to these events, added to our previous estimate for allowable risk at proposal will not appreciably change our proposed determination that the MIR based on allowable emissions are approximately 100-in-1 million. We note that the MIR estimate attributable to these non-routine PRD and flaring events was estimated using a conservative, screening-level assessment, while the MIR estimate at proposal was based on a refined risk assessment. By adding a screening estimate to a refined risk estimate, we are merely defining an upper limit that we expect the combined risks from both the routine and non-routine emissions to be. Similarly, we estimate chronic non-cancer hazard index (HI) values attributable to the additional exposures resulting from non-routine flaring and PRD HAP emissions to be well below 1 ($HI_{immune\text{-}system}$ of 0.007) such that there is no appreciable change in the maximum chronic non-cancer HI of 0.9 estimated at proposal for routine emissions, which was based on neurological effects.

The screening analysis projects that the maximum predicted acute non-cancer risk from non-routine PRD and flare emissions results in a hazard quotient (HQ) based on a recommended reference exposure level limit (REL) of up to 14 from benzene emissions. While the analysis shows that there is a potential for HQs exceeding 1 for benzene, because of the many uncertainties and conservative nature of this screening analysis, the likelihood of such exposure and risk are low. At proposal, we projected a HQ based on the REL for benzene of up to 2 from routine emissions. If we conservatively combine the routine and non-routine emissions analyses, we would expect the potential for HQs based on the REL for benzene to have the potential to increase above 2. However, as projected at proposal, we estimate that the acute HQs calculated using acute exposure guideline levels (AEGL) and emergency response and planning guidelines (ERPG) values for all pollutants including benzene would still be well below 1 considering both routine and non-routine emissions.

Considering all of these factors, we do not project risks to be significantly different from what we proposed. Based on the risk analysis, as informed by the screening level analysis based on information obtained during the comment period, we are finalizing our determination that the risk remaining after promulgation of the NESHAP is acceptable.

3. What key comments did we receive on the risk review and what are our responses?

We received numerous comments on the residual risk assessment analyses and results. We summarize the key comments received below, along with our responses. A complete summary of all public comments received and our responses are in the ''Response to Comment'' Document in the public docket (Docket ID No. EPA–HQ–OAR–2010–0682).

Comment: Several commenters agreed that the EPA has correctly concluded that the proposed rule requirements protect the public with an ample margin of safety from refinery emissions. Other commenters noted that EPA found residual risks remaining after implementation of the MACT standards to be acceptable, and in light of the acceptability determination argued that the proposed changes to the rule are not justified. The commenters noted that the EPA's detailed emissions inventory assessment and risk modeling results demonstrated that, at every U.S. refinery, category-specific risks are below the EPA's presumptive limit of acceptable risk (*i.e.*, cancer risk of less than 100-in-1 million).

Other commenters stated the EPA's risk estimates are understated and that the EPA should reduce the benchmark of what it considers acceptable lifetime cancer risk instead of the upper limit of 100-in-1 million. One commenter provided an extensive critique of the cancer, chronic and acute affects levels used in the risk assessment and recommended that the EPA use California Office of Environmental Health Hazard Assessment's (OEHHA) new toxicity values for several chemicals. The commenter provided some references for the approaches used to derive the California values. The commenter also asserted that risks would be unacceptable had these more protective values been used in the risk assessment. Some commenters stated the risks from petroleum refinery emissions are underestimated because the EPA did not but should have included interaction of multiple pollutants, accounted for exposure to multiple sources, and assessed the cumulative risks from facility-wide emissions and multiple nearby sources impacting an area.

Response: The approximately 100-in-1 million benchmark was established in the Benzene NESHAP (54 FR 38044, September 14, 1989), which Congress specifically referenced in CAA section 112(f)(2)(B). While this presumptive level provides a benchmark for judging the acceptability of MIR, it is important to recognize that it does not constitute a rigid line for making that determination. The EPA considers the specific uncertainties of the emissions, health effects and risk information for the source category in question when deciding whether the risk posed by that source category is acceptable. In addition, the source category-specific decision of what constitutes an acceptable level of risk is a holistic one; that is, the EPA considers all potential health impacts—chronic and acute, cancer and non-cancer, and multipathway—along with their uncertainties, when determining whether the source category presents an unacceptable risk.

Regarding the comment that in light of the acceptability determination the proposed changes to the rule are not justified, we note that we also are required to ensure that the standards provide an ample margin of safety to protect public health. That analysis is separate from the acceptability analysis, and the determination of acceptability does not automatically lead us to conclude that the standards provide an ample margin of safety to protect public health.

Regarding the comments that the EPA should use the new California OEHHA values, we disagree. The EPA's chemical-specific toxicity values are derived using risk assessment guidelines and approaches that are well established and vetted through the scientific community, and follow rigorous peer review processes.[5] The RTR program gives preference to the EPA values for use in risk assessments and uses other values, as appropriate, when those values are derived with methods and peer review processes consistent with those followed by the EPA. The approach for selecting appropriate toxicity values for use in the RTR Program has been endorsed by the Science Advisory Board (SAB).[6]

The EPA scientists reviewed the information provided by the commenter regarding the California values and concluded that further information is needed to evaluate the scientific basis and rationale for the recent changes in California OEHHA risk assessment methods. The EPA will work on gathering the necessary information to conduct an evaluation of the scientific merit and the appropriateness of the use of California OEHHA's new toxicity values in the agency decisions. Until the EPA has completed its evaluation, it is premature to determine what role these values might play in the RTR process. Therefore, the EPA did not use the new California OEHHA toxicity values as part of this current action. For more detailed responses regarding appropriate reference values for specific pollutants, see the ''Response to Comment'' document in the public docket (Docket ID No. EPA–HQ–OAR–2010–0682).

Concerning comments that we should consider aggregate risks from multiple pollutants and sources, we note that we have done this to the extent it is appropriate to do so. We modeled whole-facility risks for both chronic cancer and non-cancer impacts to understand the risk contribution of the sources within the Petroleum Refinery source categories. The individual cancer risks for the source categories were aggregated for all carcinogens. In assessing non-cancer hazard from chronic exposures to pollutants that have similar modes of action or (where this information is absent) that affect the same target organ, we summed the HQs. This process creates, for each target organ, a TOSHI, defined as the sum of HQs for individual HAP that affect the same organ or organ system. Whole-facility risks were estimated based on the 2011 ICR emissions data obtained from facilities, which included emissions from all sources at the refinery, not just Refinery MACT 1 and 2 emission sources (*e.g.*, emissions were included for combustion units and units subject to the Hazardous Organic NESHAP, if present at the refinery). We disagree with the commenter's assertion that additional quantitative assessment of risks from sources outside the source category is required under the statute. The statute requires the EPA to provide the quantitative risk information necessary to inform RTR regulatory decisions, and to this end, the EPA conducted a comprehensive assessment of the risks associated with exposure to the HAP emitted by the source category and supplemented that with additional

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[5] Integrated Risk Information System (IRIS). IRIS Guidance documents available at *http://www.epa.gov/iris/backgrd.html.*

[6] *http://yosemite.epa.gov/sab/sabproduct.nsf/0/b031ddf79cffded38525734f00649caf!OpenDocument&TableRow=2.3#2.*

information available about other possible concurrent and relevant risks.

Further, the risk assessment modeling accounts for the effects of multiple facilities that may be in close proximity when estimating concentration and risk impacts at each block centroid. When evaluating the risks associated with a particular source category, we combined the impacts of all facilities within the same source category and assessed chronic exposure and risk for all census blocks with at least one resident (*i.e.*, locations where people may reasonably be assumed to reside). The MIR considers the combined impacts of all sources in the category that may be in close proximity (*i.e.*, cumulative impact of all refineries).

Comment: Several commenters stated that the EPA underestimated exposure because emissions are underreported and underestimated. The commenters noted that for the risk assessment for the refineries rule, the EPA evaluated (1) the emissions reported to the agency pursuant to the 2011 Petroleum Refinery ICR as sources' ''actual'' emissions, and (2) the emissions the EPA estimates that the existing standards currently allow sources to emit using the REM, which it describes as ''allowable'' emissions. According to the commenters, both the EPA's ''actual'' and ''allowable'' emissions data sets are incomplete and undercount emissions, causing the EPA to significantly underestimate the resulting risk in its risk analysis. For example, the commenters noted that the EPA assumed the flare destruction efficiency to be 98 percent, while the EPA's own estimates suggest flare efficiency is 93.9 percent. The commenters also noted that the EPA has further understated risks by ignoring emissions during unplanned SSM events and by ignoring HAP for which no reference values are established. One commenter cited the TCEQ Emissions Event Database as evidence that SSM emissions are a severe public health problem because data show that nearly 1 million pounds of HAP are reported from Texas refineries between 2009 and 2013. According to these commenters, the EPA needs to adopt standards that provide greater protection, including protection from the risks of accidents.

Response: We used the best and most robust facility-specific HAP emissions inventory available to us, which was the 2011 ICR, in performing the analysis for the proposed rule. We conducted a thorough and exhaustive review of the data submitted through the ICR and we followed up on source-specific information on a facility-by-facility basis, as documented in the ''Emissions Data Quality Memorandum and Development of the Risk Model Input File'' (see Docket ID No. EPA–HQ–OAR–2010–0682–0076). In addition, we took steps ahead of issuing the 2011 ICR to make sure that facilities could, as accurately as practicable, estimate their HAP emissions for purposes of responding to the inventory portion of that ICR. We prepared a Refinery Protocol to provide guidance to refinery owners or operators to use the best available, site-specific data when developing their emissions inventory, to ensure all emission sources are included in the inventory, and to have a consistent set of emission factors that all respondents use if no site-specific emissions data were available. If site-specific emissions data were available, sites were to use these data preferentially over the default factors. We developed the default factors provided in the protocol from the best data available at the time.

The ICR-submitted information for allowable emissions did not include emission estimates for all HAP and all emission sources. Consequently, we used the REM to estimate allowable emissions. The REM relies on model plants that vary based on throughput capacity. Each model plant contains process-specific default emission factors, adjusted for compliance with the Refinery MACT 1 and 2 emission standards.

We agree with the commenters that studies have shown that many refinery flares are operating less efficiently than 98 percent. Prior to proposing this rule, we conducted a flare ad hoc peer review to advise the EPA on factors affecting flare performance (see discussion in the June 30, 2014, proposal at 79 FR 36905). However, we disagree with the commenters that the risk analysis should consider this level of performance since the existing MACT standard does not allow it. For purposes of the risk analysis, we evaluate whether it is necessary to tighten the existing MACT standard in order to provide an ample margin of safety. Thus, in reviewing whether the existing standards provide an ample margin of safety, we review the level of emissions the MACT standards allow. In the present case, we considered the level of performance assumed in establishing the MACT standard for purposes of determining whether the MACT standard provides an ample margin of safety. However, we did recognize that facilities were experiencing performance issues with flares and that many flares were not meeting the assumed performance level at the time we promulgated the MACT standard. Thus, we proposed, and are finalizing, revisions to the flare operating requirements to ensure that the flares meet the required performance level. These provisions are consistent with the EPA's goals to improve the effectiveness of our rules.

Similarly, we do not include startup, shutdown (including maintenance events) and malfunction emissions that are not allowed under the standard as part of our evaluation of whether the standards provide an ample margin of safety. Regarding the HAP emissions from SSM events that the commenter is concerned with, we note that our review of the TCEQ incident database indicates that many of the large reported release events were of SO_2 emissions and only a few had significant HAP emissions.

Because in the final rule we are establishing work practice standards for PRD and emergency flaring events, we performed a screening-level risk analysis to address changes in facility HAP emission releases due to these events. Details on this analysis are presented in the final risk report for the source category (For more details see Appendix 13 of the ''Final Residual Risk Assessment for the Petroleum Refining Source Sector,'' Docket ID No. EPA–HQ–OAR–2010–0682).

As for HAP with no reference value, the SAB addressed this issue in its May 7, 2010, response to the EPA Administrator. In that response, the SAB Panel recommended that, for HAP that do not have dose-response values from the EPA's list, the EPA should consider and use, as appropriate, additional sources for such values that have undergone adequate and rigorous scientific peer review. The SAB panel further recommended that the inclusion of additional sources of dose-response values into the EPA's list should be adequately documented in a transparent manner in any residual risk assessment case study. We agree with this approach and have considered other sources of dose-response data when conducting our risk determinations under RTR. However, in some instances no sources of information beyond the EPA's list are available. Compounds without health benchmarks are typically those without significant health effects compared to compounds with health benchmarks, and in such cases we assume these compounds will have a negligible contribution to the overall health risks from the source category. A tabular summary of HAPs that have dose response values for which an exposure assessment was conducted is presented in Table 3.1–1 of the ''Final Residual Risk Assessment for the Petroleum Refining Source Sector'', Docket ID No. EPA–HQ–OAR–2010–0682.

Comment: A few commenters asserted that the EPA should decide that it is unjust and inconsistent with the CAA's health protection purpose to allow the high health risks caused by refineries to fall disproportionately on communities of color and lower income communities who are least equipped to deal with the resulting health effects. Because of that disparity, the commenter stated that the EPA should recognize that the risks found are unacceptable and set stronger national standards for all exposed Americans.

Response: For this rulemaking, the EPA conducted both pre- and post-control risk-based assessments with analysis of various socio-economic factors for populations living near petroleum refineries (see Docket ID Nos. EPA–HQ–OAR–2010–0682–0226 and –0227) and determined that there are more African-Americans, Other and multiracial groups, Hispanics, low-income individuals, and individuals with less than a high school diploma compared to national averages. In determining the need for tighter residual risk standards, the EPA strives to limit to no higher than 100-in-1 million the estimated cancer risk for persons living near a plant if exposed to the maximum pollutant concentration for 70 years and to protect the greatest number of persons to an individual lifetime risk of no higher than 1-in-1 million. Although we consider the risk for all people regardless of racial or socioeconomic status, communities near petroleum refineries will particularly benefit from the risk reductions associated with this rule. In particular, as discussed later, the fenceline monitoring work practice standard will be a further improvement in the way fugitive emissions are managed and will provide an extra measure of protection for surrounding communities.

4. What is the rationale for our final decisions for the risk review?

As described in section IV.A.2 of this preamble, we performed a screening-level analysis to assess the risks associated with inventory updates we received for specific facilities and with emissions events that were previously not included in the risk assessment because the proposed rule did not allow them. Because we are finalizing work practice standards to regulate emission events associated with PRD releases and emergency flaring, we considered the effect these work practice standards would have on risks. As discussed in section IV.A.2 of this preamble, we project that accounting for these emergency events in the baseline risks after implementation of the MACT standards does not appreciably change the risks, and at most, could increase the proposed rule estimate of MIR by approximately 2-in-1 million. Therefore, we would project that any controls applied to these emergency events, including the work practice standards for PRDs and emergency flaring in this final rule, would not appreciably change the proposed post-control risks. Although we would anticipate minimal additional risk reductions, we reviewed more stringent alternatives to the work practice standards for PRD releases and emergency flaring events included in this final rule, and we found that the costs of increasing flare capacity to control all PRD releases and to eliminate all visible emissions during emergency flaring were too high. We estimate the capital costs of applying the velocity and visible emissions limit at all times would be approximately $3 billion, and we estimate that the costs of controlling all PRD releases with flares would be approximately $300 million. [See the discussion in the ''Flare Control Option Impacts for Final Refinery Sector Rule'', Docket ID No. EPA–HQ–OAR–2010–0682 and the PRD work practice standard discussion in section IV.C of this preamble.] Further, we did not receive comments on additional control technologies that we should have considered for other emission sources (*e.g.*, tanks, DCUs) beyond those considered and described at proposal. Consequently, as discussed in section IV.A.2, we conclude that the risks from the Petroleum Refinery source categories are acceptable and that, with the additional requirements for storage vessels that we are finalizing, as proposed, the Refinery MACT 1 and 2 rules provide an ample margin of safety to protect public health. We also maintain, based on the rationale presented in the preamble to the proposed rule, that the current standards prevent, taking into consideration costs, energy, safety and other relevant factors, an adverse environmental effect.

B. Technology Review for the Petroleum Refinery Source Categories

1. What did we propose pursuant to CAA section 112(d)(6) for the Refinery MACT 1 (40 CFR part 63, subpart CC) source category?

The results of our technology review for the Petroleum Refinery source categories were published in the June 30, 2014, proposal at (79 FR 36913 through 36928). The technology review was conducted for both MACT source categories as described below.

a. Refinery MACT 1

Refinery MACT 1 sources include MPV, storage vessels, equipment leaks, gasoline loading racks, marine vessel loading operations, cooling towers/heat exchange systems and wastewater. Based on technology reviews for the sources described above, we proposed that it was not necessary to revise Refinery MACT 1 requirements for MPV, gasoline loading racks, cooling towers/heat exchange systems, and wastewater. For storage vessels, we proposed revisions pursuant to the technology review. Specifically, we proposed to cross-reference the storage vessel requirements in the Generic MACT (40 CFR part 63, subpart WW) to require controls on floating roof fittings (*e.g.*, guidepoles, ladder wells and access hatches) and to revise the definition of Group 1 storage vessels to include smaller tanks with lower vapor pressures. For equipment leaks, we proposed to allow refineries to meet LDAR requirements in Refinery MACT 1 by monitoring for leaks via optical gas imaging in place of the EPA Method 21, using monitoring requirements to be specified in a not-yet-proposed appendix K to 40 CFR part 60. For marine vessel loading, we proposed to amend the Marine Tank Vessel Loading Operations MACT standards (40 CFR part 63, subpart Y) to require small marine vessel loading operations (*i.e.*, operations with HAP emissions less than 10/25 tpy) and offshore marine vessel loading operations at petroleum refineries to use submerged filling based on the cargo filling line requirements in 46 CFR 153.282.

We also proposed an additional work practice standard under the technology review to manage fugitive emissions from the entire petroleum refinery through a fenceline monitoring and corrective action standard. As part of the work practice standard, we specified the monitoring technology and approach that must be used, and we developed a fenceline benzene concentration action level above which refinery owners or operators would be required to implement corrective action to reduce their fenceline concentration to below this action level. The action level we proposed was consistent with the emissions projected from fugitive sources compliant with the provisions of the refinery MACT standards as modified by the additional controls proposed for storage vessels.

b. Refinery MACT 2

The Refinery MACT 2 source category regulates HAP emissions from FCCU, CRU and SRU process vents. We proposed to revise Refinery MACT 2 to incorporate the developments in monitoring practices and control technologies reflected in Refinery NSPS subpart Ja (73 FR 35838). This included proposing to incorporate the Refinery NSPS subpart Ja PM limit for new FCCU sources and to revise the monitoring provisions in Refinery MACT 2 to require all FCCU sources to meet operating limits consistent with the requirements in Refinery NSPS subpart Ja. The existing MACT standard provided that a refiner could demonstrate compliance with the PM limit in the MACT by meeting the 30-percent opacity limit requirement of Refinery NSPS subpart J; we proposed to eliminate that provision and instead establish control device operating limits or site-specific opacity limits similar to those required in Refinery NSPS subpart Ja. We also proposed to incorporate the use of 3-hour averages rather than daily averages for monitoring data to demonstrate compliance with the FCCU site-specific opacity and Ni operating limits. We proposed additional control device-specific monitoring alternatives for various control devices on FCCU, including BLD monitoring as an option to COMs for owners or operators of FCCU using fabric filter-type control systems, and total power and secondary current operating limits for owners or operators of ESPs. We also proposed to add a requirement to perform daily checks of the air or water pressure to atomizing spray nozzles for owners or operators of FCC wet gas scrubbers. Finally, we proposed to require a performance test once every 5 years for all FCCU in place of the one-time performance test required by the current Refinery MACT 2.

At proposal, we did not identify any developments in practices, processes and control technologies for CRU process vents based on our technology review. For SRU, we proposed to include the Refinery NSPS subpart Ja allowance for oxygen-enriched air as a development in practice and to allow SRU to comply with Refinery NSPS subpart Ja as a means of complying with Refinery MACT 2.

2. How did the technology review change for the Petroleum Refinery source categories?

a. Refinery MACT 1

We are finalizing most of our technology review decisions for Refinery MACT 1 emissions sources as proposed; however, as described briefly below, we are revising certain proposed requirements.

We are not taking final action adopting the use of appendix K to 40 CFR part 60 for optical gas imaging for refinery equipment subject to the LDAR requirements in Refinery MACT 1 because we have not yet proposed appendix K.

After considering the public comments, we are finalizing the proposed fenceline monitoring requirements, with a few revisions. First, we have made numerous clarifications in this final rule to the language for the fenceline monitoring siting method and analytical method (*i.e.*, Methods 325 A and B, respectively). Specific comments on these methods, along with our responses and explanations of the revisions to the regulatory text are discussed in the ''Response to Comment'' document. Second, we are finalizing a revised compliance schedule for fenceline monitoring, which will require refinery owners or operators to have the fenceline monitors in place and collecting benzene concentration data no later than 2 years from the effective date of the final rule, as opposed to 3 years in the proposed rule. Third, we have removed the requirement for refinery owners or operators to obtain the EPA approval for the corrective action plan. Fourth, we are requiring the submittal of the fenceline monitoring data on a quarterly basis, as opposed to on a semiannual basis as proposed. Fifth, we are providing guidelines for operators to use in requesting use of an alternative fenceline monitoring technology to the passive sorbent samplers set forth in Method 325B. Finally, to reduce the burden of monitoring, we are finalizing provisions that would allow refinery owners or operators to reduce the frequency of fenceline monitoring for areas that consistently stay well below the fenceline benzene concentration action level. Specifically, we are allowing refinery owners or operators to monitor every other two weeks (*i.e.*, skip period monitoring) if over a two-year period, each sample collected at a specific monitoring location is at or below 0.9 $\mu g/m^3$. If every sample collected from that sampling location during the subsequent 2-years is at or below 0.9 $\mu g/m^3$, the monitoring frequency may be reduced from every other two weeks to quarterly. After an additional two years, the monitoring can be reduced to semiannually and finally to annually, provided the samples continue to be at or below 0.9 $\mu g/m^3$ during all sampling events at that location. If at any time a sample for a monitoring location that is monitored at a reduced frequency returns a concentration greater than 0.9 $\mu g/m^3$, the owner or operator must return to the original sampling requirements for one quarter (monitor every two weeks for the next six monitoring periods for that location); if every sample collected from this quarter is at or below 0.9 ug/m^3, then the sampling frequency reverts back to the reduced monitoring frequency for that monitoring location; if not then the sampling frequency reverts back to the original biweekly monitoring frequency.

b. Refinery MACT 2

We are finalizing, as proposed, our determination that it is not necessary to revise the requirements for CRU pursuant to the technology review and we are finalizing our determination that it is necessary to revise the MACT for SRU and FCCU. For SRU, we are finalizing the revisions as proposed. For FCCU, we are making modifications to the proposed requirements in light of public comment.

As discussed previously, we proposed to remove the alternative in Refinery MACT 2 for owners or operators to demonstrate compliance with the PM limits on FCCU by meeting a 30-percent opacity standard as provided in Refinery NSPS subpart J and instead make the FCCU operating limits in Refinery MACT 2 consistent with Refinery NSPS subpart Ja. Based on the Refinery NSPS subpart J review in 2008, we determined that a 30-percent opacity limit does not adequately assure compliance with the PM emissions limit (see discussion in the proposed rule at 79 FR 36929, June 30, 2014). Thus, we included other monitoring approaches in Refinery NSPS subpart Ja.

Comments received on this proposal, along with data available to the Agency, confirmed that the 30-percent opacity standard is not adequate on its own to demonstrate compliance with the PM (or metal HAP) emissions limit in Refinery MACT 2. We also received comments that the site-specific opacity alternative, which is the only compliance option proposed for FCCU with tertiary cyclones, would essentially require owners or operators with these FCCU configurations to meet an opacity limit of 10-percent. According to commenters, opacity increases with decreasing particle size, so that it is common to exceed 10-percent opacity during soot blowing or other similar events that produce very fine particulates even though mass emissions have not changed appreciably.

Based on the available data, we have determined that a 20-percent opacity operating limit is well correlated with facilities meeting a limit of 1.0 lb PM/1,000 lbs coke burn-off. Therefore, we are retaining the option in Refinery MACT 2 to comply with Refinery NSPS subpart J except we are adding a 20-percent opacity operating limit in Refinery MACT 2, evaluated on a 3-hour basis. To ensure that FCCU owners or operators complying with the Refinery NSPS subpart J option can meet the 1.0 lb PM/1,000 lbs emissions limit at all times, we are finalizing requirements that owners or operators conduct the performance test during higher PM periods, such as soot blowing. Where the PM emissions are within 80-percent of the PM limit during any periodic performance test, we are requiring the refinery owner or operator to conduct subsequent performance tests on an annual basis instead of on a 5-year basis.

We are finalizing our proposed requirement that compliance with the control device operating limits in the other compliance alternatives be demonstrated on a 3-hour basis, instead of the 24-hour basis currently allowed in Refinery MACT 2.

3. What key comments did we receive on the technology review, and what are our responses?

a. Refinery MACT 1

The majority of comments received regarding the proposed amendments to Refinery MACT 1 pursuant to our technology review dealt with the proposed fenceline monitoring requirements. The primary comments on the fenceline monitoring requirements are in this section along with our responses. Comment summaries and the EPA's responses for additional issues raised regarding the proposed requirements resulting from our technology review are in the ''Response to Comment'' document in the public docket (Docket ID No. EPA–HQ–OAR–2010–0682).

i. Legal Authority and Need for Fenceline Monitoring

Comment: Numerous commenters claimed that the proposed fenceline monitoring program would unlawfully impose what is effectively an ambient air quality standard for benzene, which is not authorized by CAA section 112, which only authorizes the control of emission sources. The commenters argued it is an ambient standard because sources are required to meet the benzene level set or ''perform injunctive relief which may or may not address the source of the benzene.'' The commenter quoted language from the proposal as support that EPA has described the benzene level as an ambient standard: ''We are proposing a HAP concentration to be measured in the ambient air around a refinery, that if exceeded, would trigger corrective action to minimize fugitive emissions.'' 79 FR at 36920 (June 30, 2014). The commenter further noted that this requirement is not just ''monitoring'' because it establishes a ''not-to-be exceeded'' level. Therefore, the commenters stated, the EPA should not finalize this portion of the proposal.

Response: We disagree with the comment that the fenceline proposal is an ambient air standard. First, the owner or operator must place the monitors on the facility fenceline to measure emissions from the facility, *i.e.*, on the property of the refiner. While we recognize that we used the term ''ambient air'' in the preamble to the proposal, we note that the placement requirements for the monitors make clear that the monitors are not monitoring ambient air, which EPA has defined at 40 CFR 50.1(e) as ''that portion of the atmosphere, external to buildings, to which the general public has access.'' Second, the proposed EPA Method 325A sets out procedures to subtract background concentrations and contributions to the fenceline benzene concentrations from non-refinery emission sources, so that the benzene concentrations measured are attributable to the refinery. In other words, the fenceline monitoring work practice standard uses a benzene concentration difference, referred to as the ΔC (essentially an upwind and downwind concentration difference) to isolate the refinery's emissions contribution.

Furthermore, we disagree that the fact that refiners are required to perform corrective action if the fenceline benzene concentration action level is exceeded makes the benzene action level an ambient standard. As an initial matter sources are not directly responsible for demonstrating that an area is meeting an ambient standard; rather that burden falls on states. See *e.g.*, CAA section 110(a)(2). Moreover, the ''corrective action'' is simply that sources must ensure that fugitive emission sources on the property are not emitting HAP at levels that will result in exceedances of the fenceline benzene concentration action level. In other words, the purpose of the fenceline monitoring work practice is to ensure that sources are limiting HAP emissions at the fenceline, which are solely attributable to emissions from sources within the facility. In fact, the fenceline benzene concentration action level was established using emissions inventories reported by the facilities, assuming compliance with the MACT standards. Finally, monitoring is conducted as part of the work practice standard to identify sources that will require additional controls to reduce their impact on the fenceline benzene concentration. In that sense, the fenceline monitoring work practice standard is not different than, for example, our MACT standard for refinery heat exchangers. If a facility is exceeding the relevant cooling water pollutant concentration ''level'' when it performs a periodic test, it must undertake corrective action to bring the concentration down below the action level.

Comment: Several commenters noted that EPA's authority under section 112(d) is to set ''emissions standards'' and quoted the CAA definition of that term: ''A requirement . . . which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this Act.'' 42 U.S.C. 7602(k). The commenters argued that the proposed fenceline monitoring standard does not meet this definition because it would not ''limit the quantity, rate, or concentration of emissions'' from any given emissions point. Also, the commenters claimed that the EPA did not designate fenceline monitoring as a work practice under CAA section 112(h) since the EPA did not even mention CAA section 112(h), nor did it conduct any analysis to show that fenceline monitoring meets the CAA section 112(h) factors.

Response: We disagree with the commenters' assertion that the proposed fenceline monitoring work practice standard is not authorized under CAA section 112(d)(6). Contrary to the commenter's claims, we specifically proposed the fenceline monitoring standard under CAA section 112(d)(6) to be a work practice standard that is applied broadly to fugitive emissions sources located at petroleum refineries. As discussed above, the proposed standard does more than impose monitoring as some commenters suggested; it also will limit emissions from refineries because it requires the owner or operator to identify and reduce HAP emissions through a monitoring and repair program, as do many work practice standards authorized under CAA Section 112(h) and 112(d).

We note that the sources addressed by the fenceline monitoring standard—refinery fugitive emissions sources such as wastewater collection and treatment operations, equipment leaks, heat exchange systems and storage vessels in the Refinery MACT 1 rule—are already subject to work practice standards. Our review of these requirements indicates that this fenceline monitoring work practice standard would be a further improvement in the way fugitive emissions are managed and would provide an extra measure of protection for surrounding communities. The commenter claims EPA did not analyze how the fenceline monitoring requirement meets the criteria in section 112(h). However, that is a misinterpretation of how the criteria apply. The criteria are assessed with regard to whether it is feasible to ''prescribe or enforce an emission standard for a source'', and do not apply to the work practice standard. Consistent with the criteria in section 112(h)(2), we determined and established that work practice standards are appropriate for these Refinery MACT fugitive emissions at the time we established the initial MACT standard. In the proposal, (79 FR at 36919, June 30, 2014), we reaffirmed that it is impracticable to directly measure fugitive emission sources at refineries but did not consider it necessary to reiterate these findings as part of this proposal to revise the existing MACT for these sources under CAA section 112(d)(6). We note that the commenters do not provide any grounds to support a reevaluation of whether these fugitive emission sources are appropriately regulated by a work practice standard.

Comment: Several commenters questioned the EPA's authority under the CAA to promulgate a rule that amounts to an ongoing information gathering and reporting obligation. The commenters stated that the EPA has not demonstrated that the proposed fenceline monitoring program represents an actual emission reduction technology improvement. A commenter stated that compliance assurance methods, including monitoring, for fugitive emissions and other emission standards are established as part of the emission standard and EPA's authority to gather information that is not directly required for compliance with a specific standard but is related to air emissions is found in CAA section 114. Under CAA section 114, the requirement must be related to one of the stated purposes and must be reasonable. The commenter did not believe that the EPA has demonstrated that the costs of fenceline monitoring are reasonable in light of the information already available to the EPA and in light of many other means by which the EPA could obtain such information.

Response: We disagree with the commenters' assertion that the authority for the fenceline monitoring requirement falls under CAA section 114 and not CAA section 112(d) because it is an ''ongoing information gathering and reporting obligation.'' The issue here is not whether EPA could have required the fenceline monitoring requirement under CAA section 114, but rather did EPA support that it was a development in processes practices or controls technology under section 112(d)(6).

As an initial matter, we disagree with the commenters' characterization of the fenceline monitoring standard as ''an information gathering and reporting obligation.'' We have repeatedly stated that we consider the fenceline monitoring requirement to be a work practice standard that will ensure sources take corrective action if monitored benzene levels (as a surrogate for HAP emissions from fugitive emissions sources) exceed the fenceline benzene concentration action level. The standard requires refinery owners or operators to monitor the benzene concentration at the refinery perimeter, to evaluate the refinery's contribution as estimated by taking the concentration difference between the highest and lowest concentrations (ΔC) in each period, and to conduct root cause analysis and take corrective action to minimize emissions if the concentration difference is higher (on an annual average) than the benzene concentration action level. Thus, the fenceline monitoring requirement goes well beyond ''information gathering and reporting.''

In addition, the commenters again read section 112(d)(6) too narrowly by suggesting that a program considered as a development must be a ''technology'' improvement. Section 112(d)(6) of the CAA requires the EPA to review and revise the MACT standards, as necessary, taking into account developments in ''practices, processes and control technologies.'' Consistent with our long-standing practice for the technology review of MACT standards, in section III.C of the proposal (see 79 FR 36900, June 30, 2014), we list five types of ''developments'' we consider. Fenceline monitoring fits squarely within two of those five types of developments (emphasis added):

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards.
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards.

As used here, ''other equipment'' is clearly separate from and in addition to ''add-on control'' technology and is broad enough to include monitoring equipment. In this case, fenceline monitoring is a type of equipment that we did not identify and consider during development of the original MACT standards. Additionally, the fenceline standard is a work practice standard, involving monitoring, root cause analysis and corrective action not identified at the time of the original MACT standards. Therefore, the fenceline requirements are a development in practices that will improve how facilities manage fugitive emissions and EPA appropriately relied on section 112(d)(6) in requiring this standard.

Comment: Some commenters contended that because the fenceline monitoring standard is in essence an ambient standard, the only justification that can be used to support it would be under CAA section 112(f)(2). The commenters stated that EPA determined that the MACT standards pose an acceptable level of risk and protect the public health with an ample margin of safety and thus, section 112(f) does not support imposition of the fenceline monitoring requirement. Several commenters stated that the Agency expressly acknowledges that imposition of additional emission standards for fugitive emissions from refinery sources are not warranted under CAA section 112(f). Some commenters suggested that because the existing MACT standards protect public health with an ample margin of safety, the fenceline monitoring requirement imposes an unnecessary burden on industry because it is not necessary to achieve acceptable risk or provide an ample margin of safety.

Response: EPA is not relying on section 112(f)(2) as the basis for the fenceline monitoring requirement. As provided in a previous response to comment, we disagree with the commenters that the fenceline monitoring requirement is an ambient standard and therefore, we do not need to consider what authority would be appropriate for establishing an ambient standard that would apply to fugitive sources of emissions at refineries. We also disagree with the commenters who suggest that EPA may not require fenceline monitoring pursuant to section 112(d)(6) because EPA has not determined that fenceline monitoring is necessary to ensure an acceptable level of risk or the provide an ample margin of safety. Section 112(d)(6) does not require EPA to factor in the health considerations provided in section 112(f)(2) when making a determination whether it is ''necessary'' to revise the MACT.

Comment: Commenters stated that the pilot studies undertaken by the EPA and pilot studies undertaken by the refining industry (see the API Fenceline Study in the docket for this rulemaking) demonstrate either that there is no underestimation of emissions and thus, no need for the fenceline monitoring work practice standard, or that fenceline benzene data cannot be used to validate emission estimates. Commenters stated that none of the refineries in the API study of the proposed refinery fenceline standard had study-averaged ΔC concentrations that exceeded the proposed action level of 9 $\mu g/m^3$ and thus the study provides some evidence that U.S. refineries are not underestimating emissions. Furthermore, the commenter stated that there is significant ambient air monitoring performed that further supports low benzene concentrations in the vicinities of refineries and cited ambient monitoring data collected by the Southeast Texas Regional Planning Commission Air Quality Group and the Texas Commission on Environmental Quality (TCEQ).

Response: We disagree that the API fenceline study demonstrates that there is no underestimation of emissions. The API report referred to by the commenter actually shows higher ΔC concentrations than what we expected, when we compare the distribution of ΔC's presented in the API fenceline study to the distribution of benzene concentrations at the 142 refineries we modeled (see memorandum ''Fenceline Ambient Benzene Concentrations Surrounding Petroleum Refineries'', EPA–HQ–OAR–2010–0682–0208). [Note that API did not identify the facilities in their study, so we were not able to perform a one-to-one comparison of the measured ΔC concentrations with the modeled fenceline concentrations.] Furthermore, the API conducted the study primarily during the fall and winter months (October to March) when the ambient temperatures are lower than the annual averages. While this may not impact equipment leak emissions, temperature can have a significant impact on emissions from storage vessels and wastewater treatment systems, so it is likely that the annual average ΔC for the facilities tested could be higher than the ''winter'' averages measured in the API study. Based on our review of the API study data, we interpret the results to indicate that there may be higher concentrations of benzene on the fenceline attributable to fugitive emissions than anticipated at some facilities. These studies are an indication that the standard we are finalizing will achieve the goal of ensuring that the owners or operators manage fugitive emissions within the refinery.

This regulatory approach also fits with the EPA's goals to improve the effectiveness of rules. Specifically, in this case, we are improving the effectiveness of the rule in two ways. First, we are establishing a fenceline benzene trigger to manage overall fugitive HAP emissions, rather than establishing further requirements on many individual emission points. Secondly, the rule incentivizes facilities to reduce fugitive HAP emissions below the fenceline benzene trigger by providing regulatory options for reduced monitoring.

Regarding ambient monitoring data, we note that existing ambient monitors are not located at the fenceline; they are located away from sources, and concentrations typically decrease exponentially with distance from the emissions source. We are encouraged that data referenced by the commenter indicate that ambient levels of benzene are within levels that are protective of human health in communities, but note that analysis of benzene concentrations in communities does not necessarily indicate that refineries located near these communities are adequately managing their fugitive HAP emissions.

Comment: Several commenters reiterated that they do not believe the proposed fenceline monitoring is a technology development for equipment leaks, storage vessels or wastewater sources. However, if the EPA finalizes the fenceline monitoring requirements, the commenters suggested that there is no longer a need or regulatory basis for imposing both the fenceline monitoring requirements and the existing MACT standards for fugitive HAP emission sources. Thus, the EPA should remove the current MACT requirements for LDAR, storage vessels and wastewater handling and treatment from Refinery MACT 1 if the EPA promulgates fenceline monitoring. Addition of fenceline monitoring on top of the existing MACT requirements, they argue, would violate the Executive Order 12866 mandate to avoid redundant, costly regulatory requirements that provide no emission reductions.

Response: We disagree that the fenceline monitoring standards we are finalizing in this rule are redundant to MACT emissions standards for fugitive HAP emissions sources. The MACT standards impose requirements on fugitive HAP emissions sources consistent with the requirements in CAA section 112(d)(2) & (3), and the fenceline monitoring requirement is not a replacement for those requirements. Rather, based on our review of these standards, we concluded that fenceline monitoring is a development in practices, processes or control technologies that would improve management of fugitive emissions in a cost-effective manner. In selecting this development as an across-the-board means of improving management of fugitive emissions, we rejected other more costly developments that would have applied independently to each fugitive emissions source. Requiring refineries to establish a fenceline monitoring program that identifies HAP emission sources that cause elevated benzene concentrations at the fenceline and correcting high emissions through a more focused effort augments but does not replace the existing requirements. We found that, through early identification of significant fugitive HAP releases through fenceline monitoring, compliance with the existing MACT standards for these emissions sources could be improved and that it was necessary to revise the existing standards because fenceline monitoring is a cost-effective development in processes, practices, and control technologies.

We note that the existing MACT requirements are based on the MACT floor (the best performers), and as such, provide a significant degree of emission reductions from the baseline. The action level for the fenceline work practice standard, by contrast, is not based on the best performers but rather on the highest value expected on the fenceline from any refinery, based on the modeling of refinery emission inventories. As such it is not representative of the best performers and could not be justified as meeting the requirements of section 112(d)(2)and (3). If we were to remove the existing standards for fugitive emission sources at the refinery, we would not be able to justify that sources are meeting the level of control we identified as the MACT floor when we first promulgated the MACT. Nor could we justify the fenceline monitoring program we are promulgating as representing the MACT floor because we considered cost (and not the best performers as previously noted) in identifying the components of the program. Although the fenceline monitoring standard on its own cannot be justified as meeting the MACT floor requirement for each of the separate types of fugitive emission sources, that does not mean that it is not an effective enhancement of those MACT requirements. To the contrary, it works in tandem with the existing MACT requirements to provide improved management of fugitive emissions and, in that sense, it is precisely the type of program that we believe Congress had in mind when enacting section 112(d)(6).

ii. Rule Should Require Real-Time Monitoring Technology for Fenceline Monitoring.

Comment: Numerous commenters stated that the proposed fenceline standards, which require monitoring using 2-week integrated passive samplers, are flawed and weak for a number of reasons, including that the monitoring method does not provide real-time data, does not provide adequate spatial coverage of the fenceline, and does not provide a mechanism to identify the specific emission source impacting the fenceline to manage fugitive emissions. Several commenters suggested that this monitoring technology is not state of the art. They claimed that there are superior systems in place at refineries that are technically and economically feasible, including at Shell Deer Park, Texas; BP Whiting, Indiana; and Chevron Richmond, California. Further, they claimed that these systems more effectively achieve the objective of reducing fugitive emissions. They claimed several systems are superior to the proposed system, including open-path systems such as ultraviolet differential optical absorption (UV DOAS) and Fourier transform infrared spectroscopy (FTIR), as well as point monitors such as gas chromatographs. A number of commenters suggested that open-path monitors should be required, stating that this technology is capable of providing real-time analysis and data on air pollution, is able to analyze multiple pollutants simultaneously at low, near-ambient concentrations, and is capable of providing more complete geographic coverage.

The commenters also stated that the benefits of real-time monitors are particularly important in communities close to refineries, where they believe refinery emissions are a major source of toxic pollutants and short-term upset events that can have significant public health impacts. In particular, the commenters stated that open-path monitors promote an individual's right-to-know, in real-time, about harmful pollution events affecting their communities, and will allow refinery owners or operators to immediately identify fugitive emissions and undertake swift corrective action to reduce these emissions. Some commenters suggested that, if the EPA rejects these open-path real-time monitors, then at a minimum the EPA should require the use of active daily monitoring, such as auto-gas chromatograph (GC) systems.

Finally, a number of commenters recommended that the EPA provide sufficient flexibility in its regulations to allow state and local jurisdictions to develop, demonstrate, and subsequently require the use of alternative monitoring programs, provided these monitoring programs are at least equivalent to those in the final rule.

Response: We understand that many commenters believe real-time monitoring would not only help refinery owners or operators in identifying emission sources, but also would warn the community of releases in real time.

Both open-path systems and active sampling systems (such as auto-GCs) mentioned by the commenters, are monitoring systems capable of yielding monitoring data quickly—ranging from a few minutes to about a day. However, these ''real-time'' systems have not been demonstrated to be able to achieve all of the goals stated by the commenters—specifically, able to provide real-time analysis and data on multiple pollutants simultaneously at low-, near-ambient concentrations, with more complete geographic (or spatial) coverage of the fenceline.

The real-time open-path systems suggested by the commenters are all limited in that they are not sensitive enough to detect benzene at the levels needed to ensure that fenceline monitoring achieves its intended goal. The fenceline monitoring system needs to be capable of measuring at sub-ppbv levels—well below the 9 μg/m^3 fenceline benzene concentration action level in the final rule, in order to determine the ΔC. In the proposal, we discussed two open-path monitoring technologies, FTIR and UV–DOAS. For the proposed rule, we analyzed the feasibility of employing UV–DOAS over FTIR because the UV–DOAS is more sensitive to detection of benzene than FTIR, as we described in the proposal. We reviewed performance data on several UV–DOAS systems in support of the proposed rule, and for this final rule, we considered information submitted during the comment period. We found that the lowest detection limit reported for any commercially-available UV–DOAS system is on the order of 3 ppbv over a 200-meter path length, whereas the fenceline benzene concentration action level is 2.8 ppbv (equivalent concentration to 9 μg/m^3). This system is being installed at the Shell Deer Park refinery but has not been field validated yet. Thus, we do not yet know the detection capabilities of the system, as installed. Based on the lowest reported detection limit, it cannot achieve the detection levels needed to demonstrate compliance with the fenceline standard in this final rule. This system also will only cover approximately 5 percent of the fenceline at Shell Deer Park, instead of the full fenceline coverage of the passive diffusive tube monitoring system we proposed. Facilities would have to deploy a monitoring system consisting of many open-path monitors to achieve the same spatial coverage as the passive diffusive tube monitoring system.

For the final rule, we also reviewed other UV–DOAS systems in operation at refineries that commenters identified. However, reported detection limits for these systems are even higher than for the type of system being installed at Shell Deer Park. For example, we reviewed the open-path UV–DOAS system information from BP Whiting and found that they were able to verify a detection limit of 8 ppbv path average concentration for benzene over a 1,500-meter optical path. This is well above the 2.8 ppbv fenceline benzene concentration action level, let alone the sub-ppbv levels necessary to determine the ΔC. Moreover, this system, though commercially available, was optimized by developing alternative software to improve the detection limit (see memorandum ''Meeting Minutes for April 21, 2015, Meeting Between the U.S. EPA and BP Whiting'' in Docket ID No. EPA–HQ–OAR–2010–0682). Thus, the system, as installed, would not be readily available to other refineries. We reviewed data for the UV–DOAS system at the Chevron Richmond refinery and found that this system, with optical path lengths ranging from 500 to 1,000 meters, has a reported benzene detection limit of 5 ppbv averaged over the path length. Again, this is above the fenceline benzene concentration action level at the fenceline established in this final rule. In addition, we could not find any information to support the reported detection limit. We note that the public Web site operated by the City of Richmond, California indicates that information provided by the system is informational only, not quality assured, and not to be used for emergency response or health purposes.

We also disagree with the commenter's claim that if the EPA does not finalize requirements for real-time open-path monitors then, at a minimum, the EPA should require active daily monitoring. There are two methods of active monitoring. One method, which we will refer to as the ''auto-GC method,'' uses a dedicated gas chromatograph at each monitoring location and can return ambient air concentration results multiple times a day or even hourly. The other method, which we refer to as ''method 2,'' uses an active pump to collect gas in a sorbent tube or in an evacuated canister over a 1-day period, for later analysis at a central location. While active sampling monitoring networks are capable of measuring multiple pollutants and would likely be able to detect benzene at sub-ppbv levels as necessary to demonstrate compliance with the fenceline requirements in this final rule, they consist of discreet monitors and would not provide any better spatial coverage of the refinery fenceline than a passive diffusive tube monitoring network. Further, as shown in Table 9 of the proposed rule (see 79 FR 36923, June 30, 2014), like open-path systems, an active sampling monitoring network would cost many times that of a passive diffusive tube monitoring network. At proposal, we estimated the costs of active daily sampling based on ''method 2'' to be approximately 10 times higher than for the proposed passive monitoring (see memorandum ''Fenceline Monitoring Technical Support Document'', Docket ID No. EPA–HQ–OAR–2010–0682–0210). We note that this type of active daily sampling based on method 2 does not necessarily yield results within 24 hours as the sample analysis would be conducted separately. We did not specifically estimate the costs of an auto-GC alternative, but the capital costs would be at least 20 to 30 times that for the passive diffusive tube system, would require shelters and power supplies at all monitoring locations and would have operating costs similar to the ''method 2'' active monitoring option we considered.

To date, there are no commercially-available, real-time open-path monitors capable of detecting benzene at the sub-ppbv levels necessary to demonstrate compliance with the fenceline requirements in this final rule. Only a system that can detect such levels will result in effective action by facilities to identify and control fugitive emissions in excess of those contemplated by the MACT standards. Further, active monitoring systems, while potentially capable of detecting benzene at sub-ppbv levels, like open-path systems, become very costly when enough monitors are located around the facility to approach the spatial coverage of the passive diffusive tubes. However, we believe that the state of technology is advancing and that the capabilities of these systems will continue to improve and that the costs will likely decrease. If a refinery owner or operator can demonstrate that a particular technology would be able to comply with the fenceline standards, the owner or operator can request the use of an alternative test method under the provisions of 40 CFR 63.7(f). A discussion of the specific requirements for these requests can be found in the first comment and response summary of Chapter 8.3 of the ''Response to Comment'' document.

Comment: One commenter stated that the required monitoring should include real-time monitoring of all chemicals released by refineries that pose risks to human health. The commenter stated that the limited scope of monitoring required by the proposed rule appears to be guided by the EPA's judgment that fugitive, or ''unintended'' emissions pose the greatest threat to public health. On the contrary, communities may well suffer from the effects of chemicals released into the air under normal, permitted emissions. A more expansive monitoring strategy would account for both routine and fugitive emissions.

Several commenters noted that monitoring is limited to benzene as opposed to multiple HAP. One commenter noted that ill health experienced by refinery neighbors is due in large part to the synergistic effects of multiple chemicals. Therefore, the commenter stated that it is essential that the rule require monitoring of the full range of chemicals with health implications. Other commenters recommended that the fenceline monitoring requirement be amended to include additional contaminants, such as VOC, that may negatively impact human health and the environment. Conversely, other commenters stated that the EPA has appropriately selected benzene as a target analyte and surrogate for HAP emissions from petroleum refineries, as benzene is a common constituent in refinery feedstocks and numerous refinery streams, and is present in most HAP-containing streams in a refinery.

Response: As part of the CAA section 112(d)(6) technology review, the EPA identified the fenceline monitoring standard as a development in practices, processes or control technologies that could improve management of fugitive HAP emissions. Thus, to the extent the commenter is suggesting that the EPA require the fenceline monitoring system to monitor for emissions of non-HAP pollutants, such request goes beyond the scope of our action. Furthermore, to the extent that the commenter is raising health concerns, although we address residual risk remaining after implementation of the MACT standards under CAA section 112(f)(2), we note that the MACT standards themselves, including this requirement, are aimed at protecting public health, especially in surrounding communities. As we explained in the proposal, and as we determine for this final rule, the MACT standards as modified by additional requirements for storage vessels, provide an ample margin of safety to protect public health. We did not propose and are not finalizing a fenceline monitoring requirement as necessary to provide an ample margin of safety under CAA section 112(f)(2).

Petroleum refining emissions can contain hundreds of different compounds, including many different HAP, and no single method can detect every HAP potentially emitted from refineries. While several HAP are amenable to quantification via passive diffusive tube monitoring using the same adsorbent tubes used for benzene (*e.g.,* toluene, xylenes and ethyl benzene, which have uptake rates in Table 12.1 in Method 325B), we selected benzene as a surrogate because it is present in nearly all refinery fugitive emissions. By selecting a single HAP as a surrogate for all fugitive HAP, we are able to establish a clear action level, which simplifies the determination of compliance for refinery owners or operators and simplifies the ability of regulators and the public to determine whether sources are complying with the work practice standard. As described in the proposal preamble, benzene is ubiquitous at refineries and present in nearly all refinery process streams, including crude oil, gasoline and wastewater. Additionally, benzene is primarily emitted from ground level, fugitive sources that are the focus of the work practice standard. Thus, we conclude that monitoring of benzene is appropriate and sufficient to identify emission events for which the monitoring program is targeting. Consequently, we are not requiring quantification of other pollutants although refinery owners or operators could choose to analyze the diffusive tube samples for additional HAP in conducting root cause analysis and corrective action.

iii. Fenceline Monitoring Action Level

Comment: Several commenters stated that the action level for fenceline monitoring (*i.e.,* 9 µg/m^3 or 2.8 ppbv), was set too high. Some of these commenters noted that the EPA selected 9 µg/m^3 as the highest modeled benzene concentration at any refinery fenceline. One commenter stated that this was arbitrary and capricious and stated the action threshold level makes little sense because only 2 of the 142 modeled facilities are expected to have fenceline concentrations above 4 μg/m³. Several commenters noted that the average modeled benzene concentration is 0.8 μg/m³, which is more than an order of magnitude less than the proposed fenceline benzene concentration action level.

Two commenters argued for a lower action level threshold, citing the proposed California OEHHA rule, which finalized new and revised benzene reference exposure levels (REL) that are more stringent than the ones the EPA used in the residual risk assessment supporting the proposed rule.

Two commenters stated that while the fenceline benzene concentration action level of 9 μg/m³ is relatively protective compared to standards adopted by many states, including Louisiana and Texas, it is still 80-percent higher than the European Union's standard of 5 μg/m³. The commenter urged the agency to consider adopting a stricter standard comparable to what other industrialized nations use.

Several commenters stated that the EPA's 9 μg/m³ action level is inconsistent with the statutory text and objectives of CAA sections 112(d) and (f), which direct the EPA to focus on the best-performing, lowest-emitting sources, in order to require the ''maximum achievable'' emission reductions. The commenters stated that the EPA promulgated the 9 μg/m³ limit without properly following the statutory requirements for establishing MACT floor limits, pointing out that the EPA made no determination of whether or not these general models were representative of the emissions levels actually achieved by the submitting refinery, and no connection was drawn between the best performing sources and the eventual 9 μg/m³ limit.

On the other hand, several commenters opposed the 9 μg/m³ action level suggesting that it was not achievable and that it is arbitrary. Some commenters noted that emission/dispersion models are always very site-specific and do not necessarily yield a result that is reliable or reproducible. Several commenters stated that additional studies are necessary to allow the agency to account for these variables and set a more appropriate concentration corrective action level. Commenters suggested a 2-year data gathering effort at all refineries and data evaluation before determining a specific threshold to use.

Several commenters recommended action levels ranging from 15 μg/m³ to 20 μg/m³ of benzene to account for the variability expected in monitoring data. The commenters stated that modeling biases have underestimated the necessary action level to achieve the stated goals of the program.

Response: First, it is important to note that the purpose of the standard has not changed between proposal and promulgation, namely that it is a technology-based standard that is an advancement in practices to manage fugitive emissions. It is not intended to be a separate or new MACT standard promulgated pursuant to CAA sections 112(d)(2) and (3) for which a ''floor'' analysis would be required.[7] Nor is it a standard that we are promulgating pursuant to CAA section 112(f)(2) as necessary to provide an ample margin of safety to protect public health or prevent an adverse environmental effect.[8] Thus, claims that a standard should reflect European Union health-based standards or the California OEHHA rule are misplaced. We also disagree with the suggestion that the proposed monitoring requirement will allow for higher emissions. As noted elsewhere, we are retaining all of the source-specific requirements for fugitive emissions sources that exist in Refinery MACT 1.

We disagree with the commenters that suggest that the proposed action level of 9 μg/m³ is too low and may not be achievable even for well-performing facilities. As discussed in the preamble for the proposed rule, we selected the 9 μg/m³ benzene action level because it is the highest value on the fenceline predicted by the dispersion modeling and, thus, is a level that we estimate that no refinery should exceed when in full compliance with the MACT standards, as amended by this final rule. All of the results of our pilot study, the API study, and the other ambient monitoring data near refineries clearly indicate that this level is achievable. Furthermore, we expect the fenceline concentration difference measured following the procedures in the final rule to be indicative of refinery source contributions and we have provided procedures to isolate these concentrations from outside sources, as well as background.

We expect that the fenceline monitoring standard will result in improved fugitive HAP emissions management as it will alert the refinery owners or operators of fugitive sources releasing high levels of HAPs, such as large leaks, faulty tank seals, etc.

iv. Fenceline Monitoring Root Cause Analysis and Corrective Action Provisions

Comment: A number of commenters objected to the proposal's ''open-ended'' provisions allowing the EPA to direct refinery owners or operators to change their operations in order to achieve the fenceline limit, with no regulatory limits on costs and without consideration of the impact to safe operations or operability of the plant. Another commenter stated that the EPA must properly assess the costs associated with the root cause analysis/corrective action requirements and should establish a cost effectiveness threshold for any required root cause analysis/corrective action to ensure that limited resources are effectively and efficiently applied for the control of emissions.

One commenter stated the proposed fenceline benzene concentration action level is effectively an ambient air standard, because corrective action to achieve that level is required and that if a facility's initial corrective action is unsuccessful, the rule provides that further action is required and the EPA must approve that further corrective action plan. Thus, the commenter argued, the EPA would essentially be able to dictate corrective actions, with no bounds on what could be required and no consideration of whether any cost-effective actions are available to assure the action level is met. The commenter continued that such a requirement converts a work practice program to an emission limitation and such ambient air limits are not authorized by CAA section 112. Several commenters noted that LDAR and current work practice programs have no similar requirement for the EPA approval, and the commenters suggested that the requirement for the EPA approval of any second corrective action should not be included in 40 CFR 63.658(h).

Another commenter recommended that, if after corrective action, a facility still has an exceedance for the next sampling episode, *then* the facility should be required to do more than it

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[7] To the extent that the commenters are suggesting that EPA must re-perform the MACT floor analysis for purposes of setting a standard pursuant to section 112(d)(6), we note that the D.C. Circuit has rejected this argument numerous times, most recently in National Association for *Surface Finishing et al.* v. *EPA No. 12–1459* in the U.S. Court of Appeals for the District of Columbia.

[8] Although we did not establish this limit to address residual risk under CAA section 112(f)(2), the limit was derived from the same inventory used for our risk modelling. Thus, based on our current reference concentration for benzene, the 9 μg/m³ action level will also ensure that people living near the refinery will not be exposed to cancer risks exceeding 100-in-1 million.

did after the first root cause analysis, as the prior corrective action clearly did not correct the problem. The commenter stated that one corrective action measure the EPA should include in all such instances is higher-quality monitoring such as UV–DOAS for at least 1 year to monitor, identify, correct and assure ongoing compliance after the exceedance problem is fixed.

Response: The ''on-going'' requirement to achieve the fenceline benzene concentration action level is no different in concept from the LDAR requirements for equipment or heat exchange systems in the Refinery MACT 1 rule, which requires the refinery owner or operator to repair the source of the emissions regardless of what it takes until compliance with the standard is achieved.

We disagree with the claim that the EPA must assess the costs associated with the root cause analysis/corrective action requirements and establish a cost effectiveness threshold for any required root cause analysis/corrective action to ensure that limited resources are effectively and efficiently applied for the control of emissions. We did not attempt to project the costs of the root cause analysis/corrective action for at least two reasons. First, based on the dispersion modeling of the benzene emissions reported in response to the inventory section of the 2011 ICR, we project that no refinery should exceed that fenceline benzene concentration action level if in full compliance with the MACT standards, as amended by this action. Thus, assuming compliance with the MACT standards, we would expect that there are no costs for root cause analysis/corrective action. To the extent that there are exceedances of the action level, the premise of the fenceline monitoring is to provide the refinery owners or operators with the flexibility to identify the most efficient approaches to reduce the emissions that are impacting the fenceline level. Since the choice of control is a very site-specific decision, we would have no way to know how to estimate the costs. Thus, the source is in the best position to ensure that resources are effectively and efficiently spent to address any exceedance.

We intended the proposed requirement for refinery owners or operators to submit a corrective action plan for the EPA approval to provide the Administrator with information that they were making a good-faith effort to reduce emissions below the fenceline benzene concentration action level, as expeditiously as practicable. However, we understand the importance for refinery owners or operators to begin corrective action as soon as possible, without having to wait for the EPA approval. Therefore, we are finalizing the requirement for refinery owners or operators to submit such plans but we are not finalizing the requirement that the EPA must approve the plan prior to the corrective action being taken.

We previously responded to comments regarding UV–DOAS or other open-path monitoring systems in this section, explaining that the current detection limits for these systems exceeds the action level threshold and, thus, these systems would not provide usable data to inform corrective action. Thus, we disagree that the EPA should require these systems for all facilities whose first attempt at corrective action is ineffective.

v. Fenceline Monitor Siting Requirements

Comment: Numerous commenters provided suggestions on, or requested clarification of, the monitor siting requirements. Several commenters stated that proposed Method 325A uses the terms ''fenceline or property boundary,'' while it should consistently use the term ''property boundary'' or even ''property line'' as the fenceline location. Several commenters stated that Sections 8.2.2.1.4 and 8.2.2.3 of Draft Method 325A specify that samplers be placed just beyond the intersection where the measured angle intersects the property boundary and this could require placing monitors on other people's property, in a road, in a water body or in a railroad right-of-way. The commenters suggested that facilities should be allowed to place monitors at any vector location that meets other requirements between the property boundary and the source nearest the property boundary. They stated that facilities need this clarification to avoid obstructions (*e.g.,* buildings or trees) that may be at the property line.

Numerous commenters requested that the rule clarify where monitors need to be placed in special circumstance, such as refineries bisected by a road, railroad or other public right-of-way or a boundary next to a navigable waterway. Several commenters stated that refiners should not need to place monitors on these property boundaries or other property boundaries where there are no residences within 500 feet of the property line. Commenters also asked if areas that had non-refinery operations, but are still inside the property boundary, would be included for purposes of determining where to site monitors.

A few commenters expressed concern about the approach for determining the number of required monitors at a site based on the acreage, noting that it is unfair to small facilities and will leave gaps in monitoring coverage for very large facilities. Some commenters recommended amending the proposed rule to require the placement of fenceline monitors at fixed distances along facilities' perimeters with no maximum number of monitors. Some commenters stated that the rule should specify an acceptable range on the 2,000-foot spacing requirement or the radial placement requirement as it may be necessary to address accessibility or safety concerns. Several commenters suggested that a lower minimum number of sampling monitors should be required for very small refineries or small ''subareas.'' These commenters noted that refineries often include disconnected parcels that can be very small (*e.g.,* 10 acres or less). If each disconnected parcel must be treated as a separate subarea, then both sampler siting options in Draft Method 325A would result in unnecessarily large numbers of samplers extremely close together. Some commenters recommended that Method 325A specify that samplers need not be placed closer than 500 feet (versus the normal 2,000-foot interval specified in Option 2) along the fenceline from an adjoining sampler, regardless of whether the radial or linear approach is used and should waive the minimum number of samplers specified in Sections 8.2.2.1.1, 8.2.2.2.1, and 8.2.3.1. Another commenter added that the rule should waive the requirement for additional samplers in Sections 8.2.2.1.5 and 8.2.3.5 if the 500-foot minimum spacing criterion is compromised.

Response: We agree that the Method 325A should provide clear and consistent language. We have revised the language to be consistent in referring to the ''property boundary''. We have also revised the Method to allow placement of monitors at any radial distance along either a vector location or linear location (that meets the other placement requirements) between the property boundary and the source nearest the property boundary. That is, the monitors do not need to be placed exactly on the property boundary or outside of the property boundary. They may be placed within the property closer to the center of the plant as long as the monitor is still external to all potential emission sources. We do note that if the monitors are placed farther in from the property boundary, the owner or operator should take care to ensure, if possible, that the radial distance from the sources to the monitors is at least 50 meters. If the perimeter line of the actual placement of the fenceline monitors is closer than 50 meters to one or more sources, then the additional monitor citing requirements will apply. We have revised subparagraphs of Section 8.2.2 to provide this allowance. This clarification should address issues related to obstructions such as tall walls located at the facility boundary.

We intended that the fenceline monitoring would create a monitoring perimeter capable of detecting emissions from all fugitive emission sources at the refinery facility. We have long established that a road or other right of way that bisects a plant site does not make the plant site two separate facilities, and, thus, would not be considered part of the property boundary. As we agree that monitors need only be placed around the property boundary of the facility, it would not be necessary to place monitors along a road or other right-of-way that bisects a facility. We have clarified this in the final rule and Method 325A.

If the facility is bounded by a waterway on one or more sides, then the shoreline is the facility boundary and monitors should be placed along this boundary. If the waterway bisects the facility, the waterway would be considered internal to the facility and monitors would only be needed at the facility perimeter.

Regarding the comment that monitors should not be required where there is no residence within 500 feet of the property line, we disagree. We proposed and are finalizing the fenceline monitoring standards under CAA section 112(d)(6) as a means to improve fugitive HAP emissions management, regardless of whether there are people living near a given boundary of the facility.

Regarding the clarification requested about monitor placement considering non-refinery operations, the property boundary monitors should be placed outside of all sources at the refinery. This is because moving the monitoring line inward to exclude the non-refinery source could lead to an underestimation of the ΔC compared to the monitoring external of the entire site. If the non-refinery source is suspected of contributing significantly to the maximum concentration measured at the fenceline, a site-specific monitoring plan and monitoring location specific near-field interfering source (NFS) corrections will be needed to address this situation.

Section 8.2.3 of Method 325A includes language to provide some flexibility when using the linear placement (±10% or ±250 feet). We consider it reasonable to provide similar placement allowance criteria for the radial placement option (±1 degree). We are not providing requirements that would allow small area refineries to use fewer than 12 monitoring sites. We do not consider that any refinery would be so small as to warrant fewer than 12 monitors; however, we did not necessarily consider very small subareas for irregularly shaped facilities or segregated operations. When considering these subareas, we agree that fewer than 12 monitoring sites should be appropriate. Therefore, we have provided that monitors do not need to be placed closer than 152 meters (500 feet) (or 76 meters (250 feet) if known sources are within 50 meters (162 feet) of the monitoring perimeter, which is likely for these subareas or segregated areas) with a stipulation that a minimum of 3 monitoring locations be used per subarea or segregated area. We note, however, that this distance provision does not obviate the near source extra monitoring siting requirements or the requirement to have a minimum of three monitors per subarea or segregated area.

If facility owners or operators have questions regarding the required locations of monitors for a specific application, they should contact the EPA (or designated authority) to resolve questions about acceptable monitoring placement.

vi. Compliance Time for Fenceline Monitoring Requirements

Comment: Some commenters supported EPA's proposal to provide 3 years to put a fenceline monitoring program in place, but the commenters believe that timing is unclear in the proposed regulatory language, which appears in Table 11 to subpart CC, and requested that the EPA add the initial compliance date to 40 CFR 63.658(a). One commenter stated that instituting this program for all 142 major source U.S. refineries would require considerable time. Based on their experience with their pilot study, one commenter noted that commercially available weather guards meeting the specifications of proposed Method 325A are not available and would need to be fabricated. Additionally, a commenter stated that only a limited number of laboratories in the U.S. are able to perform the necessary analyses. According to the commenter, considerable time and effort will be needed to qualify additional laboratories and to expand the capacity of existing laboratories to handle the samples from 142 refineries.

Other commenters disagreed with the EPA's proposed compliance time and suggested that the EPA shorten the timeline for implementation at refineries so that possible corrective action occurs much sooner than proposed. The commenters suggested that deployment of passive samplers can proceed more promptly than proposed, especially since the EPA has simultaneously proposed specific ''monitor siting and sample collection requirements as EPA method 325A of 40 CFR part 63, Appendix A, and specific methods analyzing the sorbent tube samples as EPA Method 325B of 40 CFR part 63, Appendix A.'' Moreover, the commenter noted, a principal reason that the EPA selected passive monitors over active monitors was due to the relative ''ease of deployment.'' The commenter claimed this ease of deployment rationale is undermined by a 3-year grace period to deploy passive monitors when the EPA is providing very specific criteria for their use. The commenter suggested that the EPA require full compliance with the passive monitoring requirement within 1 year of the effective date of the rule.

Response: While we realize that it will take some time for the refinery owners or operators to understand the final rule and develop a compliant monitoring program, we agree that in requiring the passive sampler monitoring system, we recognized the ease of implementation and deployment. Although industry commenters identified issues they faced in the API pilot study while trying to implement the monitoring method, we note that the 12 facilities that participated in the API pilot study installed the fenceline monitors and began sampling in late 2013 with relative ease and within months of obtaining the draft methods. Thus, we disagree with the suggestion that 3 years is insufficient and agree with other commenters that 3 years is in fact too long. However, we also are aware that the API pilot facilities used the direct ΔC approach proposed and did not attempt to develop site-specific monitoring programs to correct for interfering near-field sources. Although we expect that facilities could complete direct implementation of the proposed fenceline monitoring requirement within 1 year after the effective date of the rule, as suggested by some commenters, facilities that choose to develop a site-specific monitoring plan would need a longer period of time. Therefore, we are finalizing requirements that specify that facilities must begin monitoring for the official determination of ΔC values no later than 2 years after the effective date of the rule.

vii. Fenceline Monitoring Recordkeeping and Reporting Requirements

Comment: Some commenters suggested that facilities should be required to submit the monitoring data via the ERT only if they exceed the fenceline benzene concentration action level and that all remaining data should be kept on-site and available for inspection or upon request of the EPA, citing that this is consistent with EPA's semiannual NESHAP reporting of only exceptions (*i.e.*, deviations). Other commenters requested that the EPA only post the rolling annual average concentration values and not the 2-week monitoring data. These commenters indicated concern that if errors are present in the raw data that are submitted semiannually to the EPA, the data, errors and all, will be released to the public and correcting them will not take place or will not take place in a timely manner. One commenter added that there is very little useful information that can be gleaned from the raw data and posting it simply invites misunderstandings.

Commenters also stated that the EPA should adopt reporting requirements to ensure that facilities report the monitoring data appropriately. Specifically, commenters recommended that 40 CFR 63.655(h)(8)(i) should be clarified to only require reporting of valid data and cautioned that data should be processed to allow accurate calculations of annual averages to be used for reporting and evaluation. To accomplish this, commenters recommended that the rule provide 75 days from the end of a 6-month sampling period to report to the EPA, rather than the proposed 45-day period, in order to provide adequate time to obtain quality-assured results for all 2-week sampling periods.

One commenter applauded the proposal's requirements for electronic reporting of the fenceline concentration data and making the resulting information publicly available. However, the commenter recommended that the EPA consider a more truncated data reporting period that is more consistent with the associated milestones of collecting a 14-day sampling episode. As is, the commenter claimed, the proposed rule would have a lag time of up to 7.5 months between data collection and posting. The commenter indicated that data reporting on a more frequent schedule will not only provide transparency, but will provide states and local agencies with information about air quality at refineries at a frequency that could allow informed activities to address leaks much more quickly and protect public health.

Response: We disagree with the commenters who suggest that facilities only report the rolling annual average or only exceedances of the fenceline benzene concentration action level because the commenters believe there is little information to be gleaned from the raw data. Monitoring data are useful in understanding emissions, testing programs, and in determining and ensuring compliance. We generally require reporting of all test data, not just values calculated from test data and/or where a facility exceeds an emissions or operating limit. For example, when we conduct risk and technology reviews for source categories, we are adding requirements for facilities to submit performance test data into the ERT, not just performance test data that indicates an exceedance of an applicable requirement. In the Mercury and Air Toxics Rule, we require facilities to report direct measurements made with CEMS, such as gas concentrations, and we require hourly reporting of all measured and calculated emissions values (see discussion at 77 FR 9374, February 16, 2012). In particular, for the fenceline monitoring requirements in this final rule, we offer facilities options for delineating background benzene emissions and benzene emissions not attributable to the refinery, and we offer options for reduced monitoring, making it even more necessary that we have all of the data to review to ensure that testing and analyses are being done correctly and in compliance with the requirements set out in the regulations, and that root cause analyses and corrective actions are being performed where necessary. Therefore, as proposed, we are finalizing the requirements that facilities report the individual 2-week sampling period results for each monitor, in addition to the calculated ΔC values in their quarterly reporting.

Regarding commenters' concerns that facilities post accurate data and have sufficient time to perform quality assurance on the data, in the final rule, we have established provisions for how sources are to address outliers and data corrections. Additionally, as proposed, we do not require an initial report until facilities have collected 1 year of data so that facilities do not report the data until a rolling annual average value can be determined. This will allow refinery staff and analytical laboratories to iron out any issues that might arise as they implement these methods for the first time. Once this initial data collection period is complete, we anticipate that data quality issues should be infrequent. Therefore, we are providing a 45-day period following each quarterly period before facilities must submit the monitoring results, which should provide facilities adequate time to correct any data errors prior to reporting the data.

Regarding comments that suggest reporting each 2-week sample result soon after its collection, we disagree. This frequency would put undue burden on the refinery owners or operators in trying to collect, review and quality assure the data prior to reporting. However, we agree with commenters that more frequent reporting of the fenceline monitoring data would be useful. Therefore, we have revised the reporting frequency for the fenceline monitoring data to be quarterly in the final rule rather than semiannually as proposed. Additionally, we understand that there is a lot of interest in how these data will be presented to the public, and we plan to reach out to all stakeholders on appropriate approaches for presenting this information in ways that are helpful and informative.

b. Refinery MACT 2

This section provides comment and responses for the key comments received regarding the technology review amendments proposed for Refinery MACT 2. Comment summaries and the EPA's responses for additional issues raised regarding the proposed requirements resulting from our technology review are in the ''Response to Comment'' document in the public docket (Docket ID No. EPA–HQ–OAR–2010–0682).

i. FCCU

We received comments on the consideration of developments in pollution controls, the averaging time for FCCU PM limits, and the FCCU opacity limit, as discussed below.

Comment: One commenter stated that the EPA failed to consider developments in pollution controls for HAP from FCCUs for two reasons. First, the commenter contended that cost is not a valid consideration to evaluate if a ''development'' in pollution control is necessary pursuant to section 7412(d)(2), (3), (6), unless the EPA is setting a ''beyond-the-floor'' requirement.

Second, the commenter claimed that the EPA's review of developments is nearly 10 years old and misses some important pollution control improvements in the industry. For example, the commenter noted that Valero Benicia installed a combination of controls in 2012 including a scrubber, SCR and CO Boiler that combine exhaust streams from the FCCU and coking and reportedly eliminate HAP emissions entirely from these sources.

The commenter also asserted that EPA consent decrees impose lower effective limits on PM than the EPA considered under the technology review. The commenter identified the BP Whiting facility as subject to 0.7 lb PM/1,000 lbs coke burn-off at one FCCU and 0.9 lb PM/1,000 lbs coke burn-off at another and claimed these limits are lower than the 1.0 lb PM/1,000 lbs coke burn-off limit currently mandated by Refinery MACT 2.

Response: We disagree that we cannot consider costs when determining if it is necessary to revise an existing MACT standard based on developments in practices, processes and control technologies. The commenter suggests that we cannot consider costs because of the requirements in CAA section 112(d)(2) and (3) for establishing initial MACT standards and which do not allow for consideration of costs until the second, ‘‘beyond the floor’’ phase of the analysis. As discussed previously in this preamble where we respond to comments on the fenceline monitoring requirements, to the extent that the commenters are suggesting that EPA must re-perform the MACT floor analysis for purposes of setting a standard pursuant to section 112(d)(6), we note that the D.C. Circuit has rejected this argument numerous times, most recently in *National Association for Surface Finishing et al.* v. *EPA* No. 12–1459 in the U.S. Court of Appeals for the District of Columbia.

Regarding the claim that the EPA did not consider the types of controls at the Valero and BP facilities, we disagree. The control measures for both of those facilities are controls that existed at the time of the development of the MACT standard. Thus, we did not identify these technologies as developments in control technologies during the technology review. However, we did identify developments in processes or practices that reflect better control by the existing technology and we reviewed modified emission limits that reflect that better level of control. The commenter suggested that we failed to consider a level of zero when the Valero facility was able to achieve zero emissions through a combined SCR, boiler and scrubber. However, the commenter provided no information to support such a claim and we are skeptical that such a result could be achieved. We note that the SCR is designed specifically to reduce NO_X emissions, and would not be capable of reducing significantly, much less eliminating completely, HAP emissions. Similarly, based on our long-standing understanding of the processes, neither a boiler nor a scrubber could achieve such a result. Regarding the level of emissions achieved at the BP Whiting facility, we note that we evaluated control systems that can meet 0.5 lb PM/1,000 lb coke burn-off, which is a lower limit than that at BP Whiting. We determined that these were cost-effective to require for new units that are installing a new control system. However, we determined that retrofitting controls designed to meet a PM limit of 1.0 lb PM/1,000 lbs coke burn-off to now meet a limit of 0.5 lb PM/1,000 lbs coke burn-off was not cost-effective when considering PM and $PM_{2.5}$ emissions reductions. We projected the cost of the 0.5 lb PM/1,000 lbs coke burn-off limit in retrofit cases to be $23,000 per ton PM emissions reduced. To meet a limit of 0.7 lb PM/1,000 lbs coke burn-off or 0.9 lb PM/1,000 lbs coke burn-off, as is the case for BP Whiting, the retrofit costs would be similar to this 0.5 lb PM/1,000 lb coke burn-off option, but the reductions would be even less, resulting in costs over $23,000 per ton. As metal HAP content of FCCU PM is approximately 0.1 to 0.2-percent of the total PM, the cost of requiring this lower limit for existing FCCU is over $10 million per ton of metal HAP reduced. Therefore, we determined that it is not necessary to revise the PM standard for existing FCCU sources.

Comment: Refinery MACT 2 requires the owner or operator to demonstrate compliance with the PM FCCU limits by complying with the operating limits established during the performance test on a daily (*i.e.*, 24-hour) average basis. Several commenters objected to the EPA's proposal to revise this requirement to a 3-hour averaging time. Commenters restated EPA's arguments for 3-hour averaging time as: (1) Daily average could allow FCCUs to exceed limits for short periods while still complying with the daily average, (2) consistency with NSPS subpart Ja and (3) consistency with duration of testing. The commenters stated that the EPA had not provided any data that show that the daily average could allow FCCUs to exceed limits for short periods and, therefore, the EPA is using a hypothetical compliance assurance argument to change emission limits. The commenters stated that a change in emission limits is not authorized by CAA section 112 because the emission limitations in Refinery MACT 2 for FCCUs were established as daily averages following the floor and ample margin of safety requirements in section 112(d)(2) of the CAA.

The commenters also state that the EPA's additional arguments for the change to a 3-hour average are irrelevant and legally deficient. The commenters stated that the combination of a numerical emission limit and an averaging period frames the stringency of a limitation and that a reduction in either of those factors results in a significant lowering of the operating limit. The commenters conclude that the EPA has proposed to change the stringency of the requirements without justification, and the CAA requires that such a change in stringency be justified pursuant to CAA section 112(d)(6) or (f)(2). The commenters stated that increasing stringency for consistency with NSPS rules is not a criterion for a CAA section 112(d)(6) action. Rather that section requires a change to be due to ‘‘developments.’’ The only change in technology since the 2002 promulgation of Refinery MACT 2 is the availability of PM continuous emission monitoring system (CEMS), which is unproven.

One commenter noted that changing the averaging time is a very significant modification considering that the compliance limits would apply for periods of SSM. This commenter stated that it is unlikely that existing operations can consistently be in compliance with a new 3-hour average since the current daily averaging was put in place to recognize that there will be periods of operating variability that do not represent the longer term performance of an FCCU. The commenters recommended that the EPA retain the daily averaging requirement.

Response: We disagree with the commenters' statement that reducing the averaging time from a 24-hour basis to a 3-hour basis for demonstrating compliance with the FCCU PM emission limit, using operating limits established during the performance test, is a change to the MACT floor. The emission limit of 1.0 lb PM/1,000 lbs coke burn-off is the MACT floor, and we are not changing the PM emissions limit (or alternate Ni limits) in Table 1 to subpart UUU (except to remove the incremental PM limit that did not comport with the MACT floor emissions limitation).

However, whether or not it is a change from the MACT floor is not relevant. Pursuant to CAA section 112(d)(6), the EPA must revise MACT standards ‘‘as necessary’’ considering developments in practices, processes and control technologies. For this exercise, we considered any of the following to be a ''development'':

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards.
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original MACT standards) that could result in additional emissions reduction.
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards.
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original MACT standards.
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards).

In determining whether there are ''developments,'' we review, among other things, EPA regulations promulgated after adoption of the MACT, such as the NSPS we identified in this instance. We identified the enhanced monitoring requirements for these operating limits as a development in practices that will help ensure FCCU owners or operators are properly operating control devices and, thus, are meeting the PM emission limit at all times. We further determined that this enhanced monitoring was cost effective and proposed that it was necessary to revise the existing standard pursuant to CAA section 112(d)(6).

While we do not have continuous PM emissions data that show actual deviations of the PM limit, we do not need such data in order to conclude that such deviations could occur when daily averages are used. The Refinery MACT 2 (*i.e.*, subpart UUU) rule requires owners or operators to establish operating limits based on three 1-hour runs during the performance test. As a matter of simple mathematics, a source could demonstrate that it is meeting the operating limit based on a 24-hour average but could be exceeding the 1.0 lb PM/1,000 lbs coke burn-off emission limit based on a 24-hour average or for one or more individual 3-hour periods during that 24-hour average. For example, an owner or operator could operate with a power input 5-percent higher than the operating limit for 23 hours, have the ESP off (zero power) for one hour, and still comply with a 24-hour average operating limit. However, it would be difficult for this same unit to meet the 1.0 lb PM/1,000 lbs coke burn-off emissions limit over a 24-hour period, and it certainly would not meet the limit for every 3-hour period during that day. As the operating limit can be established to correspond with 1.0 lb PM/1,000 lbs coke burn-off, the 5-percent higher power input would likely correspond with a 0.95 lb PM/1,000 lbs coke burn-off emissions rate (5-percent lower). Uncontrolled emissions are typically 6 to 8 lbs/1,000 lbs coke burn-off. Thus, this unit would have emissions averaging approximately 1.2 lbs PM/1,000 lbs coke burn-off during this 24-hour period [*i.e.*, (0.95*23+7)/24], but would be in compliance with the 24-hour average operating limit. The unit would obviously also be out of compliance with the 3-hour average over the period when the power was turned off. We also have concerns that the operating limits are not always linear with the emissions, so that the longer averaging times do not effectively ensure compliance with the PM emissions limit. Therefore, as proposed, we are finalizing the requirement for owners or operators to comply with the operating limits on a 3-hour basis, rather than the 24-hour basis currently in the rule.

Comment: The technology review for FCCUs resulted in the EPA proposing to remove the 30-percent opacity alternative limit for demonstrating compliance with the PM emissions limit that is available for refineries complying with the Refinery NSPS 40 CFR part 63, subpart J. Two commenters supported the EPA's proposed removal of the 30-percent opacity limit for FCCUs. Other commenters stated that current technology is good enough for a 10- or 20-percent opacity limit. On the other hand, several commenters stated that the proposed removal of the 30-percent opacity limit must meet the criteria specified in CAA section 112(d)(6) and (f)(2), which requires analysis of the statutory basis, environmental impacts, costs, operational and compliance feasibility and impacts, that the EPA has not conducted. The commenters claimed that had the EPA conducted a proper analysis, the EPA would have determined that the proposed change to remove the 30-percent opacity limit is not necessary or supportable. Additionally, these commenters stated that since the underlying PM emissions limit is unchanged, there is no emission reduction justification for this proposed change, and the change would not meet the CAA section 112(d)(6) requirement of being cost effective. The commenters also noted that processes or practices for existing FCCUs have not changed, as required for a CAA section 112(d)(6) revision.

Several commenters urged the EPA to maintain the 30-percent opacity limit for these FCCUs. As a practicable and cost-effective alternative to address the EPA's concern as to whether compliance with a 30-percent opacity limit ensures compliance with the PM emissions limit, commenters suggested annual performance tests to confirm that the FCCU is meeting the PM emissions limit, rather than performance tests every 5 years, as proposed.

One commenter stated that the EPA never intended for the opacity limit in Refinery NSPS subpart J to be used to demonstrate compliance with the PM emissions limit, but instead to assure the PM controls operate properly. The commenter stated that the EPA's conclusion that the 30-percent opacity limit may not be sufficiently stringent to ensure compliance with the underlying PM emissions limit is based on a false premise as to the purpose of the opacity standard because as the EPA states, ''Opacity of emissions is indicative of whether control equipment is properly maintained and operated.''

Several commenters stated that the proposed elimination of the 30-percent opacity limit currently in Refinery MACT 2 leaves existing FCCUs that use cyclones with no viable alternative approach to demonstrate compliance with the PM emissions limit without adding or replacing controls. They stated the other approaches for demonstrating compliance with the PM emissions limit in Refinery MACT 2 (such as development of a site-specific opacity limit) do not work for them. The commenters stated that although they believe that more frequent performance tests would show that the FCCUs are in fact meeting the PM emissions limit, the absence of the 30-percent opacity limit would force FCCUs using cyclones for PM control to install additional, costly PM controls (*e.g.,* ESPs or wet gas scrubbers). They projected that these additional controls would cost tens of millions of dollars per FCCU and would require at least 3 years of compliance time. Additionally, one commenter stated that even FCCUs with additional downstream PM controls would not be able to achieve a site-specific limit at all times and needed the availability of the alternative 30-percent opacity limit. One commenter estimated that installing an ESP to meet the proposed 10-percent opacity limit would cost approximately $121,000/ton, assuming a 32 tpy PM emission reduction. The commenter noted that the ESP would also increase GHG emissions and require more energy resources from the facility. The commenter concluded that installing an ESP is neither cost effective nor appropriate considering non-air quality environmental and health impacts and energy requirements, and recommended that the EPA maintain the current NSPS subpart J alternative limits and add additional alternative limits into Refinery MACT 2 only as optional limits for demonstrating compliance with the PM emissions limit.

Response: In promulgating Refinery MACT 2, the EPA identified the 1.0 lb PM/1,000 lbs coke burn-off limit as the MACT floor but allowed a compliance option for FCCUs subject to Refinery NSPS subpart J to comply with an opacity limit up to 30 percent with one 6-minute allowance to exceed the 30-percent opacity in any 1-hour period. As stated in the proposal, compliance studies have shown that the 30-percent opacity limit does not correlate well with the 1.0 lb PM/1,000 lbs coke burn-off limit, and that an FCCU can comply with the 30-percent opacity limit while its emissions exceed the PM emissions limit.[9] Regardless of whether the 30-percent opacity limit in Refinery NSPS subpart J was designed to ''ensure that the control device was operated properly,'' Refinery MACT 2 allows sources subject to NSPS subpart J to use the 30-percent opacity limit to demonstrate continuous compliance with the PM emissions limit. We have determined that the 30-percent opacity limit is inadequate for the purpose of demonstrating continuous compliance with the PM emissions limits in Refinery MACT 2. As such, we proposed to remove this opacity limit and require the owner or operator to either demonstrate compliance with the PM emissions limit by continuously monitoring the control device parameters established during the performance test or establish and monitor a site-specific opacity limit. For clarity, we note that we proposed to allow a site-specific opacity limit, not a 10-percent opacity limit as some commenters suggest. The site-specific opacity limit can be significantly higher than 10 percent, but it cannot be lower than 10 percent.

While the compliance study indicates that a 30-percent opacity limit does not correlate well with a 1.0 lb PM/1,000 lbs coke burn-off emissions limit, further review of this same study indicates that a 20-percent opacity limit provides a reasonable correlation with units meeting the 1.0 lb PM/1,000 lbs coke burn-off emissions limit. We also reviewed the data submitted by the commenters regarding PM emissions and opacity correlation. While the data suggest that there is variability and uncertainty in the PM/opacity correlation, the data do not support that a 30-percent opacity limit would ensure compliance even when considering the uncertainty associated with the PM/opacity correlation. Based on the variability of the 3-run average opacity limits, we determined that, if the 3-hour average opacity exceeded 20-percent, then it was highly likely (98 to 99-percent confidence) that the FCCU emissions from the unit tested would exceed the PM emissions limit.

After considering the public comments, reviewing the data submitted with those comments, and further review of the compliance study, in this final rule we are adding a 20-percent opacity limit, evaluated on a 3-hour average basis for units subject to NSPS subpart J. As we noted above, a 20-percent opacity limit provides a reasonable correlation with the PM emissions limit, and an exceedance of this 20-percent opacity limit will provide evidence that the PM emissions limit is exceeded. However, it is possible that units could still exceed the PM emissions limit while complying with the 20-percent opacity limit, if those units operate close to the 1 lb PM/1,000 lbs coke burn-off emissions limit. To address this concern, we considered the commenters' suggestion to require a performance test annually rather than once every 5 years. Some commenters suggested that this option specifically apply to FCCUs with cyclones, but this option is applicable to any control system operating very near the PM emissions limit and using an opacity limit to demonstrate continuous compliance. We have determined that the Refinery NSPS subpart J compliance procedures in Refinery MACT 2, in combination with a 20-percent opacity limit demonstrated on a 3-hour average basis and with annual performance tests when a test indicates PM emissions are greater than 80-percent of the limit (*i.e.,* 0.80 lb PM/1,000 lbs coke burn-off), will ensure continuous compliance with the PM emissions limit. FCCUs with measured PM emissions during the performance test at or below 0.80 lb PM/1000 lbs of coke burn-off will remain subject to the requirement to conduct performance tests once every 5 years, consistent with the requirements we proposed.

We do not agree with commenters that the proposed opacity revision would add significant cost or compliance burden. The control device-specific monitoring parameters that were proposed rely on parameters commonly used to control the operation of the control device, so the monitoring systems should be already available. Further, since we are merely changing the opacity limit, we expect these units will already have opacity monitoring systems needed to demonstrate compliance with the PM emissions limit and would not incur costs for new equipment.

Comment: Several commenters stated that they agree with the EPA's determination in the proposal that the current CO limits provide adequate control of HCN. Two commenters stated that there are limited HCN emissions data and that more data are needed before the Agency can appropriately determine whether an HCN standard is necessary and justified. One commenter noted that the process undertaken by the EPA to estimate HCN emissions was flawed, and likely overestimates HCN emissions significantly. Another commenter stated that they performed HCN stack testing at three refineries and subsequent modeling at two refineries and concluded that the ambient HCN emissions were well below the applicable health limits.

In contrast, some commenters expressed concerns about high HCN levels. One commenter stated that the EPA should consider re-evaluating the benefit of low NO_X emissions from the FCCU, if that is indeed the cause of higher HCN emissions, because exposing people to HCN is not acceptable. The commenter also noted that the community now also has the increased dangers of storing and transporting aqueous ammonia, which is used in some cases to achieve low NO_X emissions from the FCCU.

One commenter stated that the EPA must set stronger HCN standards on FCCU emissions because of the high release amounts reported, the fact that non-cancer risk is driven by emissions of HCN from FCCU, and the fact that the EPA has never set standards for HCN emissions. The commenter provided a report that they believe shows that the EPA has not shown that CO is a reasonable or lawful surrogate to control HCN and has not shown that the conditions necessary for a surrogate are met with regard to CO and HCN, which is an inorganic nonmetallic HAP. Further, the report indicates that SCR is a reasonable and cost effective method for controlling HCN and that the EPA failed to review and consider other viable methods to control HCN and must do so to satisfy its legal obligations in this rulemaking.

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[9] Compliance Investigations and Enforcement of Existing Air Emission Regulations at Region 5 Petroleum Refineries. U.S. Environmental Protection Agency, Region 5—Air and Radiation, Chicago, Illinois. March 9, 1998.

Response: At the time we promulgated the MACT, we determined that the control strategy used by the best performing facilities to reduce organic HAP emissions was the use of complete combustion, which occurs when the CO concentration is reduced to 500 ppmv (see the proposal for Refinery MACT 2 at 63 FR 48899, September 11, 1998). We rejected arguments that some facilities operate at CO levels well below 500 ppmv and, thus, the MACT floor should be set at a lower CO concentration because once CO concentrations reached 500 ppmv, there was no longer a correlation between reduced CO concentrations and reduced HAP concentrations. And, in fact, emissions of certain HAP, such as formaldehyde, tended to increase as CO concentrations were reduced below 500 ppmv.[10]

In the current rulemaking action, we determined at the time of the proposed rule that this also holds true for HCN emissions. That is, once CO emissions are reduced to below 500 ppmv (*i.e.,* complete combustion is achieved), we no longer see a direct correlation between CO concentrations and HCN emissions.

All of the HCN emissions data we have were reported from units operating at or below the 500 ppmv CO limit (*i.e.,* in the complete combustion range), so it is not surprising that there is not a strong correlation between CO and HCN from the FCCU ICR source test data. However, catalyst vendor data and combustion kinetic theory support the fact that, in the partial burn mode (with CO concentrations of 2 to 6-percent, which is 20,000 to 60,000 ppmv), HCN concentrations exiting the FCCU regenerator are much greater than for units using complete combustion FCCU regenerators or the concentration exiting a post-combustion device used in conjunction with a partial burn FCCU regenerator. Therefore, we maintain that complete combustion is the primary control needed to achieve controlled levels of HCN emissions.

We initially thought the higher levels of HCN emissions that were reported by sources achieving complete combustion might be due to a switch away from platinum-based combustion promoters to palladium-based combustion promoters. However, many of the units that were tested and that had some of the lowest HCN emissions used palladium-based oxygen promoters. Therefore, it appears unlikely that palladium-based catalyst promoters are linked to the higher HCN emissions. We also evaluated one commenter's argument that CO is not a good surrogate for HCN emissions, but that SCR are a reasonable and cost-effective control strategy. We are not aware of any data that suggest that an SCR removes HCN and the commenter did not provide any support for that premise. At proposal, we evaluated HCN control on units using extra oxygen or converting back to platinum-based promoters to oxidize any HCN formed. This would cause more NO_X formation, which would then require post-combustion NO_X control, such as an SCR. However, if HCN emissions are not a function of CO concentration beyond that required to achieve complete combustion (as noted by the commenter), then more aggressive combustion conditions and the use of an SCR (to remove the NO_X formed) may not be a viable control strategy. Therefore, considering all of the data currently available and the comments received regarding HCN emissions and controls, we maintain that the only proven control technique is the use of complete combustion as defined by a CO level of 500 ppmv or less. We are not establishing a more stringent CO level because, once complete combustion is achieved, (*i.e.,* CO concentrations drop below 500 ppmv), no further reduction in HCN emissions are achieved.

For the purposes of Refinery MACT 2, we consider the emission limits and operating requirements for organic HAP in Tables 8 through 14 to subpart UUU of part 63 adequate to also limit HCN emissions.

Finally, we understand concerns about the reported HCN emissions being higher than anticipated and the need for more data to better determine HCN emissions levels. To address these concerns, we are finalizing a requirement that facility owners or operators conduct a performance test for HCN from all FCCU at the same time they conduct the first PM performance test on the FCCU following promulgation of this rule. Facility owners or operators that conducted a performance test for HCN from a FCCU in response to the refinery ICR or subsequent to the 2011 Petroleum Refinery ICR following appropriate methods are not required to retest that FCCU.

4. What is the rationale for our final approach for the technology review?

a. Refinery MACT 1

We did not receive substantive comments concerning our proposal that it was not necessary to revise Refinery MACT 1 requirements for MPV, gasoline loading racks and cooling towers/heat exchange systems. Based on the rationale provided in the preamble to the proposed rule, we are taking final action concluding that it is not necessary pursuant to CAA section 112(d)(6) to revise the MACT requirements for MPV, gasoline loading racks and cooling towers/heat exchange systems emission sources at refineries.

We proposed that the options for additional wastewater controls are not cost effective and thus it was not necessary to revise the MACT for these emission sources. We received public comments suggesting that emissions from wastewater systems are higher than modeled and that we should develop additional technology standards for wastewater treatment systems regardless of cost. As we discussed in the proposal, emissions from wastewater are difficult to measure and emission estimates rely on process data and empirical correlations, which introduces uncertainty into the estimates. Although we do not have evidence, based on the process data we collected, that emissions are higher than modeled at proposal, we note that the fenceline monitoring program effectively ensures that wastewater emissions are not significantly greater than those included in the emissions inventory and modeled in the risk assessment. Furthermore, we believe that cost is a valid consideration in determining whether it is necessary within the meaning of section 112(d)(6) to revise requirements and that we are not required to establish additional controls regardless of cost. Consequently, we conclude that it is not necessary to revise the Refinery MACT 1 requirements for wastewater systems pursuant to CAA section 112(d)(6).

For storage vessels, we identified a number of options, including requiring tank fitting controls for external and internal floating roof tanks, controlling smaller tanks with lower vapor pressures and requiring additional monitoring to prevent roof landings, liquid level overfills and to identify leaking vents as developments in practices, processes and control technology. We proposed to cross-reference the storage vessel requirements in the Generic MACT (effectively requiring additional control for tank roof fittings) and to revise the

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[10] U.S. EPA, 2001. Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units—Background Information for Promulgated Standards and Response to Comments. Final Report.EPA–453/R–01–011. June. p. 1–19.

definition of Group 1 storage vessels to include smaller tanks with lower vapor pressures. We received comments that we could have required additional controls on tanks and monitoring for landings, overfills and leaking vents described above. We also received comments related to clarifications of specific rule references and overlap provisions. We addressed these comments in the ''Response to Comments'' document, and we maintain that the additional control options described by the commenters (tank roof landing/degassing requirements or use of geodesic domes to retrofit external floating roofs) are not cost-effective. Consequently, based on the rationale provided in the preamble to the proposed rule and our consideration of public comments, we are finalizing the requirements as proposed with minor clarifications of the rule references. However, as with wastewater systems, we note that the fenceline monitoring program will ensure that the owner or operator is effectively managing fugitive emissions sources and should detect landings, overfills, and leaking vents.

For equipment leaks, we identified specific developments in practices, processes and control technologies that included requiring repair of leaking components at lower leak definitions, requiring monitoring of connectors, and allowing the use of the optical imaging camera as an alternative method of monitoring for leaks. We proposed to establish an alternative method for refineries to meet LDAR requirements in Refinery MACT 1. This alternative would allow refineries to monitor for leaks via optical gas imaging in place of EPA Method 21, using monitoring requirements to be specified in a not yet proposed appendix K to 40 CFR part 60. However, the development of appendix K is taking longer than anticipated. Therefore, we are not finalizing this alternative monitoring method in Refinery MACT 1.

We received comments suggesting that additional requirements be imposed to further reduce emissions from leaking equipment components, such as requiring ''leakless'' equipment, reducing the leak threshold, and eliminating delay of repair provisions. As provided in the ''Response to Comments'' document, we do not agree that these additional requirements are cost-effective. Based on the rationale provided in the preamble to the proposed rule and our consideration of public comments, we conclude that it is not necessary to revise the Refinery MACT 1 requirements for equipment leaks. Again, however, the fenceline monitoring program is intended to ensure that large leaks from fugitive emissions sources, including equipment leaks, are more quickly identified and repaired, thereby helping to reduce emissions from leaking equipment components.

For marine vessel loading, we identified control of marine vessel loading operations with HAP emissions of less than 10/25 tpy and the use of lean oil absorption systems as developments that we considered in the technology review. We proposed to amend 40 CFR part 63, subpart Y to require small marine vessel loading operations (*i.e.,* operations with HAP emissions less than 10/25 tpy) and offshore marine vessel loading operations to use submerged filling based on the cargo filling line requirements in 46 CFR 153.282. We received comments that other options considered during the technology review of the standard were cost-effective for small marine vessel loading operations and should be required. As provided in the ''Response to Comments,'' we continue to believe those other controls are not cost-effective because of the high costs of controls for limited additional organic HAP emission reduction. Therefore, we are finalizing these amendments as proposed.

Finally, we proposed that it was necessary to revise the MACT to require fenceline monitoring as a means to manage fugitive emissions from the entire petroleum refinery, which includes sources such as wastewater collection and treatment operations, equipment leaks and storage vessels. We received numerous comments regarding the proposed requirement to conduct fenceline monitoring, many of which we address above and the remainder of which we respond to in the ''Response to Comments'' document. After considering comments, we maintain that the proposed work practice standard is authorized under section 112 of the CAA and will improve fugitive management at the refinery. Therefore, we are finalizing the key components of fenceline monitoring work practice as proposed. These requirements include the use of passive diffusive tube samplers (although we are providing a mechanism to request approval for alternative monitoring systems provided certain criteria are met), the 9 $\mu g/m^3$ on a rolling annual average basis action level, and the need to perform corrective action to comply with the action level.

Based on public comments received, we are making numerous revisions to clarify the fenceline monitor siting requirements. This includes provisions to allow siting of monitors within the property boundary as long as all emissions sources at the refinery are included within the monitoring perimeter. We are also clarifying that we do not consider public roads or public waterways that bisect a refinery to be property boundaries, and owners or operators do not need to place monitors along the internal public right-of-ways. We are also providing provisions to allow fixed placement of monitors at 500 feet intervals (with a minimum of 3 monitors) for subareas or segregated areas. If an emissions source is near the monitoring perimeter, an additional monitor siting requirement would still apply. The 500 feet provision is provided to reduce burden for facilities with irregular shapes or noncontiguous property areas that we did not fully consider at proposal.

We also received comments on the compliance time and reporting requirements associated with the fenceline monitoring provisions. Upon consideration of public comments, we have revised the compliance period to 2 years after the effective date of the final rule. Thus, beginning no later than 2 years after the effective date of the rule, the source must have a fenceline monitoring system that is collecting samples such that the first rolling annual average ΔC value would be completed no later than 3 years after the effective date of the final rule. Facilities will have 45 days after the completion of the first year of sampling, as proposed, to submit the initial data set. We are reducing the proposed compliance period from 3 years to 2 years because the passive diffusive tube monitors are easy to deploy and pilot study demonstrations indicate that significant time is not needed to deploy the monitors. However, the reduced compliance period still provides time to resolve site-specific monitor placement issues and to provide time to develop and implement a site-specific monitoring plan, if needed. We are increasing the fenceline monitoring reporting frequency (after the first year of data collection) from semiannually to quarterly to provide more timely dissemination of the data collected via this monitoring program.

b. Refinery MACT 2

We proposed to revise Refinery MACT 2 to incorporate the developments in monitoring practices and control technologies reflected in the Refinery NSPS subpart Ja limits and monitoring provisions (73 FR 35838, June 24, 2008). We are finalizing most of these provisions as proposed. Specifically, we are incorporating the

Refinery NSPS subpart Ja PM limit for new FCCU sources. We are also finalizing compliance options for FCCU that are not subject to Refinery NSPS subpart J or Ja. These options would allow such sources to elect to comply with the Refinery NSPS subpart Ja monitoring provisions to demonstrate compliance with the emissions PM limit. We are revising the averaging period for the control device operating limits or site-specific opacity limits to be on a 3-hour average basis in order to more directly link the operating limit to the duration of the performance test runs, on which they are based, as proposed. We are incorporating additional control device-specific monitoring alternatives for various control devices on FCCU, including BLD monitoring as an option to COMS for owners or operators of FCCU using fabric filter-type control systems and total power and secondary current operating limits for owners or operators of ESPs. We are adding an additional requirement to perform daily checks of the air or water pressure to atomizing spray nozzles for owners or operators of FCCU wet gas scrubbers not subject to the pressure drop operating limit, as proposed. Finally, we finalizing requirements to conduct a performance test at least once every 5 years for all FCCU, as proposed. These requirements are being finalized to ensure that control devices are continuously operated in a manner similar to the operating conditions of the performance test and to ensure that the emissions limits, which are assessed based on the results of three 1-hour test runs, are achieved at all times.

We also proposed to eliminate the Refinery NSPS subpart J compliance option that allows refineries to meet the 30-percent opacity emissions limit requirement and revise the MACT to include control device operating limits or site-specific opacity limits identical to those required in Refinery NSPS subpart Ja. We received numerous comments, particularly from owners or operators of FCCU that employ tertiary cyclones to control FCCU PM emissions. According to the commenters, opacity is not a direct indicator of PM emissions because finer particles will increase opacity readings without a corresponding mass increase in PM emissions. Additionally, the commenters stated that the site-specific opacity limit generally leads to a site-specific operating limit of 10-percent opacity, which is too stringent and does not adequately account for variability between PM emissions and opacity readings. According to the commenters, FCCU with tertiary cyclones would need to be retrofitted with expensive and costly controls in order to meet the 10-percent opacity limit, even though they are meeting the 1 lb/1000 lbs coke burn PM emissions limit. It was not our intent to require units to retrofit their controls simply to meet the site-specific opacity limit. However, the existing 30-percent opacity limit in the subpart J compliance option is not adequate to ensure compliance with the PM emissions limit at all times. After reviewing the public comments and available data, we determined that, rather than removing the subpart J compliance option altogether, it is sufficient to add an opacity operating limit of 20-percent opacity determined on a 3-hour average basis to the existing subpart J compliance option and to require units complying with this operating limit to conduct annual performance tests (rather than one every 5 years) when the PM emissions measured during the source test are greater than 0.80 lb PM/1,000 lbs coke burn-off. These provisions improve assurance that these units are, in fact, achieving the required PM emissions limitation without requiring units to retrofit controls due to variability in the correlation of PM emissions and opacity.

We did not propose to revise the organic HAP emissions limits for FCCU to further address HCN emissions. We received numerous comments on this issue. We continue to believe that complete combustion is the appropriate control needed to control HCN emissions. Consequently, for the purposes of Refinery MACT 2, we are not changing the MACT standards to further reduce emissions of HCN. However, we understand that there are uncertainties and high variability in HCN emissions measured from FCCU. In order to address the need for more data to better characterize HCN emissions levels, we are finalizing a requirement for refinery owners or operators to conduct a performance test for HCN from all FCCU (except those units that were tested previously using acceptable methods as outlined in the 2011 Refinery ICR) during the first PM test required as part of the on-going compliance requirements for FCCU metal HAP emissions. These data will be useful to the EPA in understanding HCN emissions from FCU and may help to inform future regulatory reviews for this source category.

We proposed that there have been no developments in practices, processes, and control technologies for CRU based on our technology review and that therefore it is not necessary to revise these standards. Based on the rationale provided in the preamble to the proposed rule and our consideration of public comments, we are finalizing our conclusion.

For SRU, we identified the Refinery NSPS subpart Ja allowance for oxygen-enriched air as a development in practice and we proposed that it was necessary to revise the MACT to allow SRU to comply with Refinery subpart Ja as a means of complying with Refinery MACT 2. The key issue identified by commenters was that Refinery NSPS subpart Ja includes a flow monitoring alternative for determining the average oxygen concentration in the enriched air stream and that this was not included in the proposed amendments to Refinery MACT 2. This was an oversight on our part. We are, based on the rationale provided in the preamble to the proposed rule and our consideration of public comments, finalizing the SRU revisions as proposed but with inclusion of the flow monitoring alternative provisions that are in Refinery NSPS subpart Ja for this source.

C. Refinery MACT Amendments Pursuant to CAA Section 112(d)(2) and (d)(3)

1. What did we propose pursuant to CAA section 112(d)(2) and (d)(3) for the Petroleum Refinery source categories?

We proposed the following revisions to the Refinery MACT 1 and 2 standards pursuant to CAA section 112(d)(2) and (3)[11]: (1) Adding MACT standards for DCU decoking operations; (2) revising the CRU purge vent pressure exemption; (3) adding operational requirements for flares used as APCD in Refinery MACT 1 and 2; and (4) adding requirements and clarifications for vent control bypasses in Refinery MACT 1.

For DCU, we proposed to require that prior to venting or draining, each coke drum must be depressured to a closed blowdown system until the coke drum vessel pressure is 2 psig or less. As proposed, the 2 psig limit would apply to each vessel opening/venting/draining event at new or existing affected DCU facilities.

For the CRU, we proposed to require that any emissions during the active

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[11] The EPA has authority under CAA section 112(d)(2) and (d)(3) to set MACT standards for previously unregulated emission points. EPA also retains the discretion to revise a MACT standard under the authority of section 112(d)(2) and (3), *see Portland Cement Ass'n* v. *EPA,* 665 F.3d 177, 189 (D.C. Cir. 2011), such as when it identifies an error in the original standard. See also *Medical Waste Institute* v. *EPA,* 645 F. 3d at 426 (upholding EPA action establishing MACT floors, based on post-compliance data, when originally-established floors were improperly established).

purging or depressuring of CRU vessels meet the applicable organic HAP emission limitations in Tables 15 and 16 to subpart UUU regardless of the vessel pressure.

For flares, we proposed to remove cross references to the General Provisions requirements for flares used as control devices at 40 CFR 63.11(b) and to incorporate enhanced flare operational requirements directly into the Refinery MACT rules. The proposed rule amendments included:

- A ban on flaring of halogenated vent streams.
- A requirement to operate with continuously lit pilot flames at all times and to equip the pilot system with an automated device to relight the pilot if it is extinguished.
- A requirement to operate with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours and to monitor for visible emissions daily.
- A requirement to operate with the flare tip velocity less than 60-feet-per-second or the velocity limit calculated by an equation provided in the proposed rule.
- A requirement to meet one of three combustion zone gas properties operating limits based on the net heating value, lower flammability limit, or combustion concentration. Owners or operators could elect to comply with any one of the three limits at any time. Two separate sets of operating limits were proposed: One for gas streams not meeting all three ''hydrogen-olefin interaction criteria'' specified in the rule and a more stringent set of limits for gas streams meeting all three hydrogen-olefin interaction criteria. The combustion zone net heating value considered steam assist rates but not ''perimeter air'' assist rates.
- For air-assisted flares, a requirement to meet an additional ''dilution parameter'' operating limit determined based on the combustion zone net heating values above, the diameter of the flare and the perimeter air assist rates.

The proposed amendments for flares also included detailed monitoring requirements to determine these operating parameters either through continuous parameter monitoring systems or grab sampling, detailed calculation instructions for determining these parameters on a 15-minute block average, and detailed recordkeeping and reporting requirements. We also proposed provisions to allow owners or operators to request alternative emissions limitations that would apply in place of the proposed operating limits.

We proposed to revise the definition of MPV to remove the current exclusion for in situ sampling systems (onstream analyzers). We also proposed to limit the exclusion for gaseous streams routed to a fuel gas system to apply only to those systems for which any flares receiving gas from the fuel gas system are in compliance with the proposed flare monitoring and operating limits. We note that we also proposed revisions related to monitoring of bypass lines, but these revisions were proposed to address concerns related to SSM releases and are described in further detail in section IV.D. of this preamble.

We proposed that emissions of HAP may not be discharged to the atmosphere from PRD in organic HAP service to address concerns related to SSM releases. To ensure compliance with this proposed amendment, we proposed to require that sources monitor PRD using a system that is capable of identifying and recording the time and duration of each pressure release and of notifying operators that a pressure release has occurred. This proposed requirement was addressed in section IV.A.4. of the preamble for the proposal.

2. How did the revisions pursuant to CAA section 112(d)(2) and (3) change since proposal?

We proposed identical standards for existing and new DCU decoking operations, but we are finalizing standards for new and existing sources that are not identical. We are finalizing provisions that will require owners or operators of existing DCU sources to comply with a 2 psig limit averaged over 60 cycles (*i.e.,* 60 venting events), rather than meet the 2 psig limit on a per venting event basis, as proposed. We are finalizing provisions that will require owners or operators of new DCU sources to comply with a 2.0 psig limit on a per event, not-to-exceed basis. We are adding one significant digit to the limit for new DCU affected sources because our re-review of permit requirements conducted in response to comments identified that the best performing DCU source is required to comply with a 2.0 psig limit on a per event basis. In response to comments regarding the proposed prohibition on draining prior to achieving the pressure limit, we are finalizing specific provisions for DCU with water overflow design and for double quenching.

For flares, we are not finalizing the ban that we proposed on halogenated vent streams and we are not finalizing the proposed requirement to equip the flare pilot system with an automated device to relight an extinguished pilot.

We are revising the MACT to include the proposed no visible emissions limit and the flare tip velocity limit as direct emissions limits only when the flare vent gas flow rate is below the smokeless capacity of the flare. Under the revised standard, when the flare is operating above the smokeless capacity, an exceedance of the no visible emission limit and/or flare tip velocity limit is not a violation of the standard but instead triggers a work practice standard. Flares operate above the smokeless capacity only when there is an emergency release event and thus the work practice standard is intended to address emissions during such emergency release events. (See section IV.D. of this preamble for more details regarding this work practice standard). We are also adding provisions that would allow sources to use video surveillance of the flare as an alternative to daily Method 22 visible emissions observations.

For flares, we are also simplifying the combustion zone gas property operating limits by finalizing a requirement only for the net heating value of the combustion zone gas. We are finalizing requirements that flares meet a minimum operating limit of 270 BTU/scf NHVcz on a 15-minute average, as proposed, and we are allowing refinery owners or operators to use a corrected heat content of 1212 BTU/scf for hydrogen to demonstrate compliance with this operating limit. We are not finalizing separate combustion zone operating limits for gases meeting the hydrogen-olefin interaction criteria that were proposed. We are also not finalizing the alternative combustion zone operating limits based on lower flammability limit or combustibles concentration.

We are finalizing ''dilution parameter'' requirements for air-assisted flares, but we are providing a limit only for the net heating value dilution parameter. Similar to the requirements we are finalizing for the combustion zone parameters, we are finalizing requirements that flares meet a minimum operating limit of 22 BTU/ft^2 NHV$_{dil}$ on a 15-minute average, as proposed, and we are allowing refinery owners or operators to use a corrected heat content of 1,212 BTU/scf for hydrogen to demonstrate compliance with this operating limit. We are not finalizing separate dilution parameter operating limits for gases meeting the hydrogen-olefin interaction criteria that were proposed. We are also not finalizing the alternative dilution parameter operating limits based on lower flammability limit or combustibles concentration.

We are providing an alternative to use initial sampling period and process knowledge for flares in dedicated service as an alternative to continuous or on-going grab sample requirements for determining waste gas net heat content.

We are finalizing revisions to the definition of MPV, as proposed.

We are establishing work practice standards that apply to PRD releases in place of the proposed prohibition on PRD releases to the atmosphere. The work practice standards that we are finalizing for PRD require refiners to establish proactive, preventative measures for each PRD to identify and correct direct releases of HAP to the atmosphere as a result of pressure release events. Over time, these proactive measures will reduce the occurrence of releases and the magnitude of releases when they occur, while avoiding the environmental disbenefits of having additional flare capacity on standby to control these unpredictable and infrequent events. Refinery owners or operators will be required to perform a root cause analysis/corrective action following such pressure release events. In addition, a second release event in a 3-year period from the same PRD with the same root cause on the same equipment is a deviation of the work practice standard. A third release event in a 3-year period from the same PRD is a deviation of the work practice standard regardless of the root cause. PRD release events related to force majeure events are not considered in these hard limits.

3. What key comments did we receive on the proposed revisions pursuant to CAA section 112(d)(2) and (3) and what are our responses?

i. DCU

Comment: Several commenters argued that the EPA incorrectly set the MACT floor emission limitation for DCU. Commenters noted that CAA section 112(d)(3)(A) states that the MACT limit for existing sources ‘‘shall not be less stringent, and may be more stringent than the average emission limitation achieved by the best performing 12-percent of the existing sources’’ excluding those first achieving that level within 18 months prior to proposal or 30 months prior to promulgation, whichever is later. According to the commenters, the EPA failed to follow this procedure in setting the 2 psig vent limit as a MACT floor because the EPA incorrectly considered permit limits and other non-performance based criteria instead of basing the MACT floor on the actual performance of sources. Commenters stated that the EPA improperly considered permit limits that should have been excluded from consideration, as well as considering permit limits for closed facilities instead of using more accurate data from operating DCUs at sources that submitted actual emissions data. Specifically, commenters stated that the DCU at the non-operational plant (Hovensa) should not be included. One commenter noted that they operate one of the South Coast DCU listed as subject to a 2 psig limit and asserted that it does not currently meet that emission limitation. The commenter claimed that significant capital investment would be required in order for the DCU to comply with the 2 psig limit. According to one commenter, data for six of the eight DCU they claim the EPA considered for the MACT floor should not be counted in determining the limit that represents the average emission limitation actually achieved 18 months prior to the proposal.

Response: CAA section 112(d)(3)(A) states that the existing source standard shall not be less stringent than the average emission limitation achieved by the best performing 12-percent of the existing sources (for which the Administrator has emissions information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined by section 171) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources. We consider a 2 psig emissions limitation to be equivalent to the lowest achievable emission rate (LAER) emission limits. Thus, we agree with the commenter that sources that first meet the 2 psig limit on or after December 30, 2012, should be excluded from the MACT floor analysis. We also agree that under CAA section 112(d)(3)(A), the MACT floor analysis focuses on those sources that are achieving the emission limit (*i.e.,* the emission limitation ‘‘achieved by . . . ’’). The EPA has previously determined that the 6th-percentile unit is a reasonable estimate of the average emission limitation achieved by the best performing 12-percent of sources especially when averaging across units with and without control requirements. As noted in our DCU MACT floor analysis memorandum (Docket ID No. EPA–HQ–OAR–2010–0682–0203), the 6th-percentile is represented by the fifth-best performing DCU. If we exclude the two South Coast refineries and the two Marathon Garyville DCU because these sources were not implementing the 2 psig permit limit prior to December 30, 2012, the fifth-best performing DCU would be represented by the Bay Area refineries (4.6 psig). However, based on the 2011 Petroleum Refinery ICR responses, 25 out of 75 (33-percent) DCU have a ‘‘typical coke drum pressure when first vented to the atmosphere’’ of 2 psig or less and 10 out of 75 (13-percent) DCU have a ‘‘typical coke drum pressure when first vented to the atmosphere’’ of 1 psig or less. While we acknowledge that these data represent ‘‘typical’’ operations and not necessarily a never-to-be-exceeded emissions limitation, we conclude that this information is sufficient for us to conclude that the average emission limitation achieved by the best performing 12-percent of sources is consistent with a 2 psig emissions limitation. This is because facility owners or operators commonly target to operate at approximately half the allowable emissions limit to ensure that they can comply with the emissions limit at all times. Therefore, we maintain that an average venting pressure of 2 psig is the MACT floor level for decoking operation at existing sources based on the ICR responses and considering the average performance expected.

Comment: Four commenters suggested that the 2 psig limit, if finalized, should be based on a rolling 30-day average per DCU rather than a never to be exceeded ‘‘instantaneous’’ standard. According to the commenters, an instantaneous standard is unnecessary to address HAPs with chronic health impacts and adds cost and compliance challenges. According to the commenters, chronic health impacts are not materially affected by short-term variability, but instead depend on the average concentration of exposure over a 70-year lifetime; therefore, there is no health based or environmental reason for requiring an instantaneous limit. The commenters noted that there would be additional capital costs to comply with a 2 psig not-to-be-exceeded limit compared to a 30-day average 2 psig limit vent pressure. One commenter specifically requested that the EPA also confirm that a pressure of 2.4 psig is compliant with the 2 psig limit vent pressure. Another commenter also requested clarification that the vent pressure can be rounded to one significant figure when determining compliance.

Response: For new sources, the MACT floor emission limit for DCU is based on the best-performing source. Based on this and other comments received, we again reviewed existing permit conditions. Based on this review, we found that one of the permit requirements specified the pressure limit as 2.0 psig for each coke drum venting event. Therefore, we are finalizing the new source MACT floor as 2.0 psig on a per coke drum venting event basis.

As discussed in response to the previous comment, we are basing the MACT floor for existing source DCU on responses we received from the 2011 Petroleum Refinery ICR. Because the ICR requested the ''typical coke drum pressure when first vented to the atmosphere,'' we do not consider the information provided in ICR responses to reflect a ''never-to-be-exceeded'' limit. Therefore, we evaluated whether it is reasonable to allow averaging, and if so, what averaging period should be provided.

Health risks are not considered in establishing MACT requirements, so we do not consider the argument that chronic effects are evaluated over a 70-year period to be relevant to a determination of the MACT floor. However, a primary consideration regarding averaging periods is how the averaging period was considered in setting the floor and whether the intended reductions will occur under a different averaging period. According to the heat balance method for estimating DCU emissions, DCU decoking operations emissions are directly proportional to the average bed temperature. While the relationship is not exactly linear, the average bed temperature is expected to be a function of the venting pressure. Moreover, the shape of the pressure-temperature correlation curve is such that the emissions at 6 psig are almost exactly but not quite three times the emissions at 2 psig. Given the expected linearity of the emissions with venting pressures, we are not concerned with an occasional venting event above 2 psig because the average emissions from a facility meeting an average 2 psig pressure limit would be identical to the emissions achieved by a facility that vented each time at 2 psig. That is, given the expected linearity in the projected DCU emissions to the venting pressure, we conclude that it is reasonable to allow averaging across events and that the precise averaging period is not a critical concern.

Most industry commenters requested a 30-day average. However, different facilities have different numbers of DCU, different numbers of drums per DCU and different cycle times. Consequently, basing the averaging period across a given time period would result in significantly different number of venting events included in a 30-day average for different facilities and generally provide more flexibility to larger refineries and less flexibility to smaller refineries. Based on the ICR responses, almost half of all DCU operate with two drums and about 90-percent of DCU have two to four coke drums; however, a few DCU have six or even eight drums. Also, based on the ICR responses, the average complete coke drum cycle time is 32 hours, but can be as short as 18 hours and as long as 48 hours. Reviewing the ICR responses, we found that a 30-day average would include 30 events for some facilities and more than 250 events at other facilities.

Since the existing source MACT standards apply ''in combination'' to ''all releases associated with decoking operations'' at a given facility, we determined that it was reasonable to consider an averaging period that applies to the number of venting events from all coke drums at the facility rather than to all coke drums for a specific DCU for a specified period of time. This provides a more consistent basis for the averaging period and allows the same operational flexibility for small refineries as large refineries. Based on the ICR responses, the median (typical) DCU has 60 venting events in a 30-day period. Providing an averaging period of 60 venting events provides a more consistent averaging basis for all facilities, regardless of the number of DCU at the facility and the number of drums and cycle times for different DCU. Additionally, it eliminates issues with respect to how to handle operating days versus non-operating days, *e.g.,* in the event of a turn-around resulting in a limited number of venting events in a 30-calendar day period. Therefore, we are establishing a 2 psig limit based on a 60-event average considering all coke drum venting events at an existing source and we are finalizing a 2.0 psig limit on a per coke drum venting event for DCU at new sources.

We have consistently maintained our policy to round to the last digit provided in the emission limit, a pressure of 2.4 psig would round to 2 psig and would be compliant with a requirement to depressure each coke drum to a closed blowdown system until the coke drum vessel pressure is 2 psig or less, but it would not be compliant with the revised new source provision to depressure until the coke drum vessel pressure is 2.0 psig or less. A coke drum pressure of 2.04, however, would be compliant with the revised new source requirement pressure limit of 2.0 psig.

ii. Refinery Flares

Comment: Several commenters suggested that the proposed flare operating limits were too complex. The commenters recommended that the EPA eliminate the dual flare combustion zone heat content limits related to the proposed hydrogen-olefin interaction criteria and instead finalize a single combustion zone net heating value of approximately 200 BTU/scf, which would minimize the unnecessary burning of supplemental gas but still ensure good combustion efficiency.

A few commenters suggested that the EPA based the proposed combustion zone limits on an invalid data analysis, that the 1 minute PFTIR data should not be used to establish combustion efficiency correlations, and that the emission limits should be set so as to provide an equal chance of false positives and negatives. A few commenters suggested that the EPA should assign hydrogen a heating value of 1,212 BTU/scf to more accurately reflect its flammability in a NHV basis and that doing so is consistent with some recent flare consent decrees and would help reduce natural gas supplementation for facilities complying only with the NHVcz metric.

Several commenters suggested that neither scientific literature nor the available flare test data support the EPA's claim of an adverse hydrogen-olefin interaction on combustion efficiency and that the EPA should not finalize the more restrictive combustion zone operating limits for all flare types. These commenters suggested that the EPA did not provide any evidence the assumed hydrogen-olefin effect actually exists; that statistical analysis demonstrates the EPA developed their limit based on random differences in data; that the PFTIR data analysis method of using the individual minute-by-minute data instead of the test average data is flawed and leads to invalid conclusions; and that proper analysis of the data demonstrates the more stringent operating limits for hydrogen-olefin conditions cannot be supported.

Some commenters suggested that there is evidence to support more stringent flare combustion zone limits for a narrowly defined high concentration propylene-only condition as outlined in some of the recent flare consent decrees but that the flare test data do not support more stringent operating limits for the proposed hydrogen-olefins criteria by the EPA. Additionally, one commenter suggested that if the EPA decides to proceed with the more restrictive combustion zone limits for the hydrogen-olefins interaction cases then the final rule should not expand beyond an interaction between hydrogen and propylene.

Several commenters suggested that the proposed 15-minute feed forward averaging time for flares (*e.g.,* combustion zone parameters, air-assist dilution parameters and associated flow rates) is arbitrary, unrealistic and unworkable and that the feed forward compliance determination should not be finalized and, if it is finalized, the averaging time should be extended to 1-hour, 3-hour, or 24-hour. To support these suggested averaging periods, commenters claimed that typical standards for combustion devices are averaged over these suggested timeframes, noting as an example, recent refinery flare consent decrees that contain a 3-hour average. The commenters also asserted that both a GC and calorimeter will be needed to obtain data rapidly enough to try and maintain a 15-minute average; that the feed forward approach requires calculation artifices to attempt to correct for the fact that compliance cannot be determined until the averaging period is over; and that a longer averaging time is needed for instrument and control response time.

Response: In addressing these comments, we further analyzed the flare emissions test data. First, to address concerns that the minute-by-minute analysis produced flawed results, we re-compiled the data into approximate ''15-minute averages'' to the extent practical based on the duration of a given test run (*e.g.,* a 10-minute run was used as 1 run and a 32-minute run was divided into 2 runs of 16 minutes each). We do not find significant differences in the data or that different conclusions would be drawn from the data based on this approach as compared with the minute-by-minute analysis used for the proposed rule.

Next, we evaluated the 15-minute run data using the normal net heating value for hydrogen of 274 Btu/scf, which is the value we used in the analysis for the proposed rule and also evaluated the data using the 1,212 Btu/scf, the value recommended by some commenters. The 1,212 Btu/scf value is based on a comparison between the lower flammability limit and net heating value of hydrogen compared to light organic compounds and has been used in several consent decrees to which the EPA is a party. Based on our analysis, we determined that using a 1,212 Btu/scf value for hydrogen greatly improves the correlation between combustion efficiency and the combustion zone net heating value over the entire array of data. Using the net heating value of 1,212 Btu/scf for hydrogen also greatly reduced the number of ''type 2 failures'' (instances when the combustion efficiency is high, but the gas does not meet the NHVcz limit). One of the primary motivations for the proposed approach to provide alternative limits based on lower flammability limits and combustibles concentrations was to reduce these type 2 failures. Therefore, we proposed all three of these parameters (*i.e.,* NHVcz, LFL and total combustibles) and allowed flare owners or operators to comply with any of the parameter limits at any time. When using the net heating value of 1,212 Btu/scf for hydrogen, the other two alternatives no longer provide any improvement in the ability to predict good flare performance. Consequently, we are simplifying the operating limits to use only NHVcz.

Next, we re-evaluated whether to finalize the proposed dual combustion zone operating limits for refinery flares that met certain hydrogen-olefins interactions or to finalize a single combustion zone net heating value limit. The newly re-compiled PFTIR run average flare dataset suggests that higher operating limits may be appropriate for some olefin-hydrogen mixtures. However, the dataset using 15-minute test average runs is much smaller than the set using 1-minute runs and thus creates a greater level of uncertainty. In addition, we cannot definitively conclude that a dual combustion zone limit for refinery flares meeting certain hydrogen-olefins interactions is appropriate given these uncertainties. Thus, in order to minimize these uncertainties and streamline the compliance requirements, we used all of the 15-minute test run average data together as a single dataset in an effort to determine an appropriate, singular combustion zone net heating value operational limit.

Finally, we conducted a Monte Carlo analysis to help assess the impacts of extending the averaging time on the test average flare dataset of 15-minute runs to 1-hour or 3-hour averaging time alternatives. While we consider it reasonable to provide a longer averaging time for logistical reasons, the Monte Carlo analysis demonstrated, consistent with concerns described in our proposal, that short periods of poor performance can dramatically limit the ability of a flare to achieve the desired control efficiency. Consequently, we find it necessary to finalize the proposed 15-minute averaging period to ensure that the 98-percent control efficiency for flares is achieved at all times. However, we understand that flare vent gas flow and composition are variable. While a short averaging time is needed to ensure adequate control given this variability, we also understand the complications that this variability places on flare process control in efforts to meet the NHVcz limit. Therefore, we are clarifying that the 270 Btu/scf NHVcz value is an operational limit that must be calculated according to the requirements in this rule. We also clarify that compliance with this operational limit must be evaluated using the equations and calculation methods provided in the rule. We proposed a feed forward calculation method to allow refinery owners or operators a means by which to adjust steam (or air) and, if necessary, supplemental natural gas flow, in order to meet the limit. In other words, ''feed forward'' refers to the fact that the rule requires the refinery owners or operators to use the net heating value of the vent gas (NHVvg) going into the flare in one 15-minute period to adjust the assist media (*i.e.,* steam or air) and/or the supplemental gas in the next 15-minute period, as necessary for the equation in the rule to calculate an NHVcz limit of 270 BTU/scf or greater. We recognize that when a subsequent measurement value is determined, the instantaneous NHVcz based on that compositional analysis and the flow rates that exist at the time may not be above 270 Btu/scf. We clarify that this is not a deviation of the operating limit. Rather, the owner or operator is only required to make operational adjustments based on that information to achieve, at a minimum, the net heating value limit for the subsequent 15-minute block average. Failure to make adjustments to assist media or supplemental natural gas using the equation provided for calculating an NHVcz limit of 270 BTU/scf, using the NHVvg from the previous period, would be a deviation of the operating limit.

Alternatively, if the owner or operator is able to directly measure the NHVvg on a more frequent basis, such as with a calorimeter (and optional hydrogen analyzer), the process control system is able to adjust more quickly, and the owner or operator can make adjustments to assist media or supplemental natural gas more quickly. In this manner, the owner or operator is not limited by relying on NHVvg data that may not represent the current conditions. Therefore, the owner or operator may opt to use the NHVvg from the same period to comply with the operating limit.

Based on the results of all of our analyses, the EPA is finalizing a single minimum NHVcz operating limit for flares subject to the Petroleum Refinery MACT standards of 270 BTU/scf during any 15-minute period. The agency believes, given the results from the various data analyses conducted, that this operating limit is appropriate, reasonable and will ensure that refinery flares meet 98-percent destruction efficiency at all times when operated in concert with the other suite of requirements refinery flares need to achieve (*e.g.,* flare tip velocity requirements, visible emissions requirements, and continuously lit pilot flame requirements). For more detail regarding our data re-analysis, please see the memorandum titled ''Flare Control Option Impacts for Final Refinery Sector Rule'' in Docket ID No. EPA–HQ–OAR–2010–0682.

Comment: Numerous commenters objected to the proposed requirements to have the velocity and visible emissions limits apply at all times for flares. Commenters suggested that flares are not designed to meet the visible emissions and flare tip velocity requirements when being operated beyond their smokeless capacity and suggested several alternative approaches: remove the visible emissions and flare tip velocity requirements from the rule altogether; exempt flares from these requirements during emergencies; or add a requirement to maintain a visible flame present at all times or include a work practice standard in the rule when flares are operated beyond their smokeless capacity at full hydraulic load. The commenters identified full hydraulic load as the maximum flow the flare can receive based on the piping diameter of the flare header and operating pressure of processes connected to the flare header system. They also specified that full hydraulic load would only occur if all sources connected to the flare header vented at the same time, which might result from an emergency shutdown due to a plant-wide power failure. According to commenters, flares are typically designed to operate in a smokeless manner at 20 to 30-percent of full hydraulic load. Thus, they claimed, flares have two different design capacities: A ''smokeless capacity'' to handle normal operations and typical process variations and a ''hydraulic load capacity'' to handle very large volumes of gases discharged to the flare as a result of an emergency shutdown. According to commenters, this is inherent in all flare designs and it has not previously been an issue because the flare operating limits did not apply during malfunction events. However, if flares are required to operate in a smokeless capacity during emergency releases, the commenters claimed that refineries would have to quadruple the number of flares at each refinery to control an event that may occur once every 2 to 5 years.

To support their suggestions, commenters pointed out that flaring during emergencies is the optimum way of handling very large releases and that the flare test data clearly demonstrate that visible emissions and/or high flare tip velocity do not suggest poor destruction efficiency during such events. The commenters also argued that operators should not have conflicting safety and environmental considerations to deal with during these times. The commenters stated that refiners are still subject to a civil suit even if the EPA uses its enforcement discretion where such a release would violate the limit and in order to avoid such liability, many new flares would have to be built. Commenters estimated that 500 new large flare systems at a capital cost in excess of $10–20 billion would need to be built because of the amount of smokeless design capacity that would be needed and that this significant investment would take the industry at least a decade to install.

Response: At the time of the proposed rule, we did not have any information indicating that flares were commonly operated during emergency releases at exit velocities greater than 400 ft/sec (which is 270 miles per hour (mph)). Similarly, we did not have information to indicate that flares were commonly designed to have a smokeless capacity that is only 20 to 30-percent of their ''hydraulic load capacity.'' While we are uncertain that refineries actually would install additional flares to the degree the commenters claim, based on the possibility that there may be an event every 2 to 5 years that would result in a deviation of the smokeless limit, we also recognize that it would be environmentally detrimental to operate hundreds of flares on hot standby in an effort to never have any releases to a flare that exceed the smokeless capacity of that flare. This is because operating hundreds of new flares to prevent smoking during these rare events will generate more ongoing emissions from idling flares than the no visible emissions limit might prevent during one of these events. Therefore, we considered alternative operating limits or alternative standards that could apply during these emergency release events.

As an alternative to the proposed requirement that flares meet the visible emissions and velocity limits at all times, we considered a work practice standard for the limited times when the flow to the flare exceeds the smokeless capacity of the flare. Owners or operators of flares would establish the smokeless capacity of the flare based on design specification of the flare. Below this smokeless capacity, the velocity and visible emissions standards would apply as proposed. Above the smokeless capacity, flares would be required to perform root cause analysis and take corrective action to prevent the recurrence of a similarly caused event. Multiple events from the same flare in a given time period would be a deviation of the work practice standard. *Force majeure* events would not be included in the event count for this requirement.

Based on industry claims that there is a hydraulic load flaring event, on average, every 4.4 years, we assumed the best performers would have no more than one event every 6 years, or a probability of 16.7-percent of having an event in any given year. We found that, over a long period of time such as 20 years, half of these best performers would have 2 events in a 3 year period, which would still result in over half the ''best performing'' flares having a deviation of the work practice standard if it was limited to 2 events in 3 years. Conversely, only 6 percent would have 3 events in 3 years over this same time horizon. Based on this analysis, 3 events in 3 years would appear to be ''achievable'' for the average of the best performing flares.

Pursuant to CAA section 112(d)(2) and (3), we are finalizing a work practice standard for flares that is based on the best practices of the industry, and considers the rare hydraulic load events that inevitably occur at even the best performing facilities.

The best performing facilities have flare management plans that include measures to minimize flaring during events that may cause a significant release of material to a flare. Therefore, we are requiring owners or operators of affected flares to develop a flare management plan specifically to identify procedures that will be followed to limit discharges to the flare as a result of process upsets or malfunctions that cause the flare to exceed its smokeless capacity. We are specifically requiring refinery owners or operators to implement appropriate prevention measures applicable to these emergency flaring events (similar to the prevention measures we are requiring in this final rule to minimize the likelihood of a PRD release). Refiners will be required to develop a flare minimization plan that describes these proactive measures and reports smokeless capacity. Refiners will need to conduct a specific root cause analysis and take corrective action for any flare event above smokeless design capacity that also exceeds the velocity and/or visible emissions limit. If the root cause analysis indicates that the exceedance is caused by operator error or poor maintenance, the exceedance is a deviation from the work practice standard. A second event within a rolling 3-year period from the same root cause on the same equipment is a deviation from the standard. Events caused by *force majeure,* which is defined in this subpart, would be excluded from a determination of whether there has been a second event. Finally, and again excluding *force majeure* events, a third opacity or velocity limit exceedance occurring from the same flare in a rolling 3-year period is a deviation of the work practice standard, regardless of the cause.

Comment: Several commenters suggested that the EPA should revise the combustion efficiency requirements to apply only to steam-assisted flares used as Refinery MACT control devices during periods of time that the flares are controlling Refinery MACT regulated streams. One commenter suggested that the EPA misused the TCEQ data in proposing the NHV_{cz} metric and that the proposed limits are overly conservative. The commenter requested that the EPA work with stakeholders to conduct additional testing to determine what, if any, operating parameters are appropriate and necessary to achieve an adequate destruction efficiency for non-steam-assisted flares.

Response: We disagree with the commenters that the combustion efficiency requirements should apply only to steam-assisted flares. The available data (for runs where steam assist is turned off) as well as the available combustion theories suggest that the combustion zone net heating value minimum limit, which is the vent gas net heating value for unassisted or perimeter air-assisted flares, is necessary to ensure proper flare performance. While we agree that additional data on air-assisted flares would allow for a more robust analysis, the data we do have strongly indicate that air-assisted flares can be over-assisted and that the combustion efficiency of air-assisted flares that are over-assisted is below 98-percent control efficiency.

Comment: A few commenters suggested that the proposed flare regulations should not apply to part 63, subpart R (gasoline loading) and subpart Y (marine vessel loading) facilities, and to part 61, subpart FF (benzene waste) facilities. The commenters recommended that flares associated with gasoline loading, marine vessel loading and wastewater treatment emissions need to comply only with the General Provisions for flares. Some of these commenters argued that these sources are more consistent in flow and composition than other refinery sources, so the new requirements are not necessary to ensure good combustion for these ‘‘dedicated’’ flares. Some commenters suggested that operators of flares with consistent flow and composition be allowed to use process knowledge or engineering judgment rather than be required to install continuous monitors or be subject to ongoing grab sampling requirements.

Some commenters noted that the required control efficiency for some refinery emissions sources subject to subpart CC sources is 95-percent. One commenter also requested that the EPA provide overlap provisions so flares used to control sources from different MACT sources would not have duplicative requirements.

Response: The regulatory revisions that we are finalizing apply to petroleum refinery sources subject to part 63, subparts CC and UUU. Gasoline loading, marine vessel loading and wastewater treatment operations that are part of the refinery affected source as defined at 40 CFR 63.640 are subject to subpart CC. Gasoline loading, marine vessel loading and wastewater treatment operations located at non-refinery source categories are not subject to part 63, subpart CC and, thus, would not be subject to the revisions to subpart CC being finalized in this action. To the extent that the commenters are requesting that the EPA establish flare requirements that would apply to flares that are not part of the refinery affected source, that request is beyond the scope of this rulemaking, which only addresses revisions to Refinery MACT 1 and 2. When we issue rules addressing requirements for other sources with flares, we will consider issues similar to those we considered in this action and determine at that time whether revisions to those other flare requirements are necessary.

The commenters note that some subpart CC emissions sources have only a control efficiency requirement of 95-percent. While this may be true, where the owner or operator chooses to control these sources through the use of a flare, operation of that flare was subject to operational requirements in the General Provisions at 40 CFR 63.11 and the best performing flares were achieving 98-percent control at the time the General Provisions were promulgated. At the time the General Provisions were promulgated, we received no comments that the EPA should set different operational limits for flares that are controlling emissions from sources where the standard may vary by level of control efficiency and we see no basis to do so now. The purpose of the revisions to the flare operating requirements is to ensure that flares are operating consistent with the MACT floor requirements for any and all sources that may use flares as a control device (79 FR 36905, June 30, 2014). As the MACT floor control requirements of certain refinery sources that allow the use of a flare as a control device is 98-percent, we established operational limits to ensure flares used as control devices meet this MACT requirement.

To the extent that the commenters are requesting that the EPA establish an alternative monitoring approach for flares in dedicated service that have consistent composition and flow, we agree that these types of flares, which have limited flare vent gas streams, do not need to have the same type of on-going monitoring requirements as those with more variable waste streams. Thus, we are establishing an option that refinery owners or operators can use to demonstrate compliance with the operating requirements for flares that are in dedicated service to a specific emission source, such as a wastewater treatment operation. Refinery owners or operators will need to submit an application for the use of this alternative. The application must include a description of the system, characterization of the vent gases that could be routed to the flare based on a minimum of 7 grab samples (14 daily grab samples for continuously operated flares) and specification of the net heating value that will be used for all flaring events (based on the minimum net heating value of the grab samples). We are also allowing engineering estimates to characterize the amount of gas flared and the amount of assist gas introduced into the system. For example, the use of fan curves to estimate air assist rates is acceptable. Flare owners or operators would use the net heating value determined from the initial sampling phase and measured or estimated flare vent gas and assist gas flow rates, if applicable, to demonstrate compliance with the standards.

Comment: A few commenters suggested that the EPA's proposed work practice and monitoring standards for flares are CAA section 112(d) ''developments'' required by law and supported by the evidence, and reflect best practices at many refineries today. One commenter suggested that the EPA must allow companies with consent decrees to meet their consent decree requirements as an alternative compliance approach and in lieu of the proposed requirements.

Response: We proposed the enhanced monitoring requirements and operating limits under authority of CAA sections 112(d)(2) and (d)(3) to ensure that flares used to control regulated Refinery MACT 1 or 2 gas streams are meeting the prescribed control efficiencies established at the time the MACT standard was promulgated. And, we continue to believe that these revisions are appropriate under CAA sections 112(d)(2) and (d)(3). The commenter has not suggested, and we do not believe, that the revisions promulgated would differ in substance if they were instead promulgated under CAA section 112(d)(6).

In general, we expect that the NHV_{cz} monitoring requirements that we are finalizing for flares will be consistent with the requirements in various consent decrees. However, we have not conducted a rigorous evaluation of equivalency between various requirements and therefore we are not at this time providing an allowance for flare owners or operators to comply with the NHV_{cz} operating limits and any provisions for necessary monitoring needed in the consent decree in lieu of the NHV_{cz} limits and monitoring requirements established in this rule. In the event that an owner or operator wishes to continue complying only with the requirements of a consent decree, the rule contains provisions by which owner or operator can seek approval for alternative limits that are at least equivalent to the performance achieved from complying with the operating limits included in the final rule.

iii. Pressure Relief Devices

Comment: Several commenters suggested that the EPA develop a work practice approach for atmospheric PRD rather than a prohibition on releases. One commenter recommended that the EPA establish a work practice standard for atmospheric PRDs that requires refiners to implement a base level of preventative measures including: Basic process controls, instrumented alarms, documented and verified routine inspection and maintenance programs, safety-instrumented systems, disposal systems, provide redundant equipment, increase vessel design pressure and systems that reduce fire exposure on equipment. Additionally, the commenter recommended that the EPA require refiners to perform root cause analysis and implement corrective action in the event of a release. The commenter stated these requirements would be similar to the root cause analysis/corrective action requirements recently promulgated for flares under NSPS subpart Ja and provided specific regulatory language for a proposed work practice approach. (See section 2.4.1.8 in Docket item EPA–HQ–OAR–2010–0682–0583.) One commenter requested that the EPA allow a process for companies to submit an application for case-by-case limits to be approved by the agency, either the EPA or a delegated state similar to the alternate NO_X limits for process heaters provided in NSPS subpart Ja. This commenter recommended that the EPA establish reasonable work practice standards, specifically suggesting that the EPA develop work practice standards consistent with API 521. The commenter stated that the EPA should provide an implementation period for compliance that goes beyond the timeframe provided under CAA section 112(d). The commenter added that the EPA should adopt specified changes to the definition of an atmospheric pressure relief safety valve and provided suggested regulatory language for a proposed work practice standard for PRDs in EPA–HQ–OAR–2010–0682–0549.

Another commenter stated that the EPA should require, as the Bay Area Air Quality Management District (BAAQMD) does, that any refinery that has a reportable PRD event must take certain steps to prevent such releases in the future (BAAQMD Rule 8–28–304). In particular, such a refinery must create a Process Hazard Analysis, meet the Prevention Measures Procedures specified in section 8–28–405, and conduct a failure analysis of the incident, to prevent recurrence of similar incidents (Id. Reg. section 8–28–304.1). If a second release occurs, then, within one year, the facility must vent its PRDs to a vapor recovery or disposal system that meets certain requirements (Id. Reg. section 8–28–304.2). The commenter asserted that the EPA's prohibition on releases to the atmosphere from PRD will ensure that refineries take the necessary steps to prevent such releases, or install control devices so that any releases from PRDs that must occur are vented through a control device to reduce the amount of toxic air pollution they emit. At a minimum, the commenter stated, the EPA must prohibit these uncontrolled emissions and require monitoring and reporting to assure compliance and ensure that the emission standards apply at all times, as required by the Act. The commenter argued that the EPA must also, however, consider requiring the additional developments that have been put into place in the BAAQMD and also require control devices to be used for all PRD, as some local air districts require. In addition, the commenter supported the EPA's monitoring and reporting requirements for PRD releases and the proposed electronic reporting requirements, which the EPA recognized are needed to assure compliance and assist with future rulemakings and as that provision requires, the EPA also must make all information reported publicly available online promptly and in an accessible and understandable format.

Response: We agree that, under the proposal, refineries would consider installing add-on controls to comply with the prohibition on atmospheric releases from PRDs. In addition, they would consider venting these control devices to existing control devices, including flares. However, it may not be feasible to vent some or all of the PRDs to existing flares if the flares are near their hydraulic load capacity based on the processes already connected to the flares. Flares have negative secondary impacts when operated at idle conditions for the vast majority of time, which could be the case if they were installed solely to address PRD releases. These secondary impacts result from GHG, CO and NO_X emissions. Some PRDs may vent materials that are not compatible with flare control and would need to be vented to other controls.

To estimate the impact of the proposed prohibition on venting PRDs to the atmosphere, we estimated that at least one new flare per facility would be required to handle releases from PRDs, based on the number of atmospheric PRDs reported at refineries; that 60-percent of the PRDs could be piped to existing controls at minimal costs and the other 40-percent would have to be piped to new flares; and that, on average, each new flare would service 40 PRDs. Based on these assumptions, 151 new flares would be needed or approximately one new flare per refinery. At a capital cost of $2 million for each new flare, which would not include long pipe runs, if needed, to PRD that are dispersed across the plant, we estimate that the capital cost of the prohibition on venting to the atmosphere would exceed $300 million. Considering the fuel needed (approximately 50,000 scf/day per flare) and a natural gas price of $4.50 per 1,000 scf, we estimate the annual operating cost for these new flares to be $12 million.

PRDs are unique in that they are designed for the purpose of releasing or ''popping'' as a safety measure to address pressure build-up in various systems—pipes, tanks, reactors—at a facility. These pressure build-ups are typically a sign of a malfunction of the underlying equipment. While it would be difficult to regulate most malfunction events because they are unpredictable and can vary widely, in the case of PRDs, they are equipment installed specifically to release during malfunctions and as such, we have information on PRDs in our 2011 Refinery ICR and through the SCAAMD and BAAQ rules to establish standards for them. After reviewing these comments, we thus examined whether it would be feasible to regulate these devices under CAA section 112(d)(2) and (3).

After reviewing the comments, we agree with the commenters who suggest that the BAAQMD rule, as well as a similar South Coast Air Quality Management District (SCAQMD) rule that address PRD releases (SCAQMD Rule 1173), provide work practice standards that reflect the level of control that applies to the best performers. Consequently, we developed a work practice standard for PRD based on a detailed MACT analysis considering the requirements in these rules. Our rationale for the selected MACT requirements is provided in section IV.C.4 of this preamble. The work practice standards that we are finalizing for PRDs require refiners to establish proactive measures for each affected PRD to prevent direct release of HAP to the atmosphere as a result of pressure release events. In the event of an atmospheric release, we are requiring refinery owners or operators to conduct root cause analysis to determine the cause of a PRD release event. If the root cause was due to operator error or negligence, then the release would be a deviation of the standard. For any other release (not including those caused by force majeure events), the owner or operator would have to implement corrective action. A second release due to the same root cause for the same equipment in a 3-year period would be a deviation of the work practice standard. Finally, a third release in a 3-year period would be a deviation of the work practice standard, regardless of the root cause. *Force majeure* events would not count in determining whether there has been a second or third event.

With respect to defining ''atmospheric pressure relief safety valve'' as suggested by the commenter, we note that the June 30, 2014, proposed amendments in 40 CFR 63.648(j) used the term ''relief valve'' because this was a defined term in Refinery MACT 1. However, the proposed amendments included clauses such as ''if the relief valve does not consist of or include a rupture disk.'' Thus, we specifically intended to apply the pressure relief management requirements broadly to ''pressure relief devices'' and not just ''valves.'' To clarify this, we have revised the regulatory language to use the term ''pressure relief device'' rather than ''relief valve'' to clearly include rupture disks or similar types of equipment that may be used for pressure relief.

4. What is the rationale for our final approach and final decisions for the revisions pursuant to CAA section 112(d)(2) and (3)?

We revised the MACT floor determination for DCU sources. CAA section 112(d)(3)(A) requires the MACT floor for existing sources to exclude ''. . . those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined by section 171) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources.'' Because we have determined that a 2 psig emissions limitation is equivalent with a LAER emission limit for DCU, we revised the MACT floor analysis in order to exclude sources that first met the 2 psig limit on or after December 30, 2012. For existing sources, based on the revised MACT analysis, we concluded that the MACT floor is still 2 psig. However, because the information on which we relied was submitted in response to the 2011 Petroleum Refinery ICR which requested ''typical'' venting pressures and because providing an allowance to average across venting periods does not reduce the emissions reductions achieved, we are providing a 60-event averaging period for existing sources in response to public comments received.

For new DCU sources, our revised analysis identified one DCU subject to permit emission limitations of 2.0 psig pressure limit prior to venting on a per event basis. Under CAA section 112(d)(3), the MACT standard for new sources cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. Thus, we are finalizing a limit of 2.0 for new DCU sources. We note that as 2.0 psig limit is more stringent than a 2 psig limit because of the rounding convention of rounding to the number of significant digits for which the standard is expressed. For example, a 2.4 psig venting pressure is compliant with a 2 psig limit, while it is not compliant with a 2.0 psig limit.

We evaluated the costs of requiring existing sources to meet a 2.0 psig limit as a beyond-the-MACT-floor option. We determined the incremental cost of going from a 2 psig limit with an allowance to average over 60 events to a 2.0 psig limit on a per event basis was approximately $70,000 per ton of HAP reduced considering VOC credits. Based on this high incremental cost-effectiveness, we concluded that the MACT floor requirement for existing DCU sources was MACT. As discussed in detail in the proposal, we do not consider it technically feasible to meet a 1 psig pressure limit (effectively a 1.4 psig limit) on a not-to-be-exceeded basis. Thus, we rejected this beyond the floor control option for both existing and new DCU sources. See the memorandum titled ''Reanalysis of MACT for Delayed Coking Unit Decoking Operations'' in Docket ID No. EPA–HQ–OAR–2010–0682 for additional details regarding our re-analysis of MACT for DCU decoking operations.

In response to comments received on the prohibition of draining prior to achieving the proposed pressure limit (see Section 7.2.1 in the ''National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries—Background Information for Final Amendments: Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2010–0682), we are providing specific provisions to allow for draining under special conditions. The specific provision and our rationale for providing them are provided below.

First, we learned that certain DCU are designed to completely fill the drum with water and allow the water to overflow in the overhead line and drain to a receiving tank in order to more effectively cool the coke bed. Owners or operators of this DCU design were concerned that the water overflow may be considered a drain and also stated that overhead temperature rather than pressure would be a better indicator of effective bed cooling. In reviewing this type of DCU design, we find that this design has some unique advantages to traditional DCU to effect better cooling of the coke drum, and therefore we do not want to preclude its use. Based on saturated steam properties, we determined that an overhead temperature of 220 °F would achieve equivalent or greater emissions reductions than a 2 psig pressure limitation and an overhead temperature of 218 °F would achieve equivalent or greater emissions reductions than a 2.0 psig pressure limitation. Therefore, we are including these temperature limits as alternatives to the 2 or 2.0 psig pressure limitations for existing and new DCU affected sources, respectively. With respect to the overflow ''drain,'' we remain concerned with emissions from draining superheated water. However, if submerged fill is used in the atmospheric tank receiving the overflow water, the superheated water will be cooled by the water within the tank and emissions that occur during the conventional draining of water (from the flashing of superheated water into steam) can be prevented. Therefore, we are allowing the use of water overflow provided the overflow ''drain'' water is hard-piped to the receiving tank via a submerged fill pipe (pipe below the existing liquid level) whenever the overflow water exceeds 220 °F.

Second, we received comments that, for conventional DCU (those not designed to allow water overflow), there is a limit to the maximum water level in the drum, which limits to some extent how much cooling water can be added to the coke drum. In rare cases, the coke drum does not cool sufficiently using the typical cooling steps. In this case, the common industry practice is to partially drain the coke drum and refill it with additional cooling water. This ''double-quench'' process is needed for safety reasons to sufficiently cool the coke drum contents prior to the decoking operations. Therefore, commenters requested provisions to allow double-quenching of the coke drum. We recognize the safety issues associated with coke blow-out during coke cutting if there is a portion of the coke bed that is not sufficiently cooled and we agree that double-quenching is an effective means to cool the coke drum in those rare instances that the typical cooling cycle does not sufficiently cool the coke drum contents, so we considered granting the commenters' request. As noted previously, the primary concern with early draining of the coke drum is the emissions that are expected to occur as a result of draining superheated water. We recognize, however, that the water temperature near the bottom of the coke drum is typically much lower than at the top of the coke drum. If the temperature of the water drained from the bottom of the coke drum remains below 210 °F, this would minimize steam flashing and associated HAP emissions since the water drained would not be superheated. We conclude that the use of double quenching is appropriate for cases when the coke drum is not sufficiently cooled using the normal cooling procedures provided the temperature of the water drained remains below 210 °F, and it is consistent with the practices of the best performing sources. Consequently, we are finalizing provisions to allow the use of double-quenching for DCU provided the temperature of the water drained remains below 210 °F.

For the CRU, we are finalizing the proposed revisions to require CRU that employ active purging to meet the MACT emissions limitations in Tables 15 and 16 in subpart UUU at all times regardless of vessel pressure. We received limited comments regarding our proposal; these comments generally concerned the costs associated with the proposed emissions limitations. As discussed in our proposal, and based on data submitted in response to the ICR, emissions using active purging are much higher than those not using active purging. In the original rule, we based the MACT floor on the best performing facilities that used sequential pressurizations and depressurizations rather than active purging. Thus, in the proposal, we concluded that allowing owners or operators to actively purge while at low pressures was inconsistent with the MACT floor emissions limitations achieved by the best performing 12-percent of sources when the MACT floor was originally established. As we are simply requiring these facilities to meet the same emission levels determined to be MACT, we do not consider costs of potential additional controls to be a viable rationale to allow these units to emit several times more HAP than the units upon which the MACT requirements were based and the emissions levels achieved in practice by the vast majority of other CRU sources.

For flares, we are finalizing proposed revisions to include detailed flare monitoring and operating requirements. We are including the flaring provisions for refineries in the Refinery MACT rules and removing the cross-references to the flaring requirements in the General Provisions. The final regulatory requirements differ from the proposed requirements in several respects. First, we are not finalizing the ban on halogenated vent streams because we did not include sufficient justification or include cost estimates for this proposed provision and we did not include any monitoring requirements to ensure compliance with this ban on halogenated vent streams.

We are finalizing the proposed no visible emissions limit and the flare tip velocity limit but they will apply only when the flare vent gas flow rate is below the smokeless capacity of the flare. We received a number of comments stating that the no visible emissions limit and the flare tip velocity limit cannot be met during large malfunctions and emergency shutdown events. In response to comments, we are finalizing work practice standards for emergency flaring events using the proposed no visible emission limit and flare tip velocity limit as thresholds in the final rule to trigger root cause analysis when the flare vent gas flow rate is above the smokeless capacity of the flare. The final work practice standard includes requirements to develop a flare management plan, to implement prevention measures, and to perform root cause analysis and implement corrective action following each flaring event that exceeds the smokeless capacity of the flare. There is also a limit on the number of these flaring events that a given flare may have in the 3-year period. We are establishing these provisions because we now recognize that flares have two different design capacities: A smokeless design capacity and a hydraulic load capacity. We determined that the proposed visible emissions limit and the flare tip velocity limit for very large flow events are not the MACT floor for such events. The final work practice standards for flaring events are based on the best performing facilities and will result in emission reductions in a technically feasible manner without any negative secondary impacts.

We consider it appropriate to establish a work practice standard for flares as provided in CAA section 112(h). While it is possible to monitor gaseous streams going into the flare (as we have required for the flare operating requirements) it is not possible to design and construct a conveyance to capture the emissions from a flare. While knowledge of the composition and flow of gases entering the flare provides a reasonable basis for establishing operating requirements for normal operations, we have no data on flare performance under conditions in the hydraulic load range. While smoke in the flare exhaust is an indication of incomplete combustion, it is uncertain how much deterioration of HAP destruction efficiency occurs during a smoking event. We also consider that the application of a measurement methodology for flare exhaust is not practicable due to technological and economic limitations. Passive FTIR has been used to determine combustion efficiency in flare exhaust, but these are essentially manual tests, and the measurement accuracy is dependent on how well the monitor is aligned with the flare exhaust plume. Changes in wind direction require manual movement of the monitoring system. It is also unclear if these systems can accurately measure combustion efficiency during high smoking events. These systems also require very specialized expertise, and we consider that it is both technologically and economically infeasible to measure flare exhaust emissions, particularly during high load events. Consequently, for emergency flare releases, we conclude that it is appropriate to establish a work practice standard as provided in CAA section 112(h).

We also received comments that the daily visible emissions observations were burdensome and unnecessary and some commenters suggested that facilities be allowed to use video surveillance cameras. We concluded that video surveillance cameras would be at least as effective as the proposed daily 5-minute visible emissions observations using Method 22. We are finalizing the proposed visible emissions monitoring requirements Method 22 and the alternative of using video surveillance cameras.

We are simplifying the combustion zone gas property operating limits in response to public comments received. Specifically, we are finalizing requirements that all flares meet a minimum operating limit of 270 BTU/scf NHV_{cz} on a 15-minute average, and we are providing that refiners use a corrected heat content of 1,212 BTU/scf for hydrogen to demonstrate compliance with this operating limit. We determined that a corrected heat content of 1212 BTU/scf for hydrogen provided a better indication of flare performance than without the correction. We also determined that the other combustion zone parameters, which were primarily proposed to provide suitable methods for flares that had high hydrogen concentrations, were no longer necessary when a 1,212 Btu/scf net heating value is used for hydrogen. Therefore, we are not finalizing the alternative combustion zone operating limits based on lower flammability limit or combustibles concentration. We are also not finalizing separate combustion zone operating limits for gases meeting the proposed hydrogen-olefin interaction criteria. In our revised analysis of the data, we analyzed all of the data together and determined the 270 Btu/scf NHV_{cz} operating limit provided in the final rule would adequately ensure that flares achieve the desired 98-percent control efficiency regardless of the composition of gas sent to the flare.

For air-assisted flares, we are finalizing the additional ''dilution parameter'' operating limit only for the net heating value dilution parameter, NHV_{dil}. Similar to the requirements we are finalizing for the combustion zone parameters, we are finalizing requirements that flares meet a minimum operating limit of 22 BTU/ft^2 NHV_{dil} on a 15-minute average, and we are providing that refiners use a corrected heat content of 1,212 BTU/scf for hydrogen to demonstrate compliance with this operating limit. For the reasons explained above, we are not finalizing the proposed alternative dilution parameter operating limits based on lower flammability limit or combustibles concentration, and we are not finalizing separate dilution parameter operating limits for gases meeting the proposed hydrogen-olefin interaction criteria.

For flares in dedicated service, we are establishing an alternative to continuous or on-going grab sample requirements for determining waste gas net heating content to reduce the burden of sampling for flare waste gases that have consistent compositions. Flares in dedicated service can use initial sampling period and process knowledge to determine a fixed net heating value of the flare vent gas to be used in the calculations of NHV_{cz} and, if applicable, NHV_{dil}.

We are revising the definition of MPV to remove the exemption for in situ sampling systems for the reasons provided in the proposed rule.

We received comments recommending that a work practice standard be adopted for PRD rather than the proposed prohibition of atmospheric PRD releases. Commenters stated that the prohibition was infeasible due to the proposed immediate timing of the requirement and impractical due to cost considerations. After reviewing these comments as well as the BAAQMD rule (Regulation 8, Rule 8–28–304) and the SCAQMD rule (Rule 1173), we have determined that the work practice standards in these rules reflect the level of control that applies to the best performers. Therefore, we proceeded to evaluate appropriate MACT requirements based on the provisions in these rules.

The BAAQMD rule requires sources to implement a minimum of three prevention measures to limit the possibility of a release. The BAAQMD uses a ''release event'' threshold of 10 lbs/day of organic or inorganic pollutants; the SCAQMD rule effectively uses a release event threshold of 500 lbs VOC/day. When a release event occurs, both rules require that the refiner perform a root cause analysis and take corrective action (including additional prevention measures). In addition, both rules require piping the PRD to a flare if there are more than two release events (releases above a certain release size threshold) in a 5-year period. Both rules include a number of exemptions for certain types of PRD that are not expected to release significant amounts of pollutants to the air or that are not feasible to control because of pressure considerations. These include PRD associated with storage tanks, vacuum systems and equipment in heavy liquid service as well as liquid thermal relief valves that are vented to process drains.

There are five refineries subject to the BAAQMD rule and seven refineries subject to the SCAQMD rule, accounting for 8-percent of refineries nationwide and representing the industry's best performers. We consider the BAAQMD rule to be the more stringent of the two because this rule requires sources to implement a minimum of three prevention measures to limit the possibility of a release (the SCAQMD rule has no similar requirement) and uses a lower mass threshold for what is considered a ''release event'' (10 lbs/day of organic or inorganic pollutants versus the 500 lbs VOC release threshold in the SCAQMD rule). Therefore, the BAAQMD rule is considered to be the MACT floor requirement for PRDs associated with new affected sources and the SCAQMD rule is considered to be the MACT floor for PRDs associated with existing affected sources.

In general, an open PRD is essentially the same as a miscellaneous process vent that is vented directly to the atmosphere. Consistent with our treatment of miscellaneous process vents and consistent with the two California rules, we believe that it is appropriate to exclude certain types of PRD that have very low potential to emit based on their type of service, size and/or pressure. For example, PRD that have a potential to emit less than 72 pounds per day of VOC, considering the size of the valve opening, design release pressure, and equipment contents, would be considered in a similar manner as Group 2 miscellaneous process vents and would not require additional control. The two California rule requirements do not apply to PRD on storage tanks and vacuum systems. Most of these PRD have a design release pressure of 2.5 psig and thus have a very limited potential to emit. It is technically infeasible to pipe these sources to a flare (or other similar control system) because the back pressure in the flare header system generally exceeds 2.5 psig. We note that some storage tanks can operate at elevated pressure (*i.e.,* pressure tanks). Therefore, rather than follow exactly the requirements in the California rules, we determined it more practical to exclude PRD with design release pressure of less than 2.5 psig.

Any release from a PRD in heavy liquid service would have a visual indication of a leak and any repairs to the valve would have to be further inspected and, if necessary, repaired under the existing equipment leak provisions. Therefore, consistent with the BAAQMD rule, we are exempting PRD in heavy liquid service from the work practice standards we are establishing in this final rule.

Both the BAAQMD and SCAQMD rules exempt thermal expansion valves that are ''vented to process drains or back to the pipeline.'' We are unclear what is meant by ''vented to process drains''; however, if a liquid is released from a PRD via hard-piping to a drain system that meets the control requirements specified in Refinery MACT 1, we consider that these PRD are controlled and they would not be subject to the work practice standard established in this final rule. Similarly, all PRD in light liquid service that are hard-piped to a controlled drain system (or back to the process or pipeline) are otherwise subject to a MACT requirement and would not be subject to the work practice standard.

In considering thermal relief valves not vented to process drains or back to the pipeline, we expect that releases from these thermal relief valves will be small and generally under the release event thresholds specified in the California rules. Therefore, the work practice standards do not apply to PRD that are designed solely to release due to liquid thermal expansion.

The primary goal of the PRD work practice standard is to reduce the size and frequency of releases. The SCAQMD rule is targeted towards fairly large releases (compared to the direct PRD releases reported in response to the Refinery ICR), so it will reduce the frequency of large releases, but it does little to reduce the frequency of smaller releases. To more effectively reduce the size and frequency of all releases, we consider it important to require the implementation of prevention measures (as required in the BAAQMD rule) and require root cause analysis and corrective action for PRD releases from all PRD subject to the work practice standard. While we recognize that if a PRD opens for a short period of time, the release might be below the release thresholds in the SCAQMD rules, we believe the release may be indicative of an important issue or design flaw. Because the potential for large emissions exist from the PRD subject to the work practice standard, we think it is reasonable to require a root cause analysis be conducted and appropriate corrective action implemented to potentially identify this issue and prevent a second release which, if the issue remains uncorrected, could be significant.

Requiring that prevention measures be implemented on all PRD subject to the work practice standard and not establishing a release threshold for release events is a variation from the SCAQMD rule. However, we also considered the allowable release frequency. We believe that our adoption of this approach is balanced by our not adopting the SCAQMD provisions requiring that PRD be vented to a flare or other control system or that refiners pay a fee if there are multiple releases of a certain size within a specified timeframe.[12] In place of this system, we are limiting the number of events from each PRD that can occur in a 3 year time period (2, if root causes are different), and in place of a fine, or routing to control, stating that the 3rd release in 3 years for any root cause is a deviation of the standard.

Because we are not including a size threshold for release events as in the SCAQMD rule, it is natural to assume release events would occur more frequently than release events subject to the SCAQMD rules. Also, based on our Monte Carlo analysis of random rare events, we note that it is quite likely to have two or three events in a 5-year period when a long time horizon (*e.g.,* 20 years) is considered. Therefore, considering our analysis of emergency flaring events and the lack of a 500 lb/day release threshold, we considered it reasonable to use a 3-year period rather than a 5-year period as the basis of a deviation of the work practice standard.

The SCAQMD work practice standards do not apply to releases that are demonstrated to ''result from natural disasters, acts of war or terrorism, or external power curtailment beyond the refinery's control, excluding power curtailment due to an interruptible service agreement.'' These types of events, which we are referring to as ''*force majeure*'' events, are beyond the control of the refinery owner or operator. We are providing that these events should not be included in the event count, but that they would be subject to the root cause analysis in order to confirm whether the release was caused by a *force majeure* event.

Consistent with the requirements in the SCAQMD rule, we are requiring refinery owners or operators to conduct a root cause analysis for a PRD release event. If the root cause was due to operator error or negligence, then the release would be a deviation of the standard. For any other release (not including those caused by *force majeure* events), the owner or operator would have to implement corrective action. We consider that a second release due to the same root cause for the same equipment in a 3-year period would be a deviation of the work practice standard. This provision will help ensure that root cause/corrective action are conducted effectively. Finally, a third release in a 3-year period (not including those caused by *force majeure* events) would be a deviation of the work practice standard, regardless of the root cause. While we are using a 3-year interval rather than the 5-year interval provided in the SCAQMD, we consider that the requirements as included in this final rule (*i.e.,* the inclusion of prevention measure requirements and no thresholds for release events) will achieve equivalent if not greater emissions reductions than the SCAQMD rule. We also consider that, given the prevention measure requirements and a 3-year period, there is less likelihood of unusual random events that happen over a short period of time that may cause refinery owners or operators to feel compelled to vent the PRD to a flare to eliminate concerns regarding potential non-compliance. Thus, we project that the requirements that we have included in the final rule will achieve emissions reductions commensurate to or exceeding the requirements in the SCAQMD rule (that serves as the MACT floor for existing sources) but will achieve those

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[12] The SCAQMD rule requires PRD to be vented to a flare or other control device if there is a single release in excess of 2,000 pounds of VOC in a 24-hour period or three releases in excess of 500 pounds of VOC in a 5-year period or, alternatively, pay a $350,000 fee. Thus, the SCAQMD rule would allow, for example, two releases of over 500 pounds of VOC each within a 5-year period without any penalty provided a third event did not occur. If a third event did occur, the refinery owner or operator would then have to vent the PRD to a flare or other control system or pay a fee ($350,000) for the third release over 500 pounds of VOC.

reductions in a more cost-effective manner.

We also considered requiring all PRD to be vented through a closed vent system to a control device as an alternative beyond-the-MACT floor requirement. While this requirement would provide additional emission reductions beyond those we are establishing as the MACT floor, these reduction come at significant costs. Capital costs for requiring control of all atmospheric PRD is estimated to be approximately $300 million compared to $11 million for the requirements described above. The total annualized cost for requiring control of all atmospheric PRD is estimated to be approximately $41 million/year compared to $3.3 million/year for the requirements described above. We estimate that the incremental cost-effectiveness of requiring control of all atmospheric PRD compared to the requirements described above exceeds $1 million per ton of HAP reduced. Consequently, we conclude that this is not a cost-effective option for existing sources.

The final requirements that we have developed for PRD achieve equal or greater emission reductions than those achieved by the SCAQMD rule (MACT floor). To the extent those requirements are more stringent that the SCAQMD, they are cost-effective. We could not identify an alternative requirement that provided further emission reductions in a cost-effective manner. Thus, we conclude that the work practice standards described above represent MACT for existing sources.

The BAAQMD rule, which represents the requirements applicable to the best performing sources, is the basis for new source MACT for PRD. Based on the specific provisions for PRD in the BAAQMD rule, we conclude that the MACT floor requirement is to have all PRD in HAP service associated with a new affected source vented through a closed vent system to a control device. As with existing sources, the PRD WPS would also contain the same exclusions (*e.g.,* heavy liquid service PRDs, thermal expansion valves, liquid PRDs that are hard-piped to controlled drains, PRD with release pressures of less than 2.5 psig, PRD with emission potential of less than 72 lbs/day, and PRD on mobile equipment). These provisions are similar to the applicability provisions of the BAAQMD rule. Thus, we retain the same applicability of the work practice standard for PRDs on new or existing equipment, but all affected PRD on a new source would be required to be controlled. This is essentially equivalent to the proposed requirement of no atmospheric releases. We could not identify a control option more stringent than the BAAQMD rule as applied to new sources. Therefore, we conclude that venting all PRD in HAP service through a closed vent system to a flare or similar control system is MACT for PRD associated with new affected sources.

We consider it appropriate to establish a work practice standard for PRD as provided in CAA section 112(h). While it may be possible to design and construct a conveyance for PRD releases, we consider that the application of a measurement methodology for PRDs is not practicable due to technological and economic limitations. First, it is not practicable to use a measurement methodology for PRD releases. The venting time can be very short and may vary widely in composition and flow rate. The often-short duration of an event makes it infeasible to collect a grab sample of the gases when a release occurs, and a single grab sample would not account for potential variation in vent gas composition. It would be economically prohibitive to construct an appropriate conveyance and install and operate continuous monitoring systems for each individual PRD in order to attempt to quantitatively measure a release event that may occur only a few times in a 3-year period. Additionally, we have not identified an available, technically feasible continuous emission monitoring systems that can determine a mass VOC or HAP release quantity accurately given the flow, composition and composition variability of potential PRD releases from refineries. Consequently, we conclude that it is appropriate to establish a work practice standard for PRD releases as provided in CAA section 112(h).

D. NESHAP Amendments Addressing Emissions During Periods of SSM

1. What amendments did we propose to address emissions during periods of SSM?

We proposed to eliminate the SSM exemption in 40 CFR part 63, subparts CC and UUU. Consistent with *Sierra Club* v. *EPA*, we proposed standards in these rules that apply at all times. We also proposed several revisions to Table 6 of subpart CC of 40 CFR part 63 and to Table 44 to subpart UUU of 40 CFR part 63 (the General Provisions Applicability tables for each subpart), including eliminating the incorporation of the General Provisions' requirement that the source develop an SSM plan, and eliminating and revising certain recordkeeping and reporting requirements related to the SSM exemption.

For Refinery MACT 1, we proposed that the use of a bypass at any time to divert a Group 1 miscellaneous process vent to the atmosphere is a deviation of the emission standard, and specified that refiners install, maintain and operate a continuous parameter monitoring system (CPMS) for flow that is capable of recording the volume of gas that bypasses the APCD.

We also proposed to revise the definition of MPV to remove the exclusion for ''Episodic or non-routine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring and catalyst transfer operations.'' We also proposed that the control requirements for Group 1 MPV apply at all times, including startup and shutdowns.

For Refinery MACT 2, we proposed alternate standards for three emission sources for periods of startup or shutdown. We proposed PM standards for startup of FCCU controlled with an ESP under Refinery MACT 2 because of safety concerns associated with operating an ESP during an FCCU startup. For FCCU controlled by an ESP, we proposed a 30-percent opacity limit (on a 6-minute rolling average basis) during the period that torch oil is used during FCCU startup. For startup of FCCU without a post-combustion device under Refinery MACT 2, we proposed a CO standard based on an excess oxygen concentration of 1 volume percent (dry basis) based on a 1-hour average. For periods of SRU shutdown, we proposed to allow diverting the SRU purge gases to a flare meeting the design and operating requirements in 40 CFR 63.670 (or, for a limited transitional time period, 40 CFR 63.11) or to a thermal oxidizer operated at a minimum temperature of 1,200 °F and a minimum outlet oxygen concentration of 2 volume percent (dry basis). For other emission sources in Refinery MACT 2, we proposed that the requirements that apply during normal operations should apply during startup and shutdown.

2. How did the SSM provisions change since proposal?

a. Refinery MACT 1

We proposed that when process equipment is opened to the atmosphere (*e.g.,* for maintenance), the existing MPV emissions limits apply. In this final rule, we are instead finalizing startup and shutdown provisions that apply to these venting events. These startup and shutdown provisions are work practice standards that allow refinery owners or operators to open process equipment during startup and shutdown provided that the equipment is drained and purged to a closed system until the hydrocarbon content is less than or equal to 10-percent of the LEL. For those situations where 10-percent LEL cannot be demonstrated (no direct measurement location), the equipment may be opened and vented to the atmosphere if the pressure is less than or equal to 5 psig. Active purging of the equipment is only allowed after the 10-percent LEL level is achieved, regardless of the pressure of the equipment/vessel. We are establishing a separate requirement for very small process equipment, defined as equipment where it is physically impossible to release more than 72 lbs VOC per equipment opening based on the size and contents of the equipment. This definition is consistent with the Group 1 applicability cutoff for control of miscellaneous process vents. We also developed requirements specific to catalyst changeout activities where pyrophoric catalyst (*e.g.,* hydrotreater or hydrocracker catalysts) must be purged using recovered hydrogen. These provisions include: Documenting the procedures for equipment openings and procedures for verifying that events meet the specific conditions above using site procedures used to de-inventory equipment for safety purposes (*i.e.,* hot work or vessel entry procedures) and documenting any deviations from the work practice standard requirements.

b. Refinery MACT 2

We are expanding the proposed 1-percent minimum oxygen operating limit alternative for organic HAP to apply for all FCCU startup and shutdown events (rather than only partial burn FCCU with CO boilers during startup). We are replacing the proposed opacity limit alternative to the metal HAP standard with a minimum cyclone face velocity limit and we are extending that alternative limit to all FCCU (regardless of control device) for both startup and shutdown in this final rule.

We are extending the proposed alternative for SRU to monitor incinerator temperature and excess oxygen limits during SRU shutdowns to also apply during periods of startup.

3. What key comments did we receive on the SSM revisions and what are our responses?

a. Refinery MACT 1

Comment: Many commenters stated that the proposed extension of the MPV definition to episodic maintenance startup and shutdown vents and elimination of the SSM exception for storage tanks would create hundreds or thousands of new vents per refinery per year and generate massive on-going burdens. The commenters argued that the EPA has not included in the record any analysis of the potential environmental benefits, costs or operational and compliance feasibility and impacts associated with this requirement and that many of these requirements will result in delayed and extended equipment and process outages. One commenter asserted that the EPA has articulated no justification for applying emission standards to these events, nor any analysis consistent with CAA section 112 for a determination that MACT standards are appropriately applied to these emission events under the criteria in CAA section 112(d).

Many commenters stated that every time a vessel is opened for inspection or maintenance each vent point will have to be evaluated as a potential MPV or storage tank vent. If a particular vent point (*e.g.,* bleeder) used for maintenance, startup or shutdown handles material that is initially greater than 20 ppm HAP, then it is a MPV. If there is a potential to emit greater than or equal 72 lbs/day of VOC, then it is a Group 1 MPV and must be controlled. If there is a potential of less than 72 lb/day VOC release, then it is a Group 2 MPV and subject to recordkeeping requirements. Commenters stated that in a refinery there would be tens or more such activities per day associated with normal maintenance and inspection; during turnarounds, there could be hundreds of such MPVs. Commenters added that these MPVs may then need to be individually accounted for and permitted creating an unnecessary permitting and recordkeeping burden for these periodic emissions.

Commenters recommended a general set of work practice requirements for maintenance, startup and shutdown of vents, based on state requirements, that do not impose the permitting, notice and evaluation requirements associated with identifying these vents individually. Commenters explained that states have dealt with these episodic vents by establishing them as a special class of process vent with limited recordkeeping requirements and subject to a work practice standard, rather than the normal MPV requirements. A key element of these work practices is clear identification of the criteria for releasing these vents to the atmosphere and for routing these vents to control after hydrocarbon is reintroduced, which the commenters asserted the current rule does not provide. Commenters proposed that a work practice standard could include removing process liquids to the extent practical and depressuring smaller volume equipment until a pressure of <5 psig is achieved and/or purging and depressuring to a control device until the vent has a hydrocarbon concentration of less than 10-percent of the LEL. The commenters suggested that these standards should provide clear easily monitored criteria for when this equipment can be vented to the atmosphere, and should not impose the permitting, notice and evaluation requirements associated with identifying these vents as individual MPVs. One commenter provided draft regulatory language for a work practice requirement.

Response: We proposed to eliminate the episodic and non-routine emission exclusion in order to ensure that the MACT includes emission limits that apply at all times consistent with the holding in Sierra Club. At the time of the proposal, we expected that essentially all SSM event emissions would be routed to flares that are subject to the MACT standards and, thus, would serve to control these emissions. However, we recognize that maintenance activities that require equipment openings are a separate class of startup/shutdown emissions because there must be a point in time when the vessel can be opened and any emissions vented to the atmosphere. We acknowledge that it would require a significant effort to identify and characterize each of these potential release points for permitting purposes.

In considering these comments and whether we should establish a separate limit that would apply to these equipment openings, we reviewed state permit requirements and the practices employed by the best performing sources. We found that some state or local agencies required depressuring to 5 psig prior to atmospheric releases while others required the gases to have organic concentrations at or below 10-percent of LEL prior to atmospheric venting. In the final rule, we are establishing a requirement that prior to opening process equipment to the atmosphere, the equipment must first be drained and purged to a closed system so that the hydrocarbon content is less than or equal to 10-percent of the LEL. For those situations where 10-percent LEL cannot be demonstrated, the equipment may be opened and vented to the atmosphere if the pressure is less than or equal to 5 psig, provided there is no active purging of the equipment to the atmosphere until the LEL criterion is met. For equipment where it is not technically possible to depressurize to a control system, we allow venting to the atmosphere where there is no more than 72 lbs VOC per day potential, consistent with our Group 1 applicability cutoff for control of process vents. For catalyst changeout activities where hydrotreater pyrophoric catalyst must be purged we have provided limited allowances for direct venting. Provisions to demonstrate compliance with this work practice include documenting the procedures for equipment openings and procedures for verifying that events meet the specific conditions above using site procedures used to de-inventory equipment for safety purposes (*i.e.,* hot work or vessel entry procedures).

b. Refinery MACT 2

Comment: Several commenters noted that there was a proposed specific alternative metal HAP/PM standard for startup of an FCCU controlled with an ESP, but took issue with the fact that no alternative PM limits were proposed for startup of FCCU equipped with other types of PM controls, or for any FCCU during periods of shutdown or hot standby. Regarding the proposed alternative for startup, which would provide an alternative in the form of an opacity limit when torch oil is in use, commenters stated that there are serious process safety concerns which prevent most FCCU ESPs from being operated when torch oil is in the regenerator, that is, during periods of startup, shutdown and hot standby. To avoid the possibility of a fire and explosion, the commenters claimed ESPs are usually de-energized and bypassed during these periods and, consequently, these FCCUs are generally unable to meet the proposed 30-percent opacity limit.

Several commenters stated that the EPA's limits on FCCU opacity during SSM are unreasonable and ignore the technical requirements for transitional operations of those units. The commenters indicated that they have ESPs located downstream of the CO boiler and claimed that for safety reasons the CO boiler cannot operate during startup, shutdown or hot standby. Further, a commenter indicated that the ESP cannot operate if the CO boiler is not operating and thus both the CO boiler and the ESP must be bypassed during startup, shutdown, and hot standby operations.

Another commenter stated that the EPA offers no data to support the achievability of this requirement in practice and discusses information for 26 startup/shutdown events that found that none complied with a 30-percent opacity requirement. Several commenters also noted that experience has shown that the 30-percent opacity limit is unachievable during these periods for FCCUs controlled with tertiary cyclones, when regenerator gas flow is below cyclone minimum design flow.

Several commenters suggested that the EPA establish a standard based on the operation of FCCU catalyst regenerators' internal cyclones that function to retain the catalyst in the regenerators and thereby minimize catalyst and metal HAP emissions from the regenerators. Additional control to meet the Refinery MACT 2 emission limit of not more than 1.0 lb PM/1,000 lbs coke burn-off is provided by a bag house, wet gas scrubber (WGS), ESP or tertiary (external) cyclone. The efficiency of a cyclone is a function of the inlet gas velocity. Assuring adequate velocity to the internal cyclones ensures that the catalyst sent to these additional controls is minimized and ensures that they are operating as effectively as possible. Similarly, even if the FCCU cannot meet the normal opacity limits during startup, shutdown or hot standby (*e.g.* due to the ESP being off-line for safety reasons or the tertiary cyclones or WGS operating at non-routine conditions), assuring adequate velocity to the internal regenerator cyclones will control and minimize particulate emissions. Several commenters stated support for another commenter's position that all FCCUs should be allowed the option of complying with a 20 feet/second minimum inlet velocity to the primary regenerator cyclones during periods of startup and shutdown, including hot standby, and these commenters provided additional technical explanations in their comments.

On the other hand, some commenters seemed to support the proposed opacity limits, but suggested minor revisions. One commenter noted that the SCAQMD has granted Valero's request for variances from visible emission standards during startup of the FCCU of up to 65-percent opacity for up to five minutes, in aggregate, during any 1-hour period, and 30-percent as an hourly average for the remaining period, during startup events. The application of this variance reflects the unavailability and/or ineffectiveness of the ESP during the startup condition. Another commenter recommended that either the opacity standard should be raised or the time period for averaging should be extended so FCCUs can be operated safely during SSM events and still remain in compliance.

Response: We have reviewed the data submitted by the commenters to support their assertion that the 30-percent opacity limit (determined on a 6-minute average basis) is not achievable during startup and shutdown events. While the data are limited, and it is unclear if the data provided are indicative of the performance achieved by the best performing sources, we do not have adequate data to refute the assertion that the 30-percent opacity limit (determined on a 6-minute average basis) is not achievable during startup and shutdown events. We considered the two options suggested by the commenters, the minimum velocity for the internal FCCU regenerator cyclones and the 30-percent hourly average opacity limit excluding 5 minutes not exceeding 65-percent opacity. Again, due to the limited data available during startup and shutdown events, we are not able to determine which requirement would provide greater HAP emissions reduction. However, we note that some facilities may not be required to have an opacity monitoring system in place and opacity monitoring is not applicable for FCCU controlled with wet scrubbers. Therefore, we find that the minimum internal cyclone inlet velocity requirement is more broadly applicable than the opacity limit. Also, based on the data provided by the commenters, the minimum internal cyclone inlet velocity requirement will provide PM (and therefore metal HAP) emissions reductions during startup and shutdown periods. Therefore, considering the available data, we conclude that MACT for FCCU startup and shutdown events is maintaining the minimum internal cyclone inlet velocity of 20 feet/second.

Comment: Several commenters stated that the EPA should provide alternate standards for startups of FCCU equipped with CO boilers and for any FCCU during periods of shutdown and hot standby. The commenters stated that the EPA incorrectly assumes that refiners are able to safely and reliably start up their FCCU with flue gas boilers in service and meet the normal operating limit of 500 ppm CO. They claimed that most refiners are unable to reliably start up their FCCU with flue gas boilers in service due to the design of the boiler and the fact that many boilers are not able to safely and reliably handle the transient FCCU operations that can occur during startup, shutdown, and hot standby. One commenter stated that FCCU built with CO boilers experience issues with flame stability due to fluctuating flue gas compositions and rates when starting up and shutting down. Accordingly, the commenter stated, startup and shutdown activities at FCCU using a boiler as an APCD are not currently meeting the Refinery MACT 2 standard of 500 ppm CO on a 1-hour basis, and this level of control does not qualify as the MACT floor. The commenter gave examples of facilities where FCCU, including those equipped with post-combustion control systems, do not consistently demonstrate compliance with a 500 ppm CO concentration standard during all startup and shutdown events.

Commenters stated that reliable boiler operation is critical to the overall refinery steam system and refineries must avoid jeopardizing boiler operation to prevent major upsets of process operations. A major upset or site-wide shutdown could result in flaring and emissions of HAP far in excess of that emitted while bypassing the CO boiler.

Commenters stated that combustion of torch oil in the FCCU regenerator during startup is one of the primary reasons the CO limit cannot be met during these operations. Torch oil is also used during shutdown to control the cooling rate (and potential equipment damage) and during hot standby and, thus, the normal CO standard cannot be met at these times either. Hot standby is used to hold an FCCU regenerator at operating temperature for outages where a regenerator shutdown is not needed and to avoid full FCCU shutdowns. Full cold shutdown also increases personnel exposures associated with removing catalyst and securing equipment. Additionally, this can produce additional emissions over maintaining the unit in hot standby. Commenters claimed that because of the variability of CO during torch oil operations, it is not possible for the EPA to establish a CAA section 112(d) standard for startup and shutdown activities at FCCU because refineries cannot measure a constant level of emissions reductions.

The commenters recommended expansion of the proposed standard of greater than 1-percent hourly average excess regenerator oxygen to all FCCU, including units with fired boilers. These commenters suggested that maintaining an adequate level of excess oxygen for the combustion of fuel in the regenerator is the best way to minimize CO and organic HAP emissions from FCCU during these periods.

Response: After reviewing the comments and discussing CO boiler operations with facility operators, we agree that the 1-percent minimum oxygen limit should be more broadly applicable to FCCU startup and shutdown regardless of the control device configuration and have revised the final rule accordingly.

Comment: Several commenters stated that the proposed alternative standards for SRP shutdowns should be extended to startups as well since the normal SRP emission limitation cannot always be achieved during SRP startups. Several commenters gave examples of startup activities where this relief is needed, and noted there may be other startup activities that also need this relief.

Response: For the control of sulfur HAP, we determined that incineration effectively controls these HAP. We were not aware that there would be unusual sulfur loads in the SRU tail gas during startup. We agree that the alternative standard we proposed for periods of shutdown is also the MACT floor for periods of startup because incineration meeting the limits proposed will achieve the MACT control requirements for sulfur HAP during periods of either startup or shutdown even though sulfur loadings during these periods may be elevated. For many SRU configurations, compliance during normal operations is demonstrated by monitoring SO_2 emissions. However, during startup and shutdown, high sulfur loadings in the SRU tail gas entering the incinerator will cause high SO_2 emissions even though sulfur HAP emissions are well controlled. Consequently, the proposed incinerator operating limits provide a better indication of sulfur HAP control during startup and shutdown than SO_2 emissions. Owners or operators that use incinerators or thermal oxidizers during normal operations may meet the site-specific temperature and excess oxygen operating limits that were determined based on their performance test during periods of startup and shutdown.

4. What is the rationale for our final approach and final decisions to address emissions during periods of SSM?

a. Refinery MACT 1

We did not receive comments regarding the proposed amendments to Table 6 of subpart CC of 40 CFR part 63; therefore, for the reasons provided in the preamble to the proposed rule, we finalizing these amendments as proposed.

We determined that it was overly burdensome and in most cases technically infeasible to consider every potential equipment or vessel opening and classify these ‘‘openings’’ (newly classified as MPV in the proposal) as either Group 1 or Group 2 MPV. We also determined that it is not always technically feasible, depending on the opening, to demonstrate compliance with the MPV emissions limitations. After considering the public comments, we determined it was appropriate to establish separate startup and shutdown provisions for MPV associated with process equipment openings. We reviewed state and local requirements and based the final rule requirements on the emissions limitations required to be followed by the best performing sources. Therefore, we are finalizing requirements for refinery owners or operators to open process equipment during these startup and shutdown events without directly permitting these ‘‘vents’’ as Group 1 or Group 2 MPV provided that the equipment is drained and purged to a closed system until the hydrocarbon content is less than or equal to 10-percent of the LEL. As described in further detail previously in this section, we have provided provisions for special cases where the 10-percent LEL limit cannot be demonstrated and provisions for less significant equipment openings, consistent with the practices used by the best performing facilities.

b. Refinery MACT 2

We did not receive significant comments regarding the proposed amendments to Table 44 to subpart UUU of 40 CFR part 63; therefore, we finalizing these amendments as proposed.

In response to comments, we determined that the limited provisions that were provided for startup only or for shutdown only were too limited and we have expanded the proposed provisions to both startup and shutdown regardless of control device used. For the FCCU organic HAP emissions limit, we are finalizing an alternative limit for periods of startup of no less than 1-percent oxygen in the exhaust gas as proposed, but we are extending that alternative limit to shutdown and to all FCCU in this final rule.

For the FCCU metal HAP emissions limit, we proposed a specific startup limit for FCCU controlled be an ESP of 30-percent opacity. We received comments along with limited data suggesting that this limit was not achievable. Commenters suggested that the best performing units maintain a minimum face velocity of at least 20 feet/second to minimize catalyst PM losses during startup and shutdowns. Operators of wet scrubbers also noted that they cannot maintain pressure drops and that one cannot meet the PM emissions limit normalized by coke burn-off rate when the coke burn-off rate approaches zero. Consequently, commenters stated that the alternative limits should be provided for startup and shutdown regardless of control device. Upon consideration of the comments, we determined that it was necessary to revise the proposed alternative to be based on minimum inlet face velocity to the FCCU regenerator internal cyclones and provide the alternative for both startup and shutdown. We also expanded this limit to all FCCU; however, we also required FCCU with wet scrubbers to meet only the liquid to gas ratio operating limit during periods of startup and shutdown to allow wet scrubbers to use a consistent compliance method at all times.

For SRU, we are finalizing an alternative standard during periods of startup and shutdown to use a flare that meets the operating limits included in the final rule or a thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 °F and a minimum hourly average outlet oxygen concentration of 2 volume percent (dry basis). We proposed these alternatives for periods of shutdown only, but based on comments received regarding startup issues, we determined that high sulfur loadings can occur during periods of startup and that the alternative limit proposed was appropriate for both startup and shutdown.

E. Technical Amendments to Refinery MACT 1 and 2

1. What other amendments did we propose for Refinery MACT 1 and 2?

We proposed a number of amendments to Refinery MACT 1 and 2 to address technical issues such as rule language clarifications and reference corrections. First, we proposed to amend Refinery MACT 1 to clarify what is meant by ''seal'' for open-ended valves and lines that are ''sealed'' by the cap, blind flange, plug, or second valve by stating that sealed means when there are no detectable emissions from the open-ended valve or line at or above an instrument reading of 500 ppm. Second, we also proposed electronic reporting requirements where owners or operators of petroleum refineries must submit electronic copies of required performance test and performance evaluation reports for compliance with Refinery MACT 1 and 2 by direct computer-to-computer electronic transfer using EPA-provided software. Third, we proposed to update the General Provisions Tables 6 (for Refinery MACT 1) and 44 (for Refinery MACT 2) to correct cross references and to incorporate additional sections of the General Provisions that are necessary to implement these rules.

2. How did the other amendments for Refinery MACT 1 and 2 change since proposal?

We are not finalizing the definition of ''seal'' for open-ended lines as proposed. We are finalizing changes to update the General Provisions cross-reference tables as proposed, with one minor change to provide an option for the administrator to issue guidance on performance test reporting timeframes in order to address issues relating to submittal of data to the ERT.

3. What key comments did we receive on the other amendments for Refinery MACT 1 and 2 and what are our responses?

Comment: Numerous commenters objected to the proposal to clarify the meaning of ''seal'' as it relates to open-ended line (OEL) standards. Commenters contend that there is no basis for the EPA to assert that the proposed definition merely ''clarifies'' an established interpretation of the term ''seal'' and stated that the proposed revision constitutes an illegal change in the requirements for OELs, and the clarification should not be finalized.

One commenter stated that none of the MACT standards in place before this proposal have stated or suggested that a ''sealed'' OEL is one with detectable emissions below 500 ppm. This commenter added this unique interpretation of the requirement to ''seal'' an OEL with a cap or plug is incompatible with the historical interpretation of this requirement by affected facilities and by the EPA, and the EPA has not issued any sort of definitive guidance or interpretation setting out this position. The commenter detailed numerous references to considerations the EPA has made relative to OEL requirements in LDAR programs. In addition to the examples cited, the commenter noted that in 2006, the EPA proposed to add a ''no detectible emissions'' limit and monitoring requirement for OELs to NSPS VV (71 FR 65317, November 7, 2006). Two commenters noted that the proposed monitoring was not finalized in either NSPS VV or VVa (72 FR 64860, November 16, 2007) because it was not considered BDT due to the low emission reductions and the cost effectiveness of the requirement. Another commenter agreed that there is no explanation provided for why this information could now support the need for a new OEL seal standard that requires monitoring to ensure compliance when it was deemed to be unjustified previously.

In addition, the commenter collected OEL monitoring data and submitted it to the EPA (see Docket Item No. EPA–HQ–OAR–2010–0869–0058). Based on these data, the commenter asserted that the existence of leaks from OELs that are not properly sealed is extremely low.

The commenter noted that the EPA is claiming this change is only a clarification of current requirements, allowing the EPA to bypass the need to cite a CAA authorization for this change to the existing CAA section 112(d)(2) standard or meet the process requirements associated with such a change, including providing emission reduction, cost and burden estimates in the record and the associated PRA Information Collection Request (ICR).

Several commenters claimed that this clarification would result in retroactive impact and also addressed the implication of the proposed change on other fugitive emissions standards. One commenter stated that the EPA cannot retroactively reinterpret the OEL requirements or define the word ''seal'' and added that the EPA should account for the thousands of additional monitoring events per year per refinery that this new requirement would add to LDAR programs and provide proper cost justification under CAA sections 112(d)(6) or 112(f)(2).

Several commenters also stated that the proposed definition will effectively change all equipment leak rules in parts 40 CFR parts 60, 61 and 63 and the change should not be finalized. One commenter added that by claiming this change is only a clarification of current requirements, the EPA would set a precedent applicable to all OELs in all industries subject to any similar OEL equipment leak requirement.

Response: We have decided not to finalize the proposed clarification of the term ''seal'' for OELs at this time. The fenceline monitoring requirements we are finalizing will detect any significant leaks from a cap, blind flange, plug or second valve that does not properly seal an OEL, as well as significant leaks from numerous other types of fugitive emission sources.

Comment: A few commenters stated that the proposed use of the ERT is not appropriate because the costs and burdens imposed are additive to the costs of producing and submitting the written report, and there is no benefit that justifies the additional cost. One commenter also stated that the EPA has not developed or articulated a reasonable approach to using information that would be uploaded to the ERT. The commenters recommended that the EPA remove this portion of the proposal until the ERT is demonstrated to handle all the information from refinery performance tests (rather than only portions), thereby eliminating the need for both written and electronic reporting and until the Agency demonstrates that it is using the electronic data to develop improved air quality emission factors.

Other commenters stated that the ERT requirement does not supersede or replace any state reporting requirements and thus the regulated industry will be subject to dual reporting requirements. These commenters disagreed with the preamble claim that eliminating the recordkeeping requirements for performance test reports is a burden savings, and stated that it may duplicate burdens already borne by the regulated community.

The commenters expressed further concern that duplicative reporting requirements will strain the regulated industry to comply with deadlines established by rule for report submittals. One commenter stated that there is no mechanism for obtaining extensions for special circumstances. Under proposed 40 CFR 63.655(h)(9)(i), all reports are due in 60 days. The commenter claimed that by not referencing reporting requirements to the General Provisions in 40 CFR 63.10(d)(2), there is no allowance for obtaining additional time due to unforeseen circumstances or due to the difficulties involved with completing particularly complex reports.

One commenter stated that the primary performance test method (Method 18) required for determining compliance is not currently included in the list of methods supported by the ERT. The commenter stated that the regulated community's experience with Method 18 is that it is a very broad methodology and can be exceptionally complex to execute and to report. The commenter stated that the EPA is aware that Method 18 reporting is complex, that it may be difficult to incorporate into the ERT, and that no time schedule has been defined for development or implementation for this method.

The commenter also stated that without formal notice of changes to the ERT, the regulated community is at risk of non-compliance. The only way for the regulated community to know that changes have occurred in the ERT is to monitor the Web site directly because the EPA does not formally announce changes to the ERT in the **Federal Register**. As such, it would be possible for a regulated entity to be unaware of changes made such as the incorporation of Method 18. The commenter expressed concern that the proposal language is an open-ended commitment subject to change without notice. The commenter stated that the EPA should clearly indicate when facilities would be required to use the ERT when new test methods are included in the ERT.

Response: We disagree that use of the ERT for completing stack test reports is an added cost and burden. While the requirement to report the results of stack tests with the ERT does not supersede state reporting requirements, we are aware of several states that already require the use of the ERT, and we are aware of more states that are considering requiring its use. We note that where states will not accept an electronic ERT submittal, the ERT provides an option to print the report, and the printed report can be mailed to the state agency. We have no reason to believe that the time savings in the ability to reuse data elements within reports does not, at a minimum, offset the cost incurred by printing out and mailing a copy of the report and the commenters have provided no support for their cost claims.

Furthermore, based on the analysis performed for the Electronic Reporting and Recordkeeping Requirements for the New Source Performance Standards Rulemaking (ERRRNSPS) (80 FR 15100), electronic reporting results in an overall cost savings to industry when annualized over a 20-year period. The cost savings is achieved through means such as standardization of data, embedded quality assurance checks, automatic calculation routines and reduced data entry through the ability to reuse data in files instead of starting from scratch with each test. As outlined in the ERRRNSPS, there are many benefits to electronic reporting. These benefits span all users of the data—the EPA, state and local regulators, the regulated entities and the public. We note that in the preamble to this proposed rule we provided a number of reasons why the use of the ERT will provide benefit going forward and that most of the benefits we outlined were longer-term benefits (*e.g.,* reducing burden of future information collection requests). Additionally, we note that in 2011, in response to Executive Order 13563, the EPA developed a plan [13] to periodically review its regulations to determine if they should be modified, streamlined, expanded or repealed in an effort to make regulations more effective and less burdensome. The plan includes replacing outdated paper reporting with electronic reporting. In keeping with this plan and the White House's Digital Government Strategy, [14] in 2013 the EPA issued an agency-wide policy specifying that new regulations will require reports to be electronic to the maximum extent possible. By requiring electronic submission of stack test reports in this rule, we are taking steps to implement this policy. We also disagree that we have not developed or articulated a reasonable approach to using information that would be uploaded to the ERT. To the contrary, we have discussed at length our plans for the use of stack test data collected via the ERT. In 2009, we published an advanced notice of proposed rulemaking (74 FR 52723) for the Emissions Factors Program Improvements. In that notice, we first outlined our intended approach for revising our emissions factors development procedures. This approach included using stack test data collected with the ERT. We reiterated this position in our ''Recommended Procedures for the Development of Emissions Factors and Use of the WebFIRE Database'' (*http://www.epa.gov/ttn/chief/efpac/procedures/procedures81213.pdf*), which was subject to public notice and comment before being finalized in 2013. Finally, we discussed uses of these data in the preamble to the proposed rule and at length in the preamble to the ERRRNSPS.

We think that it is a circular argument to say that the agency should eliminate the use of the ERT until it demonstrates that it is using the electronic data. It would be impossible for the agency to use data that it does not have. We can only use electronic data once we have electronic data. We do note that we are nearing completion of programming the WebFIRE database with our new emissions factor development procedures and anticipate running the routines on existing data sets in the near future.

We continue to improve and upgrade the ERT on an ongoing basis. The current version of the ERT supports 41 methods, including EPA Methods 1–4, 5, 5B, 5F, 25A 26, and 26A. We note that the ERT does not currently support EPA Method 18, and for performance tests using Method 18, the source will still have to produce a paper report. However, we are aware of the need to add Method 18 to the ERT, and we are currently looking at developing this capability. As noted in the ERRRNSPS, when new methods are added to the

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[13] EPA's ''Final Plan for Periodic Retrospective Reviews,'' August 2011. Available at: *http://www.epa.gov/regdarrt/retrospective/documents/eparetroreviewplan-aug2011.pdf.*

[14] Digital Government: Building a 21st Century Platform to Better Serve the American People, May 2012. Available at: *https://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf.*

ERT, we will not only post them to the Web site; we will also send out a listserv notice to the Clearinghouse for Inventories and Emissions Factors (CHIEF) listserv. Information on joining the CHIEF listserv can be found at *http://www.epa.gov/ttn/chief/listserv.html#chief*. We are requiring the use of the ERT if the method is supported by the ERT, as listed on the ERT Web site (*http://www.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test. We do not agree that it is overly burdensome to check a Web site for updates prior to conducting a performance test.

We did revise the MACT 1 and 2 tables referencing reporting requirements to the general provisions (Table 6 for Refinery MACT 1 and Table 44 for Refinery MACT 2) to provide flexibility in the 60-day reporting timeline to accommodate unforeseen circumstances or difficulties involved with completing particularly complex reports.

4. What is the rationale for our final approach and final decisions for the other amendments for Refinery MACT 1 and 2?

We are not finalizing the definition of seal, as proposed. The fenceline monitoring work practice standard will detect any significant leaks from a cap, blind flange, plug or second valve that does not properly seal an OEL, as well as significant leaks from numerous other types of fugitive emission sources.

We are finalizing requirements for electronic reporting, as proposed, with a minor clarification. Specifically, we are revising Tables 6 in subpart CC and 44 in subpart UUU, which cross-reference the applicable provisions in the General Provisions to provide flexibility in the ERT 60-day reporting timeline. Refiners can seek approval from the EPA or a delegated state additional time for submittal of data due to unforeseen circumstances or due to the difficulties involved with completing particularly complex reports.

F. Technical Amendments to Refinery NSPS Subparts J and Ja

1. What amendments did we propose for Refinery NSPS Subparts J and Ja?

We proposed a number of amendments to Refinery NSPS subparts J and Ja to address reconsideration issues and minor technical clarifications. First, we proposed revisions to 40 CFR 60.100a(b) to include a provision that sources subject to Refinery NSPS subpart J could elect to comply instead with the provisions of Refinery NSPS subpart Ja.

Second, we proposed a series of amendments to the requirements for SRP in 40 CFR 60.102a, to clarify the applicable emission limits for different types of SRP based on whether oxygen enrichment is used. The amendments proposed also clarified that emissions averaging across a group of emission points within a given SRP is allowed for each of the different types of SRP, and that emissions averaging is specific to the SO_2 or reduced sulfur standards (and not to the 10 ppmv hydrogen sulfide (H_2S) limit). We also proposed a series of corresponding amendments in 40 CFR 60.106a to clarify the monitoring requirements, particularly when oxygen enrichment or emissions averaging is used. We also proposed clarifications in 40 CFR 60.106a to consistently use the term ''reduced sulfur compounds'' when referring to the emission limits and monitoring devices needed to comply with the reduced sulfur compound emission limits for sulfur recovery plants with reduction control systems not followed by incineration.

Third, we proposed amendments to 40 CFR 60.102a(g)(1) to clarify that CO boilers, while part of the FCCU affected facility, can also be FGCD.

Fourth, we proposed several revisions to 40 CFR 60.104a to clarify the performance testing requirements. We proposed revision to 40 CFR 60.104a(a) to clarify that an initial compliance demonstration is needed for the H_2S concentration limit in 40 CFR 60.103a(h). We proposed revisions to the annual PM testing requirement in 40 CFR 60.104a(b) to clarify that annually means once per calendar year, with an interval of at least 8 months but no more than 16 months between annual tests. We also proposed to amend 40 CFR 60.104a(f) to clarify that the provisions of that paragraph are specific to owners or operators of an FCCU or FCU that use a cyclone to comply with the PM emissions limit in 40 CFR 60.102a(b)(1) and not to facilities electing to comply with the PM emissions limit using a PM CEMS. We also proposed to amend 40 CFR 60.104a(j) to delete the requirements to measure flow for the H_2S concentration limit for fuel gas.

Fifth, we proposed several amendments to clarify the requirements for control device operating parameters in 40 CFR 60.105a. Specifically, we proposed amendments to 40 CFR 60.105a(b)(1)(ii)(A) to require corrective action be completed to repair faulty (leaking or plugged) air or water lines within 12 hours of identification of an abnormal pressure reading during the daily checks. We also proposed revisions to 40 CFR 60.105a(i) to specify that periods when abnormal pressure readings for a jet ejector-type wet scrubber (or other type of wet scrubber equipped with atomizing spray nozzles) are not corrected within 12 hours of identification and periods when a bag leak detection system alarm (for a fabric filter) is not alleviated within the time period specified in the rule are considered to be periods of excess emissions.

We also proposed amendments to 40 CFR 60.105(b)(1)(iv) and 60.107a(b)(1)(iv) to provide flexibility in span range to accommodate different manufacturers of the length-of-stain tubes. We also proposed to delete the last sentence in 40 CFR 60.105(b)(3)(iii).

Finally, we proposed clarification to the performance test requirements for the H_2S concentration limit for affected flares in 40 CFR 60.107a(e)(1)(ii) and (e)(2)(ii) to remove the distinction between flares with or without routine flow.

2. How did the amendments to Refinery NSPS Subparts J and Ja change since proposal?

We are making very few changes to the amendments proposed for Refinery NSPS subparts J and Ja. In response to comments, we are revising the NSPS requirements to replace the ''measurement sensitivity'' requirements with accuracy requirements consistent with those used in Refinery MACT 1 and 2. Specifically, we are revising 40 CFR 60.106a(a)(6)(i)(B) and (7)(i)(B) to require use of a flow sensor meeting an accuracy requirement of ±5-percent over the normal range of flow measured or 10-cubic-feet-per-minute, whichever is greater. We are also revising the flare accuracy requirements in 40 CFR 60.107a(f)(1)(ii) to require use of a flow sensor meeting an accuracy requirement of ±20-percent of the flow rate at velocities ranging from 0.1 to 1 feet per second and an accuracy of ±5-percent of the flow rate for velocities greater than 1-feet-per-second.

Finally, we are revising 40 CFR 60.101a(b) to correct an inadvertent error where the phrase ''and delayed coking units'' was not included in the proposed sentence revision.

3. What key comments did we receive on the amendments to Refinery NSPS Subparts J and Ja and what are our responses?

Comment: Two commenters noted concern with the term ''measurement sensitivity'' in proposed 40 CFR 60.106a(a)(6)(i)(B) and (a)(7)(i)(B) for sulfur recovery unit monitoring alternatives and in existing regulations 40 CFR 60.107a(f)(1)(ii) for flares because ''sensitivity'' is not a term found on typical monitoring system data sheets. Typical flow meter characteristics include terms such as accuracy and resolution and the commenters requested that the EPA revise the terminology to match the wording found in 40 CFR part 63, subpart CC, Table 13 for flow meters (*i.e.,* accuracy requirements). Additionally, several commenters suggested that the EPA flow monitor accuracy specifications are inconsistent with those in the SCAQMD Flare Rule and many refinery consent decrees. The commenters recommended revising both the flare flow meter sensitivity specification and accuracy specification in Refinery MACT 1 Table 13 and in Refinery NSPS subpart Ja to be consistent with the accuracy specification from the Shell Deer Park Consent Decree, Appendix 1.10, which specifies the required flare flow meter accuracy as ''±20% of reading over the velocity range of 0.1–1 feet per second (ft/s) and ±5% of reading over the velocity range of 1–250 ft/s.''

Response: We proposed the term ''measurement sensitivity'' in proposed 40 CFR 60.106a(a)(6)(i)(B) and (a)(7)(i)(B) to be internally consistent within Refinery NSPS subpart Ja [*i.e.,* consistent with the existing language in § 60.107a(f)(1)(ii)]. However, we agree with the commenters that this term may be unclear. This term is not defined in Refinery NSPS subpart Ja and it is not commonly used in the flow monitoring system's technical specification sheets. Therefore, to be consistent with the terminology used by instrument vendors and used in Refinery MACT 1 and 2, we are revising these sections to replace the term ''measurement sensitivity'' with ''accuracy.'' We are also revising the flow rate accuracy provisions specific for flares to provide an accuracy requirement of ±20-percent over the velocity range of 0.1–1 ft/s and ±5% for velocities exceeding 1 ft/s in 40 CFR 60.107a(f)(1)(ii) and in Table 13 of subpart CC. We are providing this provision specifically for flares because they commonly operate at high turndown ratios. For other flow measurements, we are retaining the 10-cubic-foot-per-minute accuracy requirement. We are also clarifying that the ±5-percent accuracy requirement for the SRU alternatives apply to the ''the normal range of flow measured'' consistent with the requirements in Refinery MACT 1 and 2.

Comment: One commenter stated that in the proposed revisions to 40 CFR 60.100a, (79 FR 36956), the EPA proposes to remove the phrase ''and delayed coker units'' from 40 CFR 60.100a(b). However, we state the compliance date for both flares and delayed coker units separately in the same paragraph. The commenter believes the EPA should explain the reason for and implications of the removal of this phrase.

Response: The removal of the phrase ''and delayed coking units'' from the first sentence in 40 CFR 60.100a(b) was an inadvertent error. The only revision that we intended to make in 40 CFR 60.100a was to allow owners or operators subject to subpart J to elect to comply with the requirements in subpart Ja. In the final amendments, we have included the phrase ''and delayed coking units'' in the first sentence in 40 CFR 60.100a(b).

4. What is the rationale for our final approach and final decisions for the amendments to Refinery NSPS Subparts J and Ja?

We are finalizing amendments for Refinery NSPS subparts J and Ja as proposed with minor revisions. In response to comments, we are revising the ''measurement sensitivity'' requirements to be an ''accuracy'' requirement. This change will make the requirements more clear and consistent between the flow meter requirements in the NSPS and the MACT standards since the same flow meter will be subject to each of these requirements. We are also providing a dual accuracy requirement for flare flow meters. This accuracy requirement is necessary because flares, which can have large diameters to accommodate high flows, are commonly operated at low flow rates. Together, this makes it technically infeasible for many flares to meet the lower flow 10 cfm accuracy requirement. Therefore, we are providing specific accuracy requirements for flares of ±20-percent over the velocity range of 0.1–1 ft/s and ±5-percent for velocities exceeding 1 ft/s, consistent with recent consent decrees and equipment vendor specifications.

Finally, we are revising the introductory phrase in the first sentence in 40 CFR 60.101a(b) to read ''Except for flares and delayed coking units . . .'' to correct an inadvertent error. We intended to revise this sentence only to include the proposed provision to allow sources subject to Refinery NSPS subpart J to comply with Refinery NSPS subpart Ja. The redline text posted on our Web site showed no revisions to this introductory phrase, but the amendatory text did not include the words ''and delayed coking units'' in this phrase. This was an inadvertent error, which we are correcting in the final rule.

V. Summary of Cost, Environmental and Economic Impacts and Additional Analyses Conducted

A. What are the affected facilities, the air quality impacts and cost impacts?

The sources affected by significant amendments to the petroleum refinery standards include flares, storage vessels, pressure relief devices, fugitive emissions and DCU. The amendments for other sources subject to one or more of the petroleum refinery standards are expected to have minimal air quality and cost impacts.

The total capital investment cost of the final amendments and standards is estimated at $283 million, $112 million from the final amendments for storage vessels, DCU and fenceline monitoring and $171 million from standards to ensure compliance. We estimate annualized costs of the final amendments for storage vessels, DCU and fenceline monitoring to be approximately $13.0 million, which includes an estimated $11.0 million for recovery of lost product and the annualized cost of capital. We also estimated annualized costs of the final standards to ensure compliance to be approximately $50.2 million. The final amendments for storage vessels, DCU and fenceline monitoring would achieve a nationwide HAP emission reduction of 1,323 tpy, with a concurrent reduction in VOC emissions of 16,660 tpy and a reduction in methane emissions of 8,700 metric tonnes per year. Table 2 of this preamble summarizes the cost and emission reduction impacts of the final amendments, and Table 3 of this preamble summarizes the costs of the final standards to ensure compliance.

TABLE 2—NATIONWIDE IMPACTS OF FINAL AMENDMENTS (2010$)

Affected source	Total capital investment (million $)	Total annualized cost without credit (million $/yr)	Product recovery credit (million $/yr)	Total annualized costs (million $/yr)	Methane emission reductions (metric tpy)	VOC emission reductions (tpy)	Cost effective-ness ($/ton VOC)	HAP emission reductions (tpy)	Cost effective-ness ($/ton HAP)
Storage Vessels	18.5	3.13	(8.16)	(5.03)		14,600	(345)	910	(5,530)
Delayed Coking Units	81	14.5	(2.80)	11.7	8,700	2,060	5,680	413	28,330
Fugitive Emissions (Fenceline Monitoring)	12.5	6.36		6.36					
Total	112	24.0	(11.0)	13.0	8,700	16,660	780	1,323	9,830

TABLE 3—NATIONWIDE COSTS OF FINAL AMENDMENTS TO ENSURE COMPLIANCE (2010$)

Affected Source	Total capital investment (million $)	Total annualized cost without credit (million $/yr)	Product recovery credit (million $/yr)	Total annualized costs (million $/yr)
Relief Device Monitoring	11.1	3.3		3.3
Flare Monitoring	160	46.5		46.5
FCCU Testing		0.4		0.4
Total	171	50.2		50.2

The impacts shown in Table 2 do not include costs, product recovery credits, or emissions reductions associated with any root cause analysis or corrective action taken in response to the final amendments for fenceline monitoring. The impacts shown in Table 3 do not include (i) the costs or emissions reductions associated with any root cause analysis and corrective action taken in response to the final source performance testing at the FCCUs, or (ii) emissions reductions associated with corrective action taken in response to pressure relief device or (iii) emissions reductions associated with the flare operating and monitoring provisions. The operational and monitoring requirements for flares at refineries have the potential to reduce excess emissions from flares by up to approximately 3,900 tpy of HAP and 33,000 tpy of VOC. The operational and monitoring requirements for flares also have the potential to reduce methane emissions by 25,800 metric tonnes per year while increasing emissions of carbon dioxide (CO2) and nitrous oxide by 267,000 metric tonnes per year and 2 metric tonnes per year, respectively, yielding a net reduction in GHG emissions of 377,000 metric tonnes per year of CO2 equivalents (CO_2e).

B. What are the economic impacts?

We performed a national economic impact analysis for petroleum product producers. All petroleum product refiners will incur annual compliance costs of less than 1-percent of their sales. For all firms, the minimum cost-to-sales ratio is <0.01-percent; the maximum cost-to-sales ratio is 0.87-percent; and the mean cost-to-sales ratio is 0.03-percent. Therefore, the overall economic impact of this proposed rule should be minimal for the refining industry and its consumers.

In addition, the EPA performed a screening analysis for impacts on small businesses by comparing estimated annualized engineering compliance costs at the firm-level to firm sales. The screening analysis found that the ratio of compliance cost to firm revenue falls below 1-percent for the 28 small companies likely to be affected by the proposal. For small firms, the minimum cost-to-sales ratio is <0.01-percent; the maximum cost-to-sales ratio is 0.62-percent; and the mean cost-to-sales ratio is 0.07-percent.

More information and details of this analysis is provided in the technical document ''Economic Impact Analysis for Petroleum Refineries Proposed Amendments to the National Emissions Standards for Hazardous Air Pollutants'', which is available in the docket for this rule (Docket ID No. EPA–HQ–OAR–2010–0682).

C. What are the benefits?

The final rule is anticipated to result in a reduction of 1,323 tpy of HAP (based on allowable emissions under the MACT standards) and 16,660 tpy of VOC, not including potential emission reductions that may occur as a result of the operating and monitoring requirements for flares and fugitive emission sources via fenceline monitoring. These avoided emissions will result in improvements in air quality and reduced negative health effects associated with exposure to air pollution of these emissions; however, we have not quantified or monetized the benefits of reducing these emissions for this rulemaking.

D. Impacts of This Rulemaking on Environmental Justice Populations

To examine the potential impacts on vulnerable populations (minority, low-income and indigenous communities) that might be associated with the Petroleum Refinery source categories addressed in this final rule, we evaluated the percentages of various social, demographic and economic groups in the at-risk populations living near the facilities where these sources are located and compared them to national averages. Our analysis of the demographics of the population with estimated risks greater than 1-in-1 million indicates potential disparities in risks between demographic groups including the African American, Other and Multiracial, Hispanic, Below the Poverty Level, and Over 25 without a High School Diploma when compared to the nationwide percentages of those groups. These groups will benefit the most from the emission reductions achieved by this final rulemaking, which is projected to result in 1 million fewer people exposed to risks greater than 1-in-1 million.

Additionally, these communities will benefit from this rulemaking, as this rulemaking for the first time ever requires fenceline monitoring, and reporting of fenceline data. The agency during the pre-proposal period and during the comment period received feedback from communities on the importance of having fenceline monitoring in their communities and the importance of communities having access to this data. The EPA believes that vulnerable communities will benefit from this data and the requirements that EPA has put in place in this rulemaking to manage fugitive emissions.

E. Impacts of This Rulemaking on Children's Health

Under Executive Order 13045 the EPA must evaluate the effects of the planned regulation on children's health and safety. This action's health and risk assessments are contained in section IV.A of this preamble. We believe we have adequately estimated risk for children, and we do not believe that the environmental health risks addressed by this action present a disproportionate risk to children. When the EPA derives exposure reference concentrations and unit risk estimates (URE) for HAP, it also considers the most sensitive populations identified (*i.e.*, children) in the available literature, and importantly, these are the values used in our risk assessments. With regard to children's potentially greater susceptibility to non-cancer toxicants, the assessments rely on the EPA (or comparable) hazard identification and dose-response values which have been developed to be protective for all subgroups of the general population, including children. With respect to cancer, the EPA uses the age-dependent adjustment factor approach, and applies these factors to carcinogenic pollutants that are known to act via mutagenic mode of action. Further details are provided in the ''Final Residual Risk Assessment for the Petroleum Refining Source Sector'', Docket ID No. EPA–HQ–OAR–2010–0682.

VI. Statutory and Executive Order Reviews

A. Executive Orders 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket. The EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, ''Economic Impact Analysis: Petroleum Refineries—Final Amendments to the National Emissions Standards for Hazardous Air Pollutants and New Source Performance Standards'' is available in Docket ID Number EPA–HQ–OAR–2010–0682.

B. Paperwork Reduction Act (PRA)

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 et se. The information collection requirements are not enforceable until OMB approves them.

Adequate recordkeeping and reporting are necessary to ensure compliance with these standards as required by the CAA. The ICR information collected from recordkeeping and reporting requirements is also used for prioritizing inspections and is of sufficient quality to be used as evidence in court.

The ICR document prepared by the EPA for the amendments to the Petroleum Refinery MACT standards for 40 CFR part 63, subpart CC has been assigned the EPA ICR number 1692.08. Burden changes associated with these amendments would result from new monitoring, recordkeeping and reporting requirements. The estimated annual increase in recordkeeping and reporting burden hours is 99,722 hours; the frequency of response is quarterly and semiannual for reports for all respondents that must comply with the rule's reporting requirements; and the estimated average number of likely respondents per year is 95 (this is the average in the second year). The cost burden to respondents resulting from the collection of information includes the total capital cost annualized over the equipment's expected useful life (about $18 million, which includes monitoring equipment for fenceline monitoring, pressure relief devices, and flares), a total operation and maintenance component (about $21 million per year for fenceline and flare monitoring), and a labor cost component (about $8.3 million per year, the cost of the additional 99,722 labor hours). Burden is defined at 5 CFR 1320.3(b).

The ICR document prepared by the EPA for the amendments to the Petroleum Refinery MACT standards for 40 CFR part 63, subpart UUU has been assigned the EPA ICR number 1844.06. Burden changes associated with these amendments would result from new testing, recordkeeping and reporting requirements being finalized with this action. The estimated average burden per response is 25 hours; the frequency of response ranges from annually up to every 5 years for respondents that have FCCU, and the estimated average number of likely respondents per year is 67. The cost burden to respondents resulting from the collection of information includes the performance testing costs (approximately $778,000 per year over the first 3 years for the initial PM and one-time HCN performance tests and $235,000 per year starting in the fourth year), and a labor cost component (approximately $410,000 per year for 4,940 additional labor hours). Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities (SISNOSE) under the RFA. The small entities subject to the requirements of this action are small businesses, small organizations and small governmental jurisdictions. For purposes of assessing the impacts of this rule on small entities, a small entity is defined as: (1) A small business in the petroleum refining industry having 1,500 or fewer employees (Small Business Administration (SBA), 2011); (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. Details of this analysis are presented in the economic impact analysis which can be found in the docket for this rule (Docket ID No. EPA–HQ–OAR–2010–0682).

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. As discussed earlier in this preamble, these amendments result in nationwide costs of $63.2 million per year for the private sector. Additionally, the rule contains no requirements that apply to small governments and does not impose obligations upon them.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. The final amendments impose no requirements on tribal governments. Thus, Executive Order 13175 does not apply to this action. Consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, the EPA consulted with tribal officials during the development of the proposed rule and specifically solicited comment on the proposed amendments from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in section IV.A of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. The overall economic impact of this final rule should be minimal for the refining industry and its consumers.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This rulemaking involves technical standards. Therefore, the EPA conducted searches for the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We also contacted voluntary consensus standards (VCS) organizations and accessed and searched their databases. We conducted searches for EPA Methods 18, 22, 320, 325A, and 325B of 40 CFR parts 60 and 63, appendix A. No applicable VCS were identified for EPA Method 22.

The following voluntary consensus standards were identified as acceptable alternatives to the EPA test methods for the purpose of this rule.

The voluntary consensus standard ISO 16017–2:2003(E) ''Air quality—Sampling and analysis of volatile organic compounds in ambient air, indoor air and workplace air by sorbent tube/thermal desorption/capillary gas chromatography. Part 2: Diffusive sampling'' is an acceptable alternative to Method 325A, Sections 1.2, 6.1 and 6.5 and Method 325B Sections 1.3, 7.1.2, 7.1.3, 7.1.4, 12.2.4, 13.0, A.1.1, and A.2. This voluntary consensus standard gives general guidance for the sampling and analysis of volatile organic compounds in air. It is applicable to indoor, ambient and workplace air. This standard is available at International Organization for Standardization, ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland. See *https://www.iso.org.*

The voluntary consensus standard BS EN 14662–4:2005 ''Ambient Air Quality: Standard Method for the Measurement of Benzene Concentrations—Part 4: Diffusive Sampling Followed By Thermal Desorption and Gas Chromatography'' is an acceptable alternative to Method 325A, Section 1.2 and Method 325B, Sections 1.3, 7.1.3, 7.1.4, 12.2.4, 13.0, A.1.1, and A.2. This voluntary consensus standard gives general guidance for the sampling and analysis of benzene in air by diffusive sampling, thermal desorption and capillary gas chromatography. This standard is available the European Committee for Standardization, Avenue Marnix 17—B–1000 Brussels. See *https://www.cen.eu.*

The voluntary consensus standard ASTM D6420–99 (2010) ''Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry'' is an acceptable alternative to EPA Method 18. This voluntary consensus standard employs a direct interface gas chromatography/mass spectrometer (GCMS) to identify and quantify a list of 36 volatile organic compounds (the compounds are listed in the method).

The voluntary consensus standard ASTM D6196–03 (Reapproved 2009) ''Standard Practice for Selection of Sorbents, Sampling, and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air'' is an acceptable alternative to Method 325A, Sections 1.2 and 6.1, and Method 325B, Sections 1.3, 7.1.2, 7.1.3, 7.1.4, 13.0, A.1.1, and A.2. This voluntary consensus standard is intended to assist in the selection of sorbents and procedures for the sampling and analysis of ambient, indoor, and workplace atmospheres for a variety of common volatile organic compounds.

The voluntary consensus standards ASTM D1945–03 and later revision ASTM D1945–14 ''Standard Test Method for Analysis of Natural Gas by Gas Chromatography'' are acceptable for natural gas analysis. This voluntary consensus standard covers the determination of the chemical composition of natural gases and similar gaseous mixtures. This test method may be abbreviated for the analysis of lean natural gases containing negligible amounts of hexanes and higher hydrocarbons, or for the determination of one or more components, as required.

The voluntary consensus standard ASTM UOP539–12 ''Refinery Gas Analysis by GC'' is acceptable for refinery gas analysis. This voluntary consensus standard is for determining the composition of refinery gas streams or vaporized liquefied petroleum gas using a preconfigured, commercially available gas chromatograph.

The voluntary consensus standard ASTM D6348–03 (Reapproved 2010) including Annexes A1 through A8, ''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy'' is an acceptable alternative to EPA Method 320. This voluntary consensus standard is a field test method that employs an extractive sampling system to direct stationary source effluent to an FTIR spectrometer for the identification and quantification of gaseous compounds. This field test method provides near real time analysis of extracted gas samples from stationary sources.

The voluntary consensus standard ASTM D6348–12e1 ''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy'' is an acceptable alternative to EPA Method 320 with the following two caveats: (1) The test plan preparation and implementation in the Annexes to ASTM D 6348–03 (Reapproved 2010), Sections A1 through A8 are mandatory; and (2) In ASTM D6348–03 (Reapproved 2010) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be 70% ≥ R ≤ 130%. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.*, the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound by using the following equation:

Reported Result = (*Measured Concentration in the Stack* × *100)/ % R.*

This voluntary consensus standard is a field test method that employs an extractive sampling system to direct stationary source effluent to an FTIR spectrometer for the identification and quantification of gaseous compounds. This field test method provides near real time analysis of extracted gas samples from stationary sources.

The EPA solicited comments on VCS and invited the public to identify potentially-applicable VCS; however, we did not receive comments regarding this aspect of 40 CFR part 60, subparts J and Ja, and part 63, subparts CC, UUU, and Y. Under 40 CFR 63.7(f) and 63.8(f), a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in this final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629; February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the U.S. The EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. The EPA has this goal for all communities and persons by working to ensure that everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn and work.

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations. As discussed in section V.D. of this preamble, the EPA conducted an analysis of the characteristics of the population with greater than 1-in-1 million risk living within 50 km of the 142 refineries affected by this rulemaking and determined that there are more African-Americans, Other and multiracial groups, Hispanics, low-income individuals, individuals with less than a high school diploma compared to national averages. Therefore, these populations are expected to experience the benefits of the risk reductions associated with this rule. The results of this evaluation are contained in two technical reports, ‘‘Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Petroleum Refineries’’, available in the docket for this action (See Docket ID Nos. EPA–HQ–OAR–2010–0682–0226 and -0227). Additionally, a discussion of the final risk analysis is included in Sections IV.A and V.D of this preamble.

The EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations because it maintains or increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority, low-income or indigenous populations. Further, the EPA believes that implementation of this rule will provide an ample margin of safety to protect public health of all demographic groups.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is a ‘‘major rule’’ as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 29, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart J—Standards of Performance for Petroleum Refineries

■ 2. Section 60.105 is amended by revising paragraphs (b)(1)(iv) and (b)(3)(iii) to read as follows:

§ 60.105 Monitoring of emissions and operations.

* * * * *

(b) * * *

(1) * * *

(iv) The supporting test results from sampling the requested fuel gas stream/system demonstrating that the sulfur content is less than 5 ppmv. Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. The owner or operator shall use detector tubes (‘‘length-of-stain tube’’ type measurement) following the ‘‘Gas Processors Association Standard 2377–86 (incorporated by reference—see § 60.17), using tubes with a maximum span between 10 and 40 ppmv inclusive when $1 \le N \le 10$, where N = number of pump strokes, to test the applicant fuel gas stream for H_2S; and

* * * * *

(3) * * *

(iii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application and the owner or operator chooses not to submit new information to support an exemption, the owner or operator must begin H_2S monitoring using daily stain sampling to demonstrate compliance using length-of stain tubes with a maximum span between 200 and 400 ppmv inclusive when 1≤N≤5, where N = number of pump strokes. The owner or operator must begin monitoring according to the requirements in paragraph (a)(1) or (2) of this section as soon as practicable but in no case later than 180 days after the operation change. During daily stain tube sampling, a daily sample exceeding 162 ppmv is an exceedance of the 3-hour H_2S concentration limit.

* * * * *

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

■ 3. Section 60.100a is amended by revising the first sentence of paragraph (b) to read as follows:

§ 60.100a Applicability, designation of affected facility, and reconstruction.

* * * * *

(b) Except for flares and delayed coking units, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which either commence construction, modification or reconstruction after May 14, 2007, or elect to comply with the provisions of this subpart in lieu of complying with the provisions in subpart J of this part. * * *

* * * * *

■ 4. Section 60.101a is amended by:

■ a. Revising the definition of ‘‘Corrective action’’; and

■ b. Adding, in alphabetical order, a definition for ‘‘Sour water’’.

The revision and addition read as follows:

§ 60.101a Definitions.

* * * * *

Corrective action means the design, operation and maintenance changes that one takes consistent with good engineering practice to reduce or eliminate the likelihood of the recurrence of the primary cause and any other contributing cause(s) of an event identified by a root cause analysis as having resulted in a discharge of gases from an affected facility in excess of specified thresholds.

* * * * *

Sour water means water that contains sulfur compounds (usually H_2S) at concentrations of 10 parts per million by weight or more.

* * * * *

■ 5. Section 60.102a is amended by revising paragraphs (b)(1)(i) and (iii), (f), and (g)(1) introductory text to read as follows:

§ 60.102a Emissions limitations.

* * * * *

(b) * * *

(1) * * *

(i) 1.0 gram per kilogram (g/kg) (1 pound (lb) per 1,000 lb) coke burn-off or, if a PM continuous emission monitoring system (CEMS) is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air for each modified or reconstructed FCCU.

* * * * *

(iii) 1.0 g/kg (1 lb/1,000 lb) coke burn-off or, if a PM CEMS is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air for each affected FCU.

* * * * *

(f) Except as provided in paragraph (f)(3) of this section, each owner or operator of an affected sulfur recovery plant shall comply with the applicable emission limits in paragraph (f)(1) or (2) of this section.

(1) For a sulfur recovery plant with a design production capacity greater than 20 long tons per day (LTD), the owner or operator shall comply with the applicable emission limit in paragraph (f)(1)(i) or (ii) of this section. If the sulfur recovery plant consists of multiple process trains or release points, the owner or operator shall comply with the applicable emission limit for each process train or release point individually or comply with the applicable emission limit in paragraph (f)(1)(i) or (ii) as a flow rate weighted average for a group of release points from the sulfur recovery plant provided that flow is monitored as specified in § 60.106a(a)(7); if flow is not monitored as specified in § 60.106a(a)(7), the owner or operator shall comply with the applicable emission limit in paragraph (f)(1)(i) or (ii) for each process train or release point individually. For a sulfur recovery plant with a design production capacity greater than 20 long LTD and a reduction control system not followed by incineration, the owner or operator shall also comply with the H_2S emission limit in paragraph (f)(1)(iii) of this section for each individual release point.

(i) For a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere (SO_2) in excess of the emission limit calculated using Equation 1 of this section. For Claus units that use only ambient air in the Claus burner or that elect not to monitor O_2 concentration of the air/oxygen mixture used in the Claus burner or for non-Claus sulfur recovery plants, this SO_2 emissions limit is 250 ppmv (dry basis) at zero percent excess air.

$$E_{LS} = k_1 \times \left(-0.038 \times (\%O_2)^2 + 11.53 \times \%O_2 + 25.6\right) \qquad \text{(Eq. 1)}$$

Where:

E_{LS} = Emission limit for large sulfur recovery plant, ppmv (as SO_2, dry basis at zero percent excess air);

k_1 = Constant factor for emission limit conversion: $k_1 = 1$ for converting to the SO_2 limit for a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration and $k_1 = 1.2$ for converting to the reduced sulfur compounds limit for a sulfur recovery plant with a reduction control system not followed by incineration; and

$\%O_2$ = O_2 concentration of the air/oxygen mixture supplied to the Claus burner, percent by volume (dry basis). If only ambient air is used for the Claus burner or if the owner or operator elects not to monitor O_2 concentration of the air/oxygen mixture used in the Claus burner or for non-Claus sulfur recovery plants, use 20.9% for $\%O_2$.

(ii) For a sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing reduced sulfur compounds in excess of the emission limit calculated using Equation 1 of this section. For Claus units that use only ambient air in the Claus burner or for non-Claus sulfur recovery plants, this reduced sulfur compounds emission limit is 300 ppmv calculated as ppmv SO_2 (dry basis) at 0-percent excess air.

(iii) For a sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing hydrogen sulfide (H_2S) in excess of 10 ppmv calculated as ppmv SO_2 (dry basis) at zero percent excess air.

(2) For a sulfur recovery plant with a design production capacity of 20 LTD or less, the owner or operator shall comply with the applicable emission limit in paragraph (f)(2)(i) or (ii) of this section. If the sulfur recovery plant consists of multiple process trains or release points, the owner or operator may comply with the applicable emission limit for each process train or release point individually or comply with the applicable emission limit in paragraph (f)(2)(i) or (ii) as a flow rate weighted average for a group of release points from the sulfur recovery plant provided that flow is monitored as specified in § 60.106a(a)(7); if flow is not monitored as specified in § 60.106a(a)(7), the owner or operator shall comply with the applicable emission limit in paragraph (f)(2)(i) or (ii) for each process train or release point individually. For a sulfur recovery plant with a design production capacity of 20 LTD or less and a reduction control system not followed by incineration, the owner or operator shall also comply with the H_2S emission limit in paragraph (f)(2)(iii) of this section for each individual release point.

(i) For a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing SO_2 in excess of the emission limit calculated using Equation 2 of this section. For Claus units that use only ambient air in the Claus burner or that elect not to monitor O_2 concentration of the air/oxygen mixture used in the Claus burner or for non-Claus sulfur recovery plants, this SO_2 emission limit is 2,500 ppmv (dry basis) at zero percent excess air.

$$E_{SS} = k_1 \times \left(-0.38 \times (\%O_2)^2 + 115.3 \times \%O_2 + 256\right) \qquad \text{(Eq. 2)}$$

Where:

E_{SS} = Emission limit for small sulfur recovery plant, ppmv (as SO_2, dry basis at zero percent excess air);

k_1 = Constant factor for emission limit conversion: $k_1 = 1$ for converting to the SO_2 limit for a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration and $k_1 = 1.2$ for converting to the reduced sulfur compounds limit for a sulfur recovery plant with a reduction control system not followed by incineration; and

$\%O_2$ = O_2 concentration of the air/oxygen mixture supplied to the Claus burner, percent by volume (dry basis). If only ambient air is used in the Claus burner or if the owner or operator elects not to monitor O_2 concentration of the air/oxygen mixture used in the Claus burner or for non-Claus sulfur recovery plants, use 20.9% for $\%O_2$.

(ii) For a sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing reduced sulfur compounds in excess of the emission limit calculated using Equation 2 of this section. For Claus units that use only ambient air in the Claus burner or for non-Claus sulfur recovery plants, this reduced sulfur compounds emission limit is 3,000 ppmv calculated as ppmv SO_2 (dry basis) at zero percent excess air.

(iii) For a sulfur recovery plant with a reduction control system not followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere containing H_2S in excess of 100 ppmv calculated as ppmv SO_2 (dry basis) at zero percent excess air.

(3) The emission limits in paragraphs (f)(1) and (2) of this section shall not apply during periods of maintenance of the sulfur pit, which shall not exceed 240 hours per year. The owner or operator must document the time periods during which the sulfur pit vents were not controlled and measures taken to minimize emissions during these periods. Examples of these measures include not adding fresh sulfur or shutting off vent fans.

(g) * * *

(1) Except as provided in (g)(1)(iii) of this section, for each fuel gas combustion device, the owner or operator shall comply with either the emission limit in paragraph (g)(1)(i) of this section or the fuel gas concentration limit in paragraph (g)(1)(ii) of this section. For CO boilers or furnaces that are part of a fluid catalytic cracking unit or fluid coking unit affected facility, the owner or operator shall comply with the fuel gas concentration limit in paragraph (g)(1)(ii) for all fuel gas streams combusted in these units.

* * * * *

■ 6. Section 60.104a is amended by:

■ a. Revising the first sentence of paragraph (a) and paragraphs (b), (f) introductory text, and (h) introductory text;

■ b. Adding paragraph (h)(6); and

■ c. Removing and reserving paragraphs (j)(1) through (3).

The revisions and additions read as follows:

§ 60.104a Performance tests.

(a) The owner or operator shall conduct a performance test for each FCCU, FCU, sulfur recovery plant and fuel gas combustion device to demonstrate initial compliance with each applicable emissions limit in § 60.102a and conduct a performance test for each flare to demonstrate initial compliance with the H_2S concentration requirement in § 60.103a(h) according to the requirements of § 60.8. * * *

(b) The owner or operator of a FCCU or FCU that elects to monitor control device operating parameters according to the requirements in § 60.105a(b), to use bag leak detectors according to the requirements in § 60.105a(c), or to use COMS according to the requirements in § 60.105a(e) shall conduct a PM performance test at least annually (*i.e.*, once per calendar year, with an interval of at least 8 months but no more than 16 months between annual tests) and furnish the Administrator a written report of the results of each test.

* * * * *

(f) The owner or operator of an FCCU or FCU that uses cyclones to comply with the PM per coke burn-off emissions limit in § 60.102a(b)(1) shall establish a site-specific opacity operating limit according to the procedures in paragraphs (f)(1) through (3) of this section.

* * * * *

(h) The owner or operator shall determine compliance with the SO_2 emissions limits for sulfur recovery plants in § 60.102a(f)(1)(i) and (f)(2)(i) and the reduced sulfur compounds and H_2S emissions limits for sulfur recovery plants in § 60.102a(f)(1)(ii), (f)(1)(iii), (f)(2)(ii), and (f)(2)(iii) using the following methods and procedures:

* * * * *

(6) If oxygen or oxygen-enriched air is used in the Claus burner and either Equation 1 or 2 of this subpart is used to determine the applicable emissions limit, determine the average O_2 concentration of the air/oxygen mixture supplied to the Claus burner, in percent by volume (dry basis), for the performance test using all hourly average O_2 concentrations determined

during the test runs using the procedures in § 60.106a(a)(5) or (6).

* * * * *

■ 7. Section 60.105a is amended by:

■ a. Revising paragraphs (b)(1)(i), (b)(1)(ii)(A), (b)(2), (h)(1), (h)(3)(i), and (i)(1);

■ b. Redesignating paragraphs (i)(2) through (6) as (i)(3) through (7);

■ c. Adding paragraph (i)(2); and

■ d. Revising newly redesignated paragraph (i)(7).

The revisions and additions read as follows:

§ 60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

* * * * *

(b) * * *

(1) * * *

(i) For units controlled using an electrostatic precipitator, the owner or operator shall use CPMS to measure and record the hourly average total power input and secondary current to the entire system.

(ii) * * *

(A) As an alternative to pressure drop, the owner or operator of a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles must conduct a daily check of the air or water pressure to the spray nozzles and record the results of each check. Faulty (*e.g.*, leaking or plugged) air or water lines must be repaired within 12 hours of identification of an abnormal pressure reading.

* * * * *

(2) For use in determining the coke burn-off rate for an FCCU or FCU, the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring the concentrations of CO_2, O_2 (dry basis), and if needed, CO in the exhaust gases prior to any control or energy recovery system that burns auxiliary fuels. A CO monitor is not required for determining coke burn-off rate when no auxiliary fuel is burned and a continuous CO monitor is not required in accordance with paragraph (h)(3) of this section.

(i) The owner or operator shall install, operate, and maintain each CO_2 and O_2 monitor according to Performance Specification 3 of appendix B to this part.

(ii) The owner or operator shall conduct performance evaluations of each CO_2 and O_2 monitor according to the requirements in § 60.13(c) and Performance Specification 3 of appendix B to this part. The owner or operator shall use Method 3 of appendix A–3 to this part for conducting the relative accuracy evaluations.

(iii) If a CO monitor is required, the owner or operator shall install, operate, and maintain each CO monitor according to Performance Specification 4 or 4A of appendix B to this part. If this CO monitor also serves to demonstrate compliance with the CO emissions limit in § 60.102a(b)(4), the span value for this instrument is 1,000 ppm; otherwise, the span value for this instrument should be set at approximately 2 times the typical CO concentration expected in the FCCU of FCU flue gas prior to any emission control or energy recovery system that burns auxiliary fuels.

(iv) If a CO monitor is required, the owner or operator shall conduct performance evaluations of each CO monitor according to the requirements in § 60.13(c) and Performance Specification 4 of appendix B to this part. The owner or operator shall use Method 10, 10A, or 10B of appendix A–3 to this part for conducting the relative accuracy evaluations.

(v) The owner or operator shall comply with the quality assurance requirements of procedure 1 of appendix F to this part, including quarterly accuracy determinations for CO_2 and CO monitors, annual accuracy determinations for O_2 monitors, and daily calibration drift tests.

* * * * *

(h) * * *

(1) The owner or operator shall install, operate, and maintain each CO monitor according to Performance Specification 4 or 4A of appendix B to this part. The span value for this instrument is 1,000 ppmv CO.

* * * * *

(3) * * *

(i) The demonstration shall consist of continuously monitoring CO emissions for 30 days using an instrument that meets the requirements of Performance Specification 4 or 4A of appendix B to this part. The span value shall be 100 ppmv CO instead of 1,000 ppmv, and the relative accuracy limit shall be 10 percent of the average CO emissions or 5 ppmv CO, whichever is greater. For instruments that are identical to Method 10 of appendix A–4 to this part and employ the sample conditioning system of Method 10A of appendix A–4 to this part, the alternative relative accuracy test procedure in section 10.1 of Performance Specification 2 of appendix B to this part may be used in place of the relative accuracy test.

* * * * *

(i) * * *

(1) If a CPMS is used according to paragraph (b)(1) of this section, all 3-hour periods during which the average PM control device operating characteristics, as measured by the continuous monitoring systems under paragraph (b)(1), fall below the levels established during the performance test. If the alternative to pressure drop CPMS is used for the owner or operator of a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles, each day in which abnormal pressure readings are not corrected within 12 hours of identification.

(2) If a bag leak detection system is used according to paragraph (c) of this section, each day in which the cause of an alarm is not alleviated within the time period specified in paragraph (c)(3) of this section.

* * * * *

(7) All 1-hour periods during which the average CO concentration as measured by the CO continuous monitoring system under paragraph (h) of this section exceeds 500 ppmv or, if applicable, all 1-hour periods during which the average temperature and O_2 concentration as measured by the continuous monitoring systems under paragraph (h)(4) of this section fall below the operating limits established during the performance test.

■ 8. Section 60.106a is amended by:

■ a. Revising paragraph (a)(1)(i);

■ b. Adding paragraphs (a)(1)(iv) through (vii);

■ c. Revising paragraphs (a)(2) introductory text, (a)(2)(i) and (ii), and the first sentence of paragraph (a)(2)(iii);

■ d. Removing paragraphs (a)(2)(iv) and (v);

■ e. Redesignating paragraphs (a)(2)(vi) through (ix) as (a)(2)(iv) through (vii);

■ f. Revising the first sentence of paragraph (a)(3) introductory text and paragraph (a)(3)(i);

■ g. Adding paragraphs (a)(4) through (7); and

■ h. Revising paragraphs (b)(2) and (3).

The revisions and additions read as follows:

§ 60.106a Monitoring of emissions and operations for sulfur recovery plants.

(a) * * *

(1) * * *

(i) The span value for the SO_2 monitor is two times the applicable SO_2 emission limit at the highest O_2 concentration in the air/oxygen stream used in the Claus burner, if applicable.

* * * * *

(iv) The owner or operator shall install, operate, and maintain each O_2 monitor according to Performance Specification 3 of appendix B to this part.

(v) The span value for the O_2 monitor must be selected between 10 and 25 percent, inclusive.

(vi) The owner or operator shall conduct performance evaluations for the O_2 monitor according to the requirements of § 60.13(c) and Performance Specification 3 of appendix B to this part. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to this part.

(vii) The owner or operator shall comply with the applicable quality assurance procedures of appendix F to this part for each monitor, including annual accuracy determinations for each O_2 monitor, and daily calibration drift determinations.

(2) For sulfur recovery plants that are subject to the reduced sulfur compounds emission limit in § 60.102a(f)(1)(ii) or (f)(2)(ii), the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of reduced sulfur compounds and O_2 emissions into the atmosphere. The reduced sulfur compounds emissions shall be calculated as SO_2 (dry basis, zero percent excess air).

(i) The span value for the reduced sulfur compounds monitor is two times the applicable reduced sulfur compounds emission limit as SO_2 at the highest O_2 concentration in the air/oxygen stream used in the Claus burner, if applicable.

(ii) The owner or operator shall install, operate, and maintain each reduced sulfur compounds CEMS according to Performance Specification 5 of appendix B to this part.

(iii) The owner or operator shall conduct performance evaluations of each reduced sulfur compounds monitor according to the requirements in § 60.13(c) and Performance Specification 5 of appendix B to this part. * * *

* * * * *

(3) In place of the reduced sulfur compounds monitor required in paragraph (a)(2) of this section, the owner or operator may install, calibrate, operate, and maintain an instrument using an air or O_2 dilution and oxidation system to convert any reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis, 0 percent excess air) of the total resultant SO_2. * * *

(i) The span value for this monitor is two times the applicable reduced sulfur compounds emission limit as SO_2 at the highest O_2 concentration in the air/oxygen stream used in the Claus burner, if applicable.

* * * * *

(4) For sulfur recovery plants that are subject to the H_2S emission limit in § 60.102a(f)(1)(iii) or (f)(2)(iii), the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of H_2S, and O_2 emissions into the atmosphere. The H_2S emissions shall be calculated as SO_2 (dry basis, zero percent excess air).

(i) The span value for this monitor is two times the applicable H_2S emission limit.

(ii) The owner or operator shall install, operate, and maintain each H_2S CEMS according to Performance Specification 7 of appendix B to this part.

(iii) The owner or operator shall conduct performance evaluations for each H_2S monitor according to the requirements of § 60.13(c) and Performance Specification 7 of appendix B to this part. The owner or operator shall use Methods 11 or 15 of appendix A–5 to this part or Method 16 of appendix A–6 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to this part.

(iv) The owner or operator shall install, operate, and maintain each O_2 monitor according to Performance Specification 3 of appendix B to this part.

(v) The span value for the O_2 monitor must be selected between 10 and 25 percent, inclusive.

(vi) The owner or operator shall conduct performance evaluations for the O_2 monitor according to the requirements of § 60.13(c) and Performance Specification 3 of appendix B to this part. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to this part.

(vii) The owner or operator shall comply with the applicable quality assurance procedures of appendix F to this part for each monitor, including annual accuracy determinations for each O_2 monitor, and daily calibration drift determinations.

(5) For sulfur recovery plants that use oxygen or oxygen enriched air in the Claus burner and that elects to monitor O_2 concentration of the air/oxygen mixture supplied to the Claus burner, the owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the O_2 concentration of the air/oxygen mixture supplied to the Claus burner in order to determine the allowable emissions limit.

(i) The owner or operator shall install, operate, and maintain each O_2 monitor according to Performance Specification 3 of appendix B to this part.

(ii) The span value for the O_2 monitor shall be 100 percent.

(iii) The owner or operator shall conduct performance evaluations for the O_2 monitor according to the requirements of § 60.13(c) and Performance Specification 3 of appendix B to this part. The owner or operator shall use Methods 3, 3A, or 3B of appendix A–2 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 3B of appendix A–2 to this part.

(iv) The owner or operator shall comply with the applicable quality assurance procedures of appendix F to this part for each monitor, including annual accuracy determinations for each O_2 monitor, and daily calibration drift determinations.

(v) The owner or operator shall use the hourly average O_2 concentration from this monitor for use in Equation 1 or 2 of § 60.102a(f), as applicable, for each hour and determine the allowable emission limit as the arithmetic average of 12 contiguous 1-hour averages (*i.e.*, the rolling 12-hour average).

(6) As an alternative to the O_2 monitor required in paragraph (a)(5) of this section, the owner or operator may install, calibrate, operate, and maintain a CPMS to measure and record the volumetric gas flow rate of ambient air and oxygen-enriched gas supplied to the Claus burner and calculate the hourly average O_2 concentration of the air/oxygen mixture used in the Claus burner as specified in paragraphs (a)(6)(i) through (iv) of this section in order to determine the allowable emissions limit as specified in paragraphs (a)(6)(v) of this section.

(i) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(A) Locate the monitor in a position that provides a representative measurement of the total gas flow rate.

(B) Use a flow sensor meeting an accuracy requirement of ±5 percent over the normal range of flow measured or 10 cubic feet per minute, whichever is greater.

(C) Use a flow monitor that is maintainable online, is able to continuously correct for temperature, pressure and, for ambient air flow monitor, moisture content, and is able to record dry flow in standard conditions (as defined in § 60.2) over one-minute averages.

(D) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(E) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

(ii) The owner or operator shall use 20.9 percent as the oxygen content of the ambient air.

(iii) The owner or operator shall use product specifications (*e.g.,* as reported in material safety data sheets) for percent oxygen for purchased oxygen. For oxygen produced onsite, the percent oxygen shall be determined by periodic measurements or process knowledge.

(iv) The owner or operator shall calculate the hourly average O_2 concentration of the air/oxygen mixture used in the Claus burner using Equation 10 of this section:

$$\%O_2 = \left(\frac{20.9 \times Q_{air} + \%O_{2,oxy} \times Q_{oxy}}{Q_{air} + Q_{oxy}} \right) \qquad \text{(Eq. 10)}$$

Where:

$\%O_2$ = O_2 concentration of the air/oxygen mixture used in the Claus burner, percent by volume (dry basis);
20.9 = O_2 concentration in air, percent dry basis;
Q_{air} = Volumetric flow rate of ambient air used in the Claus burner, dscfm;
$\%O_{2,oxy}$ = O_2 concentration in the enriched oxygen stream, percent dry basis; and
Q_{oxy} = Volumetric flow rate of enriched oxygen stream used in the Claus burner, dscfm.

(v) The owner or operator shall use the hourly average O_2 concentration determined using Equation 8 of § 60.104a(d)(8) for use in Equation 1 or 2 of § 60.102a(f), as applicable, for each hour and determine the allowable emission limit as the arithmetic average of 12 contiguous 1-hour averages (*i.e.,* the rolling 12-hour average).

(7) Owners or operators of a sulfur recovery plant that elects to comply with the SO_2 emission limit in § 60.102a(f)(1)(i) or (f)(2)(i) or the reduced sulfur compounds emission limit in § 60.102a(f)(1)(ii) or (f)(2)(ii) as a flow rate weighted average for a group of release points from the sulfur recovery plant rather than for each process train or release point individually shall install, calibrate, operate, and maintain a CPMS to measure and record the volumetric gas flow rate of each release point within the group of release points from the sulfur recovery plant as specified in paragraphs (a)(7)(i) through (iv) of this section.

(i) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(A) Locate the monitor in a position that provides a representative measurement of the total gas flow rate.

(B) Use a flow sensor meeting an accuracy requirement of ±5 percent over the normal range of flow measured or 10 cubic feet per minute, whichever is greater.

(C) Use a flow monitor that is maintainable online, is able to continuously correct for temperature, pressure, and moisture content, and is able to record dry flow in standard conditions (as defined in § 60.2) over one-minute averages.

(D) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(E) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

(ii) The owner or operator shall correct the flow to 0 percent excess air using Equation 11 of this section:

$$Q_{adj} = Q_{meas} \left[{(20.9 - \%O_2)} \big/ {20.9_c} \right] \qquad \text{(Eq. 11)}$$

Where:

Q_{adj} = Volumetric flow rate adjusted to 0 percent excess air, dry standard cubic feet per minute (dscfm);
C_{meas} = Volumetric flow rate measured by the flow meter corrected to dry standard conditions, dscfm;
20.9_c = 20.9 percent O_2 − 0.0 percent O_2 (defined O_2 correction basis), percent;
20.9 = O_2 concentration in air, percent; and
$\%O_2$ = O_2 concentration measured on a dry basis, percent.

(iii) The owner or operator shall calculate the flow weighted average SO_2 or reduced sulfur compounds concentration for each hour using Equation 12 of this section:

$$C_{ave} = \frac{\sum_{n=1}^{N} \left(C_n \times Q_{adj,n} \right)}{\sum_{n=1}^{N} Q_{adj,n}} \qquad \text{(Eq. 12)}$$

Where:

C_{ave} = Flow weighted average concentration of the pollutant, ppmv (dry basis, zero percent excess air). The pollutant is either SO_2 (if complying with the SO_2 emission limit in § 60.102a(f)(1)(i) or (f)(2)(i)) or reduced sulfur compounds (if complying with the reduced sulfur compounds emission limit in § 60.102a(f)(1)(ii) or (f)(2)(ii));
N = Number of release points within the group of release points from the sulfur recovery plant for which emissions averaging is elected;
C_n = Pollutant concentration in the n^{th} release point within the group of release points from the sulfur recovery plant for which emissions averaging is elected, ppmv (dry basis, zero percent excess air);
$Q_{adj,n}$ = Volumetric flow rate of the n^{th} release point within the group of release points from the sulfur recovery plant for which emissions averaging is elected, dry standard cubic feet per minute (dscfm, adjusted to 0 percent excess air).

(iv) For sulfur recovery plants that use oxygen or oxygen enriched air in the Claus burner, the owner or operator shall use Equation 10 of this section and the hourly emission limits determined in paragraph (a)(5)(v) or (a)(6)(v) of this section in-place of the pollutant concentration to determine the flow weighted average hourly emission limit for each hour. The allowable emission limit shall be calculated as the arithmetic average of 12 contiguous 1-hour averages (*i.e.,* the rolling 12-hour average).

(b) * * *

(2) All 12-hour periods during which the average concentration of reduced sulfur compounds (as SO_2) as measured by the reduced sulfur compounds continuous monitoring system required under paragraph (a)(2) or (3) of this section exceeds the applicable emission limit; or

(3) All 12-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(4) of this section exceeds the applicable emission limit (dry basis, 0 percent excess air).

■ 9. Section 60.107a is amended by revising paragraphs (a)(1)(i) and (ii), (b)(1)(iv), the first sentence of paragraph (b)(3)(iii), (d)(3), (e)(1) introductory text, (e)(1)(ii), (e)(2) introductory text, (e)(2)(ii), (e)(2)(vi)(C), (e)(3), (f)(1)(ii), and (h)(5) to read as follows:

§ 60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) * * *

(1) * * *

(i) The owner or operator shall install, operate, and maintain each SO_2 monitor according to Performance Specification 2 of appendix B to this part. The span value for the SO_2 monitor is 50 ppmv SO_2.

(ii) The owner or operator shall conduct performance evaluations for the SO_2 monitor according to the requirements of § 60.13(c) and Performance Specification 2 of appendix B to this part. The owner or operator shall use Methods 6, 6A, or 6C of appendix A–4 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A–4 to this part. Samples taken by Method 6 of appendix A–4 to this part shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppmv, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

* * * * *

(b) * * *

(1) * * *

(iv) The supporting test results from sampling the requested fuel gas stream/system demonstrating that the sulfur content is less than 5 ppmv H_2S. Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. The owner or operator shall use detector tubes (''length-of-stain tube'' type measurement) following the ''Gas Processors Association Standard 2377–86 (incorporated by reference—see § 60.17), using tubes with a maximum span between 10 and 40 ppmv inclusive when $1 \le N \le 10$, where N = number of pump strokes, to test the applicant fuel gas stream for H_2S; and

* * * * *

(3) * * *

(iii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application and the owner or operator chooses not to submit new information to support an exemption, the owner or operator must begin H_2S monitoring using daily stain sampling to demonstrate compliance using length-of-stain tubes with a maximum span between 200 and 400 ppmv inclusive when $1 \le N \le 5$, where N = number of pump strokes. * * *

* * * * *

(d) * * *

(3) As an alternative to the requirements in paragraph (d)(2) of this section, the owner or operator of a gas-fired process heater shall install, operate and maintain a gas composition analyzer and determine the average F factor of the fuel gas using the factors in Table 1 of this subpart and Equation 13 of this section. If a single fuel gas system provides fuel gas to several process heaters, the F factor may be determined at a single location in the fuel gas system provided it is representative of the fuel gas fed to the affected process heater(s).

$$F_d = \frac{1{,}000{,}000 \times \sum (X_i \times MEV_i)}{\sum (X_i \times MHC_i)} \qquad \text{(Eq. 13)}$$

Where:

F_d = F factor on dry basis at 0% excess air, dscf/MMBtu.
X_i = mole or volume fraction of each component in the fuel gas.
MEV_i = molar exhaust volume, dry standard cubic feet per mole (dscf/mol).
MHC_i = molar heat content, Btu per mole (Btu/mol).
1,000,000 = unit conversion, Btu per MMBtu.

* * * * *

(e) * * *

(1) *Total reduced sulfur monitoring requirements.* The owner or operator shall install, operate, calibrate and maintain an instrument or instruments for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare.

* * * * *

(ii) The owner or operator shall conduct performance evaluations of each total reduced sulfur monitor according to the requirements in § 60.13(c) and Performance Specification 5 of appendix B to this part. The owner or operator of each total reduced sulfur monitor shall use EPA Method 15A of appendix A–5 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference-see § 60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to this part. The alternative relative accuracy procedures described in section 16.0 of Performance Specification 2 of appendix B to this part (cylinder gas audits) may be used for conducting the relative accuracy evaluations, except that it is not necessary to include as much of the sampling probe or sampling line as practical.

* * * * *

(2) *H_2S monitoring requirements.* The owner or operator shall install, operate, calibrate, and maintain an instrument or instruments for continuously monitoring and recording the concentration of H_2S in gas discharged to the flare according to the requirements in paragraphs (e)(2)(i) through (iii) of this section and shall collect and analyze samples of the gas and calculate total sulfur concentrations as specified in paragraphs (e)(2)(iv) through (ix) of this section.

* * * * *

(ii) The owner or operator shall conduct performance evaluations of each H_2S monitor according to the requirements in § 60.13(c) and Performance Specification 7 of appendix B to this part. The owner or operator shall use EPA Method 11, 15 or 15A of appendix A–5 to this part for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981 (incorporated by reference—see § 60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to this part. The alternative relative accuracy procedures described in section 16.0 of Performance Specification 2 of appendix B to this part (cylinder gas audits) may be used for conducting the relative accuracy evaluations, except that it is not necessary to include as much of the sampling probe or sampling line as practical.

* * * * *

(vi) * * *

(C) Determine the acceptable range for subsequent weekly samples based on the 95-percent confidence interval for the distribution of daily ratios based on the 10 individual daily ratios using Equation 14 of this section.

$$AR = Ratio_{Avg} \pm 2.262 \times SDev \qquad \text{(Eq. 14)}$$

Where:

AR = Acceptable range of subsequent ratio determinations, unitless.

$Ratio_{Avg}$ = 10-day average total sulfur-to-H_2S concentration ratio, unitless.

2.262 = t-distribution statistic for 95-percent 2-sided confidence interval for 10 samples (9 degrees of freedom).

SDev = Standard deviation of the 10 daily average total sulfur-to-H_2S concentration ratios used to develop the 10-day average total sulfur-to-H_2S concentration ratio, unitless.

* * * * *

(3) *SO_2 monitoring requirements.* The owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of SO_2 from a process heater or other fuel gas combustion device that is combusting gas representative of the fuel gas in the flare gas line according to the requirements in paragraph (a)(1) of this section, determine the F factor of the fuel gas at least daily according to the requirements in paragraphs (d)(2) through (4) of this section, determine the higher heating value of the fuel gas at least daily according to the requirements in paragraph (d)(7) of this section, and calculate the total sulfur content (as SO_2) in the fuel gas using Equation 15 of this section.

$$TS_{FG} = C_{SO_2} \times F_d \times HHV_{FG} \qquad \text{(Eq. 15)}$$

Where:

TS_{FG} = Total sulfur concentration, as SO_2, in the fuel gas, ppmv.

C_{SO2} = Concentration of SO_2 in the exhaust gas, ppmv (dry basis at 0-percent excess air).

F_d = F factor gas on dry basis at 0-percent excess air, dscf/MMBtu.

HHV_{FG} = Higher heating value of the fuel gas, MMBtu/scf.

* * * * *

(f) * * *

(1) * * *

(ii) Use a flow sensor meeting an accuracy requirement of ±20 percent of the flow rate at velocities ranging from 0.1 to 1 feet per second and an accuracy of ±5 percent of the flow rate for velocities greater than 1 feet per second.

* * * * *

(h) * * *

(5) *Daily O_2 limits for fuel gas combustion devices.* Each day during which the concentration of O_2 as measured by the O_2 continuous monitoring system required under paragraph (c)(6) or (d)(8) of this section exceeds the O_2 operating limit or operating curve determined during the most recent biennial performance test.

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 10. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et se.*

Subpart A—General Provisions

■ 11. Section 63.14 is amended by:

■ a. Revising paragraph (h)(14);

■ b. Redesignating paragraphs (h)(82) through (99) as (h)(86) through (103), paragraphs (h)(77) through (81) as (h)(80) through (84), paragraphs (h)(73) through (76) as paragraphs (h)(75) through (78), and paragraphs (h)(15) through (72) as (16) through (73), respectively;

■ c. Revising newly redesignated paragraph (h)(78);

■ d. Adding paragraphs (h)(15), (74), (79), (85), (104) and (j)(2);

■ e. Redesignating paragraph (m)(3) through (21) as (m)(5) through (23), respectively, and paragraph (m)(2) as (m)(3).

■ f. Adding paragraphs (m)(2) and (4) and (n)(3); and

■ g. Revising paragraph (s)(1).

The revisions and additions read as follows:

§ 63.14 Incorporation by reference.

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(h) * * *

(14) ASTM D1945–03 (Reapproved 2010), Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved January 1, 2010, IBR approved for §§ 63.670(j), 63.772(h), and 63.1282(g).

(15) ASTM D1945–14, Standard Test Method for Analysis of Natural Gas by Gas Chromatography, Approved

November 1, 2014, IBR approved for § 63.670(j).

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(74) ASTM D6196–03 (Reapproved 2009), Standard Practice for Selection of Sorbents, Sampling, and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air, Approved March 1, 2009, IBR approved for appendix A to this part: Method 325A and Method 325B.

* * * * *

(78) ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2010, IBR approved for § 63.1571(a), tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, tables 1, 2, and 5 to subpart UUUUU and appendix B to subpart UUUUU.

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(79) ASTM D6348–12e1, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, Approved February 1, 2012, IBR approved for § 63.1571(a).

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(85) ASTM D6420–99 (Reapproved 2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, Approved October 1, 2010, IBR approved for § 63.670(j) and appendix A to this part: Method 325B.

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(104) ASTM UOP539–12, Refinery Gas Analysis by GC, Copyright 2012 (to UOP), IBR approved for § 63.670(j).

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(j) * * *

(2) BS EN 14662–4:2005, Ambient air quality standard method for the measurement of benzene concentrations—Part 4: Diffusive sampling followed by thermal desorption and gas chromatography, Published June 27, 2005, IBR approved for appendix A to this part: Method 325A and Method 325B.

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(m) * * *

(2) EPA–454/B–08–002, Office of Air Quality Planning and Standards (OAQPS), Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements, Version 2.0 (Final), March 24, 2008, IBR approved for § 63.658(d) and appendix A to this part: Method 325A.

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(4) EPA–454/R–99–005, Office of Air Quality Planning and Standards (OAQPS), Meteorological Monitoring Guidance for Regulatory Modeling Applications, February 2000, IBR approved for appendix A to this part: Method 325A.

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(n) * * *

(3) ISO 16017–2:2003(E): Indoor, ambient and workplace air—sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography—Part 2: Diffusive sampling, May 15, 2003, IBR approved for appendix A to this part: Method 325A and Method 325B.

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(s) * * *

(1) ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, January 31, 2003, IBR approved for §§ 63.654(c) and (g), 63.655(i), and 63.11920.

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Subpart Y—National Emission Standards for Marine Tank Vessel Loading Operations

■ 12. Section 63.560 is amended by revising paragraph (a)(4) to read as follows:

§ 63.560 Applicability and designation of affected source.

(a) * * *

(4) Existing sources with emissions less than 10 and 25 tons must meet the submerged fill standards of 46 CFR 153.282.

* * * * *

Subpart CC—National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

■ 13. Section 63.640 is amended by:

■ a. Revising paragraphs (a) introductory text and (c) introductory text;

■ c. Adding paragraph (c)(9);

■ d. Revising paragraphs (d)(5), (h), (k)(1), (l) introductory text, (l)(2) introductory text, (l)(2)(i), (l)(3) introductory text, (m) introductory text, (n) introductory text, (n)(1) through (5), (n)(8) introductory text, and (n)(8)(ii);

■ e. Adding paragraphs (n)(8)(vii) and (viii);

■ f. Revising paragraph (n)(9)(i);

■ g. Adding paragraph (n)(10);

■ h. Revising paragraph (o)(2)(i) introductory text;

■ i. Adding paragraph (o)(2)(i)(D);

■ j. Revising paragraph (o)(2)(ii) introductory text; and

■ k. Adding paragraphs (o)(2)(ii)(C) and (s).

The revisions and additions read as follows:

§ 63.640 Applicability and designation of affected source.

(a) This subpart applies to petroleum refining process units and to related emissions points that are specified in paragraphs (c)(1) through (9) of this section that are located at a plant site and that meet the criteria in paragraphs (a)(1) and (2) of this section:

* * * * *

(c) For the purposes of this subpart, the affected source shall comprise all emissions points, in combination, listed in paragraphs (c)(1) through (9) of this section that are located at a single refinery plant site.

* * * * *

(9) All releases associated with the decoking operations of a delayed coking unit, as defined in this subpart.

(d) * * *

(5) Emission points routed to a fuel gas system, as defined in § 63.641, provided that on and after January 30, 2019, any flares receiving gas from that fuel gas system are subject to § 63.670. No other testing, monitoring, recordkeeping, or reporting is required for refinery fuel gas systems or emission points routed to refinery fuel gas systems.

* * * * *

(h) Sources subject to this subpart are required to achieve compliance on or before the dates specified in table 11 of this subpart, except as provided in paragraphs (h)(1) through (3) of this section.

(1) Marine tank vessels at existing sources shall be in compliance with this subpart, except for §§ 63.657 through 63.660, no later than August 18, 1999, unless the vessels are included in an emissions average to generate emission credits. Marine tank vessels used to generate credits in an emissions average shall be in compliance with this subpart no later than August 18, 1998, unless an extension has been granted by the Administrator as provided in § 63.6(i).

(2) Existing Group 1 floating roof storage vessels meeting the applicability criteria in item 1 of the definition of Group 1 storage vessel shall be in compliance with § 63.646 at the first degassing and cleaning activity after August 18, 1998, or August 18, 2005, whichever is first.

(3) An owner or operator may elect to comply with the provisions of § 63.648(c) through (i) as an alternative to the provisions of § 63.648(a) and (b). In such cases, the owner or operator shall comply no later than the dates specified in paragraphs (h)(3)(i) through (iii) of this section.

(i) Phase I (see table 2 of this subpart), beginning on August 18, 1998;

(ii) Phase II (see table 2 of this subpart), beginning no later than August 18, 1999; and

(iii) Phase III (see table 2 of this subpart), beginning no later than February 18, 2001.

* * * * *

(k) * * *

(1) The reconstructed source, addition, or change shall be in compliance with the new source requirements in item (1), (2), or (3) of table 11 of this subpart, as applicable, upon initial startup of the reconstructed source or by August 18, 1995, whichever is later; and

* * * * *

(l) If an additional petroleum refining process unit is added to a plant site or if a miscellaneous process vent, storage vessel, gasoline loading rack, marine tank vessel loading operation, heat exchange system, or decoking operation that meets the criteria in paragraphs (c)(1) through (9) of this section is added to an existing petroleum refinery or if another deliberate operational process change creating an additional Group 1 emissions point(s) (as defined in § 63.641) is made to an existing petroleum refining process unit, and if the addition or process change is not subject to the new source requirements as determined according to paragraph (i) or (j) of this section, the requirements in paragraphs (l)(1) through (4) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, or feed or raw material where the change requires construction or physical alteration of the existing equipment or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph (l) and paragraph (m) of this section, process changes do not include: Process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status report required by § 63.655(f).

* * * * *

(2) The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit shall be in compliance with the applicable requirements in item (4) of table 11 of this subpart by the dates specified in paragraph (l)(2)(i) or (ii) of this section.

(i) If a petroleum refining process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall be in compliance upon initial startup of any added petroleum refining process unit or emission point(s) or by the applicable compliance date in item (4) of table 11 of this subpart, whichever is later.

* * * * *

(3) The owner or operator of a petroleum refining process unit or of a storage vessel, miscellaneous process vent, wastewater stream, gasoline loading rack, marine tank vessel loading operation, heat exchange system, or decoking operation meeting the criteria in paragraphs (c)(1) through (9) of this section that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements that are applicable to existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (vii) of this section. A process change to an existing petroleum refining process unit shall be subject to the reporting requirements for existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (vii) of this section. The applicable reports include, but are not limited to:

* * * * *

(m) If a change that does not meet the criteria in paragraph (l) of this section is made to a petroleum refining process unit subject to this subpart, and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in § 63.641), then the owner or operator shall comply with the applicable requirements of this subpart for existing sources, as specified in item (4) of table 11 of this subpart, for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1.

* * * * *

(n) Overlap of this subpart with other regulations for storage vessels. As applicable, paragraphs (n)(1), (3), (4), (6), and (7) of this section apply for Group 2 storage vessels and paragraphs (n)(2) and (5) of this section apply for Group 1 storage vessels.

(1) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to the provisions of 40 CFR part 60, subpart Kb, is required to comply only with the requirements of 40 CFR part 60, subpart Kb, except as provided in paragraph (n)(8) of this section. After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is subject to the provisions of 40 CFR part 61, subpart Y, is required to comply only with the requirements of 40 CFR part 61, subpart Y, except as provided in paragraph (n)(10) of this section.

(2) After the compliance dates specified in paragraph (h) of this section, a Group 1 storage vessel that is also subject to 40 CFR part 60, subpart Kb, is required to comply only with either 40 CFR part 60, subpart Kb, except as provided in paragraph (n)(8) of this section or this subpart. After the compliance dates specified in paragraph (h) of this section, a Group 1 storage vessel that is also subject to 40 CFR part 61, subpart Y, is required to comply only with either 40 CFR part 61, subpart Y, except as provided in paragraph (n)(10) of this section or this subpart.

(3) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to 40 CFR 60.110b, but is not required to apply controls by 40 CFR 60.110b or 60.112b, is required to comply only with this subpart.

(4) After the compliance dates specified in paragraph (h) of this section, a Group 2 storage vessel that is part of a new source and is subject to 40 CFR 61.270, but is not required to apply controls by 40 CFR 61.271, is required to comply only with this subpart.

(5) After the compliance dates specified in paragraph (h) of this section, a Group 1 storage vessel that is also subject to the provisions of 40 CFR part 60, subpart K or Ka, is required to only comply with the provisions of this subpart.

* * * * *

(8) Storage vessels described by paragraph (n)(1) of this section are to comply with 40 CFR part 60, subpart Kb, except as provided in paragraphs (n)(8)(i) through (vi) of this section. Storage vessels described by paragraph (n)(2) electing to comply with part 60, subpart Kb of this chapter shall comply with subpart Kb except as provided in paragraphs (n)(8)(i) through (viii) of this section.

* * * * *

(ii) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in § 60.113b(b) of this chapter or to inspect the vessel to determine compliance with

§ 60.113b(a) of this chapter because the roof appears to be structurally unsound and poses an imminent danger to inspecting personnel, the owner or operator shall comply with the requirements in either § 63.120(b)(7)(i) or (ii) of subpart G (only up to the compliance date specified in paragraph (h) of this section for compliance with § 63.660, as applicable) or either § 63.1063(c)(2)(iv)(A) or (B) of subpart WW.

* * * * *

(vii) To be in compliance with § 60.112b(a)(1)(iv) or (a)(2)(ii) of this chapter, guidepoles in floating roof storage vessels must be equipped with covers and/or controls (*e.g.,* pole float system, pole sleeve system, internal sleeve system or flexible enclosure system) as appropriate to comply with the ''no visible gap'' requirement.

(viii) If a flare is used as a control device for a storage vessel, on and after January 30, 2019, the owner or operator must meet the requirements of § 63.670 instead of the requirements referenced from part 60, subpart Kb of this chapter for that flare.

(9) * * *

(i) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in § 60.113a(a)(1) of this chapter because the floating roof appears to be structurally unsound and poses an imminent danger to inspecting personnel, the owner or operator shall comply with the requirements in either § 63.120(b)(7)(i) or (ii) of subpart G (only up to the compliance date specified in paragraph (h) of this section for compliance with § 63.660, as applicable) or either § 63.1063(c)(2)(iv)(A) or (B) of subpart WW.

* * * * *

(10) Storage vessels described by paragraph (n)(1) of this section are to comply with 40 CFR part 61, subpart Y, except as provided in paragraphs (n)(10)(i) through (vi) of this section. Storage vessels described by paragraph (n)(2) electing to comply with 40 CFR part 61, subpart Y, shall comply with subpart Y except as provided for in paragraphs (n)(10)(i) through (viii) of this section.

(i) Storage vessels that are to comply with § 61.271(b) of this chapter are exempt from the secondary seal requirements of § 61.271(b)(2)(ii) of this chapter during the gap measurements for the primary seal required by § 61.272(b) of this chapter.

(ii) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in § 61.272(b) of this chapter or to inspect the vessel to determine compliance with § 61.272(a) of this chapter because the roof appears to be structurally unsound and poses an imminent danger to inspecting personnel, the owner or operator shall comply with the requirements in either § 63.120(b)(7)(i) or (ii) of subpart G (only up to the compliance date specified in paragraph (h) of this section for compliance with § 63.660, as applicable) or either § 63.1063(c)(2)(iv)(A) or (B) of subpart WW.

(iii) If a failure is detected during the inspections required by § 61.272(a)(2) of this chapter or during the seal gap measurements required by § 61.272(b)(1) of this chapter, and the vessel cannot be repaired within 45 days and the vessel cannot be emptied within 45 days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. The owner or operator is not required to provide a request for the extension to the Administrator.

(iv) If an extension is utilized in accordance with paragraph (n)(10)(iii) of this section, the owner or operator shall, in the next periodic report, identify the vessel, provide the information listed in § 61.272(a)(2) or (b)(4)(iii) of this chapter, and describe the nature and date of the repair made or provide the date the storage vessel was emptied.

(v) Owners and operators of storage vessels complying with 40 CFR part 61, subpart Y, may submit the inspection reports required by § 61.275(a), (b)(1), and (d) of this chapter as part of the periodic reports required by this subpart, rather than within the 60-day period specified in § 61.275(a), (b)(1), and (d) of this chapter.

(vi) The reports of rim seal inspections specified in § 61.275(d) of this chapter are not required if none of the measured gaps or calculated gap areas exceed the limitations specified in § 61.272(b)(4) of this chapter. Documentation of the inspections shall be recorded as specified in § 61.276(a) of this chapter.

(vii) To be in compliance with § 61.271(a)(6) or (b)(3) of this chapter, guidepoles in floating roof storage vessels must be equipped with covers and/or controls (*e.g.,* pole float system, pole sleeve system, internal sleeve system or flexible enclosure system) as appropriate to comply with the ''no visible gap'' requirement.

(viii) If a flare is used as a control device for a storage vessel, on and after January 30, 2019, the owner or operator must meet the requirements of § 63.670 instead of the requirements referenced from part 61, subpart Y of this chapter for that flare.

(o) * * *

(2) * * *

(i) Comply with paragraphs (o)(2)(i)(A) through (D) of this section.

* * * * *

(D) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of 40 CFR part 61, subpart FF, and subpart G of this part, or the requirements of § 63.670.

(ii) Comply with paragraphs (o)(2)(ii)(A) through (C) of this section.

* * * * *

(C) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of 40 CFR part 61, subpart FF, and subpart G of this part, or the requirements of § 63.670.

* * * * *

(s) Overlap of this subpart with other regulation for flares. On January 30, 2019, flares that are subject to the provisions of 40 CFR 60.18 or 63.11 and subject to this subpart are required to comply only with the provisions specified in this subpart. Prior to January 30, 2019, flares that are subject to the provisions of 40 CFR 60.18 or 63.11 and elect to comply with the requirements in §§ 63.670 and 63.671 are required to comply only with the provisions specified in this subpart.

■ 14. Section 63.641 is amended by:

■ a. Adding, in alphabetical order, definitions of ''Assist air,'' ''Assist steam,'' ''Center steam,'' ''Closed blowdown system,'' ''Combustion zone,'' ''Combustion zone gas,'' ''Decoking operations,'' ''Delayed coking unit,'' ''Flare,'' ''Flare purge gas,'' ''Flare supplemental gas,'' ''Flare sweep gas,'' ''Flare vent gas,'' ''Flexible enclosure device,'' ''Force majeure event,'' ''Lower steam,'' ''Net heating value,'' ''Perimeter assist air,'' ''Pilot gas,'' ''Premix assist air,'' ''Regulated material,'' ''Thermal expansion relief valve,'' ''Total steam,'' and ''Upper steam''; and

■ b. Revising the definitions of ''Delayed coker vent,'' ''Emission point,'' ''Group 1 storage vessel,'' ''Miscellaneous process vent,'' ''Periodically discharged,'' and ''Reference control technology for storage vessels.''

The revisions and additions read as follows:

§ 63.641 Definitions.

* * * * *

Assist air means all air that intentionally is introduced prior to or at a flare tip through nozzles or other hardware conveyance for the purposes including, but not limited to, protecting the design of the flare tip, promoting turbulence for mixing or inducing air into the flame. *Assist air* includes premix assist air and perimeter assist air. *Assist air* does not include the surrounding ambient air.

Assist steam means all steam that intentionally is introduced prior to or at a flare tip through nozzles or other hardware conveyance for the purposes including, but not limited to, protecting the design of the flare tip, promoting turbulence for mixing or inducing air into the flame. *Assist steam* includes, but is not necessarily limited to, center steam, lower steam and upper steam.

* * * * *

Center steam means the portion of assist steam introduced into the stack of a flare to reduce burnback.

Closed blowdown system means a system used for depressuring process vessels that is not open to the atmosphere and is configured of piping, ductwork, connections, accumulators/knockout drums, and, if necessary, flow inducing devices that transport gas or vapor from process vessel to a control device or back into the process.

* * * * *

Combustion zone means the area of the flare flame where the combustion zone gas combines for combustion.

Combustion zone gas means all gases and vapors found just after a flare tip. This gas includes all flare vent gas, total steam, and premix air.

* * * * *

Decoking operations means the sequence of steps conducted at the end of the delayed coking unit's cooling cycle to open the coke drum to the atmosphere in order to remove coke from the coke drum. *Decoking operations* begin at the end of the cooling cycle when steam released from the coke drum is no longer discharged via the unit's blowdown system but instead is vented directly to the atmosphere. *Decoking operations* include atmospheric depressuring (venting), deheading, draining, and decoking (coke cutting).

Delayed coker vent means a miscellaneous process vent that contains uncondensed vapors from the delayed coking unit's blowdown system. Venting from the *delayed coker vent* is typically intermittent in nature, and occurs primarily during the cooling cycle of a delayed coking unit coke drum when vapor from the coke drums cannot be sent to the fractionator column for product recovery. The emissions from the decoking operations, which include direct atmospheric venting, deheading, draining, or decoking (coke cutting), are not considered to be *delayed coker vents*.

Delayed coking unit means a refinery process unit in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is produced in a series of closed, batch system reactors. A *delayed coking unit* includes, but is not limited to, all of the coke drums associated with a single fractionator; the fractionator, including the bottoms receiver and the overhead condenser; the coke drum cutting water and quench system, including the jet pump and coker quench water tank; and the coke drum blowdown recovery compressor system.

* * * * *

Emission point means an individual miscellaneous process vent, storage vessel, wastewater stream, equipment leak, decoking operation or heat exchange system associated with a petroleum refining process unit; an individual storage vessel or equipment leak associated with a bulk gasoline terminal or pipeline breakout station classified under Standard Industrial Classification code 2911; a gasoline loading rack classified under Standard Industrial Classification code 2911; or a marine tank vessel loading operation located at a petroleum refinery.

* * * * *

Flare means a combustion device lacking an enclosed combustion chamber that uses an uncontrolled volume of ambient air to burn gases. For the purposes of this rule, the definition of *flare* includes, but is not necessarily limited to, air-assisted flares, steam-assisted flares and non-assisted flares.

Flare purge gas means gas introduced between a flare header's water seal and the flare tip to prevent oxygen infiltration (backflow) into the flare tip. For a flare with no water seal, the function of *flare purge gas* is performed by flare sweep gas and, therefore, by definition, such a flare has no *flare purge gas*.

Flare supplemental gas means all gas introduced to the flare in order to improve the combustible characteristics of combustion zone gas.

Flare sweep gas means, for a flare with a flare gas recovery system, the gas intentionally introduced into the flare header system to maintain a constant flow of gas through the flare header in order to prevent oxygen buildup in the flare header; *flare sweep gas* in these flares is introduced prior to and recovered by the flare gas recovery system. For a flare without a flare gas recovery system, *flare sweep gas* means the gas intentionally introduced into the flare header system to maintain a constant flow of gas through the flare header and out the flare tip in order to prevent oxygen buildup in the flare header and to prevent oxygen infiltration (backflow) into the flare tip.

Flare vent gas means all gas found just prior to the flare tip. This gas includes all flare waste gas (*i.e.*, gas from facility operations that is directed to a flare for the purpose of disposing of the gas), that portion of flare sweep gas that is not recovered, flare purge gas and flare supplemental gas, but does not include pilot gas, total steam or assist air.

Flexible enclosure device means a seal made of an elastomeric fabric (or other material) which completely encloses a slotted guidepole or ladder and eliminates the vapor emission pathway from inside the storage vessel through the guidepole slots or ladder slots to the outside air.

* * * * *

Force majeure event means a release of HAP, either directly to the atmosphere from a relief valve or discharged via a flare, that is demonstrated to the satisfaction of the Administrator to result from an event beyond the refinery owner or operator's control, such as natural disasters; acts of war or terrorism; loss of a utility external to the refinery (*e.g.,* external power curtailment), excluding power curtailment due to an interruptible service agreement; and fire or explosion originating at a near or adjoining facility outside of the refinery owner or operator's control that impacts the refinery's ability to operate.

* * * * *

Group 1 storage vessel means:

(1) Prior to February 1, 2016:

(i) A storage vessel at an existing source that has a design capacity greater than or equal to 177 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 10.4 kilopascals and stored-liquid annual average true vapor pressure greater than or equal to 8.3 kilopascals and annual average HAP liquid concentration greater than 4 percent by weight total organic HAP;

(ii) A storage vessel at a new source that has a design storage capacity greater than or equal to 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 3.4 kilopascals and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP; or

(iii) A storage vessel at a new source that has a design storage capacity greater than or equal to 76 cubic meters and less than 151 cubic meters and stored-liquid maximum true vapor pressure greater than or equal to 77 kilopascals and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP.

(2) On and after February 1, 2016:

(i) A storage vessel at an existing source that has a design capacity greater than or equal to 151 cubic meters (40,000 gallons) and stored-liquid maximum true vapor pressure greater than or equal to 5.2 kilopascals (0.75 pounds per square inch) and annual average HAP liquid concentration greater than 4 percent by weight total organic HAP;

(ii) A storage vessel at an existing source that has a design storage capacity greater than or equal to 76 cubic meters (20,000 gallons) and less than 151 cubic meters (40,000 gallons) and stored-liquid maximum true vapor pressure greater than or equal to 13.1 kilopascals (1.9 pounds per square inch) and annual average HAP liquid concentration greater than 4 percent by weight total organic HAP;

(iii) A storage vessel at a new source that has a design storage capacity greater than or equal to 151 cubic meters (40,000 gallons) and stored-liquid maximum true vapor pressure greater than or equal to 3.4 kilopascals (0.5 pounds per square inch) and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP; or

(iv) A storage vessel at a new source that has a design storage capacity greater than or equal to 76 cubic meters (20,000 gallons) and less than 151 cubic meters (40,000 gallons) and stored-liquid maximum true vapor pressure greater than or equal to 13.1 kilopascals (1.9 pounds per square inch) and annual average HAP liquid concentration greater than 2 percent by weight total organic HAP.

* * * * *

Lower steam means the portion of assist steam piped to an exterior annular ring near the lower part of a flare tip, which then flows through tubes to the flare tip, and ultimately exits the tubes at the flare tip.

* * * * *

Miscellaneous process vent means a gas stream containing greater than 20 parts per million by volume organic HAP that is continuously or periodically discharged from a petroleum refining process unit meeting the criteria specified in § 63.640(a). *Miscellaneous process vents* include gas streams that are discharged directly to the atmosphere, gas streams that are routed to a control device prior to discharge to the atmosphere, or gas streams that are diverted through a product recovery device prior to control or discharge to the atmosphere. *Miscellaneous process vents* include vent streams from: Caustic wash accumulators, distillation tower condensers/accumulators, flash/knockout drums, reactor vessels, scrubber overheads, stripper overheads, vacuum pumps, steam ejectors, hot wells, high point bleeds, wash tower overheads, water wash accumulators, blowdown condensers/accumulators, and delayed coker vents. *Miscellaneous process vents* do not include:

(1) Gaseous streams routed to a fuel gas system, provided that on and after January 30, 2019, any flares receiving gas from the fuel gas system are in compliance with § 63.670;

(2) Pressure relief device discharges;

(3) Leaks from equipment regulated under § 63.648;

(4) [Reserved]

(5) In situ sampling systems (onstream analyzers) until January 30, 2019. After this date, these sampling systems will be included in the definition of miscellaneous process vents;

(6) Catalytic cracking unit catalyst regeneration vents;

(7) Catalytic reformer regeneration vents;

(8) Sulfur plant vents;

(9) Vents from control devices such as scrubbers, boilers, incinerators, and electrostatic precipitators applied to catalytic cracking unit catalyst regeneration vents, catalytic reformer regeneration vents, and sulfur plant vents;

(10) Vents from any stripping operations applied to comply with the wastewater provisions of this subpart, subpart G of this part, or 40 CFR part 61, subpart FF;

(11) Emissions associated with delayed coking unit decoking operations;

(12) Vents from storage vessels;

(13) Emissions from wastewater collection and conveyance systems including, but not limited to, wastewater drains, sewer vents, and sump drains; and

(14) Hydrogen production plant vents through which carbon dioxide is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated.

Net heating value means the energy released as heat when a compound undergoes complete combustion with oxygen to form gaseous carbon dioxide and gaseous water (also referred to as lower heating value).

* * * * *

Perimeter assist air means the portion of assist air introduced at the perimeter of the flare tip or above the flare tip. *Perimeter assist air* includes air intentionally entrained in lower and upper steam. *Perimeter assist air* includes all assist air except premix assist air.

Periodically discharged means discharges that are intermittent and associated with routine operations, maintenance activities, startups, shutdowns, malfunctions, or process upsets.

* * * * *

Pilot gas means gas introduced into a flare tip that provides a flame to ignite the flare vent gas.

* * * * *

Premix assist air means the portion of assist air that is introduced to the flare vent gas, whether injected or induced, prior to the flare tip. Premix assist air also includes any air intentionally entrained in center steam.

* * * * *

Reference control technology for storage vessels means either:

(1) For Group 1 storage vessels complying with § 63.660:

(i) An internal floating roof, including an external floating roof converted to an internal floating roof, meeting the specifications of § 63.1063(a)(1)(i) and (b);

(ii) An external floating roof meeting the specifications of § 63.1063(a)(1)(ii), (a)(2), and (b); or

(iii) [Reserved]

(iv) A closed-vent system to a control device that reduces organic HAP emissions by 95 percent, or to an outlet concentration of 20 parts per million by volume (ppmv).

(v) For purposes of emissions averaging, these four technologies are considered equivalent.

(2) For all other storage vessels:

(i) An internal floating roof meeting the specifications of § 63.119(b) of subpart G except for § 63.119(b)(5) and (6);

(ii) An external floating roof meeting the specifications of § 63.119(c) of subpart G except for § 63.119(c)(2);

(iii) An external floating roof converted to an internal floating roof meeting the specifications of § 63.119(d) of subpart G except for § 63.119(d)(2); or

(iv) A closed-vent system to a control device that reduces organic HAP emissions by 95 percent, or to an outlet concentration of 20 parts per million by volume.

(v) For purposes of emissions averaging, these four technologies are considered equivalent.

* * * * *

Regulated material means any stream associated with emission sources listed in § 63.640(c) required to meet control requirements under this subpart as well as any stream for which this subpart or a cross-referencing subpart specifies that the requirements for flare control devices in § 63.670 must be met.

* * * * *

Thermal expansion relief valve means a pressure relief valve designed to protect equipment from excess pressure due to thermal expansion of blocked liquid-filled equipment or piping due to ambient heating or heat from a heat tracing system. Pressure relief valves designed to protect equipment from excess pressure due to blockage against a pump or compressor or due to fire contingency are not thermal expansion relief valves.

* * * * *

Total steam means the total of all steam that is supplied to a flare and includes, but is not limited to, lower steam, center steam and upper steam.

Upper steam means the portion of assist steam introduced via nozzles located on the exterior perimeter of the upper end of the flare tip.

* * * * *

■ 15. Section 63.642 is amended by:
■ a. Adding paragraph (b);
■ b. Revising paragraphs (d)(3), (e), (i), (k) introductory text, (k)(1), (l) introductory text, and (l)(2); and
■ c. Adding paragraph (n).

The revisions and additions read as follows:

§ 63.642 General standards.

* * * * *

(b) The emission standards set forth in this subpart shall apply at all times.

* * * * *

(d) * * *

(3) Performance tests shall be conducted according to the provisions of § 63.7(e) except that performance tests shall be conducted at maximum representative operating capacity for the process. During the performance test, an owner or operator shall operate the control device at either maximum or minimum representative operating conditions for monitored control device parameters, whichever results in lower emission reduction. An owner or operator shall not conduct a performance test during startup, shutdown, periods when the control device is bypassed or periods when the process, monitoring equipment or control device is not operating properly. The owner/operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that the test was conducted at maximum representative operating capacity. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

(e) All applicable records shall be maintained as specified in § 63.655(i).

* * * * *

(i) The owner or operator of an existing source shall demonstrate compliance with the emission standard in paragraph (g) of this section by following the procedures specified in paragraph (k) of this section for all emission points, or by following the emissions averaging compliance approach specified in paragraph (l) of this section for specified emission points and the procedures specified in paragraph (k)(1) of this section.

* * * * *

(k) The owner or operator of an existing source may comply, and the owner or operator of a new source shall comply, with the applicable provisions in §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as specified in § 63.640(h).

(1) The owner or operator using this compliance approach shall also comply with the requirements of §§ 63.648 and/or 63.649, 63.654, 63.655, 63.657, 63.658, 63.670 and 63.671, as applicable.

* * * * *

(l) The owner or operator of an existing source may elect to control some of the emission points within the source to different levels than specified under §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as applicable according to § 63.640(h), by using an emissions averaging compliance approach as long as the overall emissions for the source do not exceed the emission level specified in paragraph (g) of this section. The owner or operator using emissions averaging shall meet the requirements in paragraphs (l)(1) and (2) of this section.

* * * * *

(2) Comply with the requirements of §§ 63.648 and/or 63.649, 63.654, 63.652, 63.653, 63.655, 63.657, 63.658, 63.670 and 63.671, as applicable.

* * * * *

(n) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 16. Section 63.643 is amended by revising paragraphs (a) introductory text and (a)(1) and adding paragraph (c) to read as follows:

§ 63.643 Miscellaneous process vent provisions.

(a) The owner or operator of a Group 1 miscellaneous process vent as defined in § 63.641 shall comply with the requirements of either paragraph (a)(1) or (2) of this section or, if applicable, paragraph (c) of this section. The owner or operator of a miscellaneous process vent that meets the conditions in paragraph (c) of this section is only required to comply with the requirements of paragraph (c) of this section and § 63.655(g)(13) and (i)(12) for that vent.

(1) Reduce emissions of organic HAP's using a flare. On and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the requirements of § 63.11(b) of subpart A or the requirements of § 63.670.

* * * * *

(c) An owner or operator may designate a process vent as a maintenance vent if the vent is only used as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed or placed into service. The owner of operator does not need to designate a maintenance vent as a Group 1 or Group 2 miscellaneous process vent. The owner or operator must comply with the applicable requirements in paragraphs (c)(1) through (3) of this section for each maintenance vent.

(1) Prior to venting to the atmosphere, process liquids are removed from the equipment as much as practical and the equipment is depressured to a control device, fuel gas system, or back to the process until one of the following conditions, as applicable, is met.

(i) The vapor in the equipment served by the maintenance vent has a lower explosive limit (LEL) of less than 10 percent.

(ii) If there is no ability to measure the LEL of the vapor in the equipment based on the design of the equipment, the pressure in the equipment served by the maintenance vent is reduced to 5 psig or less. Upon opening the maintenance vent, active purging of the equipment cannot be used until the LEL of the vapors in the maintenance vent (or inside the equipment if the maintenance is a hatch or similar type of opening) equipment is less than 10 percent.

(iii) The equipment served by the maintenance vent contains less than 72 pounds of VOC.

(iv) If the maintenance vent is associated with equipment containing pyrophoric catalyst (*e.g.*, hydrotreaters and hydrocrackers) at refineries that do not have a pure hydrogen supply, the LEL of the vapor in the equipment must be less than 20 percent, except for one event per year not to exceed 35 percent.

(2) Except for maintenance vents complying with the alternative in paragraph (c)(1)(iii) of this section, the owner or operator must determine the LEL or, if applicable, equipment pressure using process instrumentation or portable measurement devices and follow procedures for calibration and maintenance according to manufacturer's specifications.

(3) For maintenance vents complying with the alternative in paragraph (c)(1)(iii) of this section, the owner or operator shall determine mass of VOC in the equipment served by the maintenance vent based on the equipment size and contents after considering any contents drained or purged from the equipment. Equipment size may be determined from equipment design specifications. Equipment contents may be determined using process knowledge.

■ 17. Section 63.644 is amended by revising paragraphs (a) introductory text, (a)(2), and (c) to read as follows:

§ 63.644 Monitoring provisions for miscellaneous process vents.

(a) Except as provided in paragraph (b) of this section, each owner or operator of a Group 1 miscellaneous process vent that uses a combustion device to comply with the requirements in § 63.643(a) shall install the monitoring equipment specified in paragraph (a)(1), (2), (3), or (4) of this section, depending on the type of combustion device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately and, except for CPMS installed for pilot flame monitoring, must meet the applicable minimum accuracy, calibration and quality control requirements specified in table 13 of this subpart.

* * * * *

(2) Where a flare is used prior to January 30, 2019, a device (including but not limited to a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a pilot flame is required, or the requirements of § 63.670 shall be met. Where a flare is used on and after January 30, 2019, the requirements of § 63.670 shall be met.

* * * * *

(c) The owner or operator of a Group 1 miscellaneous process vent using a vent system that contains bypass lines that could divert a vent stream away from the control device used to comply with paragraph (a) of this section either directly to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a) shall comply with either paragraph (c)(1) or (2) of this section. Use of the bypass at any time to divert a Group 1 miscellaneous process vent stream to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a) is an emissions standards violation. Equipment such as low leg drains and equipment subject to § 63.648 are not subject to this paragraph (c).

(1) Install, calibrate and maintain a flow indicator that determines whether a vent stream flow is present at least once every hour. A manual block valve equipped with a valve position indicator may be used in lieu of a flow indicator, as long as the valve position indicator is monitored continuously. Records shall be generated as specified in § 63.655(h) and (i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and that the vent stream is not diverted through the bypass line.

* * * * *

■ 18. Section 63.645 is amended by revising paragraphs (e)(1) and (f)(2) to read as follows:

§ 63.645 Test methods and procedures for miscellaneous process vents.

* * * * *

(e) * * *

(1) Methods 1 or 1A of 40 CFR part 60, appendix A–1, as appropriate, shall be used for selection of the sampling site. For vents smaller than 0.10 meter in diameter, sample at the center of the vent.

* * * * *

(f) * * *

(2) The gas volumetric flow rate shall be determined using Methods 2, 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1 or Method 2G of 40 CFR part 60, appendix A–2, as appropriate.

* * * * *

■ 19. Section 63.646 is amended by adding introductory text and revising paragraph (b)(2) to read as follows:

§ 63.646 Storage vessel provisions.

Upon a demonstration of compliance with the standards in § 63.660 by the compliance dates specified in § 63.640(h), the standards in this section shall no longer apply.

* * * * *

(b) * * *

(2) When an owner or operator and the Administrator do not agree on whether the annual average weight percent organic HAP in the stored liquid is above or below 4 percent for a storage vessel at an existing source or above or below 2 percent for a storage vessel at a new source, an appropriate method (based on the type of liquid stored) as published by EPA or a consensus-based standards organization shall be used. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.naesb.org*).

* * * * *

■ 20. Section 63.647 is amended by:
■ a. Revising paragraph (a);
■ b. Redesignating paragraph (c) as paragraph (d); and
■ c. Adding paragraph (c).

The revisions and additions read as follows:

§ 63.647 Wastewater provisions.

(a) Except as provided in paragraphs (b) and (c) of this section, each owner or operator of a Group 1 wastewater stream shall comply with the requirements of §§ 61.340 through 61.355 of this chapter for each process wastewater stream that meets the definition in § 63.641.

* * * * *

(c) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of part 61, subpart FF of this chapter, or the requirements of § 63.670.

* * * * *

■ 21. Section 63.648 is amended by:
■ a. Adding paragraph (a)(3);
■ b. Revising paragraph (c) introductory text; and
■ c. Adding paragraphs (c)(11) and (12) and (j).

The revisions and additions read as follows:

§ 63.648 Equipment leak standards.

(a) * * *

(3) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of part 60, subpart VV of this chapter, or the requirements of § 63.670.

* * * * *

(c) In lieu of complying with the existing source provisions of paragraph (a) in this section, an owner or operator may elect to comply with the requirements of §§ 63.161 through 63.169, 63.171, 63.172, 63.175, 63.176, 63.177, 63.179, and 63.180 of subpart H except as provided in paragraphs (c)(1) through (12) and (e) through (i) of this section.

* * * * *

(11) [Reserved]

(12) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of §§ 63.172 and 63.180, or the requirements of § 63.670.

* * * * *

(j) Except as specified in paragraph (j)(4) of this section, the owner or operator must comply with the requirements specified in paragraphs (j)(1) and (2) of this section for pressure relief devices, such as relief valves or rupture disks, in organic HAP gas or vapor service instead of the pressure relief device requirements of § 60.482–4 or § 63.165, as applicable. Except as specified in paragraphs (j)(4) and (5) of this section, the owner or operator must also comply with the requirements specified in paragraph (j)(3) of this section for all pressure relief devices.

(1) *Operating requirements.* Except during a pressure release, operate each pressure relief device in organic HAP gas or vapor service with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A–7.

(2) *Pressure release requirements.* For pressure relief devices in organic HAP gas or vapor service, the owner or operator must comply with the applicable requirements in paragraphs (j)(2)(i) through (iii) of this section following a pressure release.

(i) If the pressure relief device does not consist of or include a rupture disk, conduct instrument monitoring, as specified in § 60.485(b) or § 63.180(c), as applicable, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.

(ii) If the pressure relief device includes a rupture disk, either comply with the requirements in paragraph (j)(2)(i) of this section (not replacing the rupture disk) or install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release. The owner or operator must conduct instrument monitoring, as specified in § 60.485(b) or § 63.180(c), as applicable, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.

(iii) If the pressure relief device consists only of a rupture disk, install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release. The owner or operator may not initiate startup of the equipment served by the rupture disk until the rupture disc is replaced. The owner or operator must conduct instrument monitoring, as specified in § 60.485(b) or § 63.180(c), as applicable, no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.

(3) *Pressure release management.* Except as specified in paragraphs (j)(4) and (5) of this section, the owner or operator shall comply with the requirements specified in paragraphs (j)(3)(i) through (v) of this section for all pressure relief devices in organic HAP service no later than January 30, 2019.

(i) The owner or operator must equip each affected pressure relief device with a device(s) or use a monitoring system that is capable of:

(A) Identifying the pressure release;

(B) Recording the time and duration of each pressure release; and

(C) Notifying operators immediately that a pressure release is occurring. The device or monitoring system may be either specific to the pressure relief device itself or may be associated with the process system or piping, sufficient to indicate a pressure release to the atmosphere. Examples of these types of devices and systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor, or pressure monitor.

(ii) The owner or operator must apply at least three redundant prevention measures to each affected pressure relief device and document these measures. Examples of prevention measures include:

(A) Flow, temperature, level and pressure indicators with deadman switches, monitors, or automatic actuators.

(B) Documented routine inspection and maintenance programs and/or operator training (maintenance programs and operator training may count as only one redundant prevention measure).

(C) Inherently safer designs or safety instrumentation systems.

(D) Deluge systems.

(E) Staged relief system where initial pressure relief valve (with lower set release pressure) discharges to a flare or other closed vent system and control device.

(iii) If any affected pressure relief device releases to atmosphere as a result of a pressure release event, the owner or operator must perform root cause analysis and corrective action analysis according to the requirement in paragraph (j)(6) of this section and implement corrective actions according to the requirements in paragraph (j)(7) of this section. The owner or operator must also calculate the quantity of organic HAP released during each pressure release event and report this quantity as required in § 63.655(g)(10)(iii). Calculations may be based on data from the pressure relief device monitoring alone or in combination with process parameter monitoring data and process knowledge.

(iv) The owner or operator shall determine the total number of release events occurred during the calendar year for each affected pressure relief device separately. The owner or operator shall also determine the total number of release events for each pressure relief device for which the root cause analysis concluded that the root cause was a *force majeure*event, as defined in this subpart.

(v) Except for pressure relief devices described in paragraphs (j)(4) and (5) of this section, the following release events are a violation of the pressure release management work practice standards.

(A) Any release event for which the root cause of the event was determined to be operator error or poor maintenance.

(B) A second release event not including *force majeure* events from a single pressure relief device in a 3 calendar year period for the same root cause for the same equipment.

(C) A third release event not including *force majeure* events from a single pressure relief device in a 3 calendar year period for any reason.

(4) *Pressure relief devices routed to a control device.* If all releases and potential leaks from a pressure relief device are routed through a closed vent system to a control device, back into the process or to the fuel gas system, the owner or operator is not required to comply with paragraph (j)(1), (2), or (3) (if applicable) of this section. Both the closed vent system and control device (if applicable) must meet the requirements of § 63.644. When complying with this paragraph (j)(4), all references to ''Group 1 miscellaneous process vent'' in § 63.644 mean ''pressure relief device.'' If a pressure relief device complying with this paragraph (j)(4) is routed to the fuel gas system, then on and after January 30, 2019, any flares receiving gas from that fuel gas system must be in compliance with § 63.670.

(5) *Pressure relief devices exempted from pressure release management requirements.* The following types of pressure relief devices are not subject to the pressure release management requirements in paragraph (j)(3) of this section.

(i) Pressure relief devices in heavy liquid service, as defined in § 63.641.

(ii) Pressure relief devices that only release material that is liquid at standard conditions (1 atmosphere and 68 degrees Fahrenheit) and that are hard-piped to a controlled drain system (*i.e.*, a drain system meeting the requirements for Group 1 wastewater streams in § 63.647(a)) or piped back to the process or pipeline.

(iii) Thermal expansion relief valves.

(iv) Pressure relief devices designed with a set relief pressure of less than 2.5 psig.

(v) Pressure relief devices that do not have the potential to emit 72 lbs/day or more of VOC based on the valve diameter, the set release pressure, and the equipment contents.

(vi) Pressure relief devices on mobile equipment.

(6) *Root cause analysis and corrective action analysis.* A root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a release event. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in paragraphs (j)(6)(i) through (iv) of this section.

(i) You may conduct a single root cause analysis and corrective action analysis for a single emergency event that causes two or more pressure relief devices installed on the same equipment to release.

(ii) You may conduct a single root cause analysis and corrective action analysis for a single emergency event that causes two or more pressure relief devices to release, regardless of the equipment served, if the root cause is reasonably expected to be a force majeure event, as defined in this subpart.

(iii) Except as provided in paragraphs (j)(6)(i) and (ii) of this section, if more than one pressure relief device has a release during the same time period, an initial root cause analysis shall be conducted separately for each pressure relief device that had a release. If the initial root cause analysis indicates that the release events have the same root cause(s), the initially separate root cause analyses may be recorded as a single root cause analysis and a single corrective action analysis may be conducted.

(7) *Corrective action implementation.* Each owner or operator required to conduct a root cause analysis and corrective action analysis as specified in paragraphs (j)(3)(iii) and (j)(6) of this section shall implement the corrective action(s) identified in the corrective action analysis in accordance with the applicable requirements in paragraphs (j)(7)(i) through (iii) of this section.

(i) All corrective action(s) must be implemented within 45 days of the event for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that no corrective action should be implemented, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the event.

(ii) For corrective actions that cannot be fully implemented within 45 days following the event for which the root cause and corrective action analyses were required, the owner or operator shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.

(iii) No later than 45 days following the event for which a root cause and corrective action analyses were required, the owner or operator shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

■ 22. Section 63.649 is amended by revising definition of C_c term in the equation in paragraph (c)(6)(i) to read as follows:

§ 63.649 Alternative means of emission limitation: Connectors in gas/vapor service and light liquid service.

* * * * *

(c) * * *

(6) * * *

(i) * * *

C_c = Optional credit for removed connectors = 0.67 × net number (*i.e.,* the total number of connectors removed minus the total added) of connectors in organic HAP service removed from the process unit after the applicability date set forth in § 63.640(h)(3)(iii) for existing process units, and after the date of start-up for new process units. If credits are not taken, then $C_c = 0$.

* * * * *

■ 23. Section 63.650 is amended by revising paragraph (a) and adding paragraph (d) to read as follows:

§ 63.650 Gasoline loading rack provisions.

(a) Except as provided in paragraphs (b) through (d) of this section, each owner or operator of a Group 1 gasoline loading rack classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a petroleum refinery shall comply with subpart R of this part, §§ 63.421, 63.422(a) through (c) and (e), 63.425(a) through (c) and (e) through (i), 63.427(a) and (b), and 63.428(b), (c), (g)(1), (h)(1) through (3), and (k).

* * * * *

(d) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of subpart R of this part, or the requirements of § 63.670.

■ 24. Section 63.651 is amended by revising paragraphs (a) and (d) and adding paragraph (e) to read as follows:

§ 63.651 Marine tank vessel loading operation provisions.

(a) Except as provided in paragraphs (b) through (e) of this section, each owner or operator of a marine tank vessel loading operation located at a petroleum refinery shall comply with the requirements of §§ 63.560 through 63.568.

* * * * *

(d) The compliance time of 4 years after promulgation of 40 CFR part 63, subpart Y, does not apply. The compliance time is specified in § 63.640(h)(1).

(e) If a flare is used as a control device, on and after January 30, 2019, the flare shall meet the requirements of § 63.670. Prior to January 30, 2019, the flare shall meet the applicable requirements of subpart Y of this part, or the requirements of § 63.670.

■ 25. Section 63.652 is amended by:

■ a. Revising paragraph (a);

■ b. Removing and reserving paragraph (f)(2); and

■ c. Revising paragraphs (g)(2)(iii)(B)(*1*), (h)(3), (k) introductory text, and (k)(3).

The revisions and additions read as follows:

§ 63.652 Emissions averaging provisions.

(a) This section applies to owners or operators of existing sources who seek to comply with the emission standard in § 63.642(g) by using emissions averaging according to § 63.642(l) rather than following the provisions of §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651. Existing marine tank vessel loading operations located at the Valdez Marine Terminal source may not comply with the standard by using emissions averaging.

* * * * *

(g) * * *

(2) * * *

(iii) * * *

(B) * * *

(*1*) The percent reduction shall be measured according to the procedures in § 63.116 of subpart G if a combustion control device is used. For a flare meeting the criteria in § 63.116(a) of subpart G or § 63.670, as applicable, or a boiler or process heater meeting the criteria in § 63.645(d) or § 63.116(b) of subpart G, the percentage of reduction shall be 98 percent. If a noncombustion control device is used, percentage of reduction shall be demonstrated by a performance test at the inlet and outlet of the device, or, if testing is not feasible, by a control design evaluation and documented engineering calculations.

* * * * *

(h) * * *

(3) Emissions from storage vessels shall be determined as specified in § 63.150(h)(3) of subpart G, except as follows:

(i) For storage vessels complying with § 63.646:

(A) All references to § 63.119(b) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119(b) or § 63.119(b) except for § 63.119(b)(5) and (6).

(B) All references to § 63.119(c) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119(c) or § 63.119(c) except for § 63.119(c)(2).

(C) All references to § 63.119(d) in § 63.150(h)(3) of subpart G shall be replaced with: § 63.119(d) or § 63.119(d) except for § 63.119(d)(2).

(ii) For storage vessels complying with § 63.660:

(A) Section 63.1063(a)(1)(i), (a)(2), and (b) or § 63.1063(a)(1)(i) and (b) shall apply instead of § 63.119(b) in § 63.150(h)(3) of subpart G.

(B) Section 63.1063(a)(1)(ii), (a)(2), and (b) shall apply instead of § 63.119(c) in § 63.150(h)(3) of subpart G.

(C) Section 63.1063(a)(1)(i), (a)(2), and (b) or § 63.1063(a)(1)(i) and (b) shall apply instead of § 63.119(d) in § 63.150(h)(3) of subpart G.

* * * * *

(k) The owner or operator shall demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the State or local permitting authority, greater risk to human health or the environment than if the emission points were controlled according to the provisions in §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as applicable.

* * * * *

(3) An emissions averaging plan that does not demonstrate an equivalent or lower hazard or risk to the satisfaction of the State or local permitting authority shall not be approved. The State or local permitting authority may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as applicable.

* * * * *

■ 26. Section 63.653 is amended by revising paragraphs (a) introductory text, (a)(3)(i) and (ii), and (a)(7) to read as follows:

§ 63.653 Monitoring, recordkeeping, and implementation plan for emissions averaging.

(a) For each emission point included in an emissions average, the owner or operator shall perform testing, monitoring, recordkeeping, and reporting equivalent to that required for Group 1 emission points complying with §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as applicable. The specific requirements for miscellaneous process vents, storage vessels, wastewater, gasoline loading racks, and marine tank vessels are identified in paragraphs (a)(1) through (7) of this section.

* * * * *

(3) * * *

(i) Perform the monitoring or inspection procedures in § 63.646 and either § 63.120 of subpart G or § 63.1063 of subpart WW, as applicable; and

(ii) For closed vent systems with control devices, conduct an initial design evaluation as specified in § 63.646 and either § 63.120(d) of subpart G or § 63.985(b) of subpart SS, as applicable.

* * * * *

(7) If an emission point in an emissions average is controlled using a pollution prevention measure or a device or technique for which no monitoring parameters or inspection procedures are specified in §§ 63.643 through 63.645, 63.646 or 63.660, 63.647, 63.650, and 63.651, as applicable, the owner or operator shall establish a site-specific monitoring parameter and shall submit the information specified in § 63.655(h)(4) in the Implementation Plan.

* * * * *

■ 27. Section 63.655 is amended by:

■ a. Revising paragraphs (f) introductory text, (f)(1) introductory text, (f)(1)(i)(A) introductory text, (f)(1)(i)(A)(*2*) and (*3*), (f)(1)(i)(B) introductory text, (f)(1)(i)(B)(*2*), (f)(1)(i)(D)(*2*), (f)(1)(iv) introductory text, and (f)(1)(iv)(A);

■ b. Adding paragraphs (f)(1)(vii) and (viii);

■ c. Revising paragraphs (f)(2) introductory text, (f)(3) introductory text, the first sentence of (f)(6), (g) introductory text, (g)(1) through (5), (g)(6)(i)(D), (g)(6)(iii), and (g)(7)(i);

■ d. Adding paragraphs (g)(10) through (14);
■ e. Removing and reserving paragraph (h)(1);
■ f. Revising paragraphs (h)(2) introductory text, (h)(2)(i)(B), (h)(2)(ii), and (h)(5)(iii);
■ g. Adding paragraphs (h)(8) and (9) and (i) introductory text;
■ h. Revising paragraph (i)(1) introductory text and paragraph (i)(1)(ii);
■ i. Adding paragraphs (i)(1)(v) and (vi);
■ j. Redesignating paragraphs (i)(4) and (5) as paragraphs (i)(5) and (6), respectively;
■ k. Adding paragraph (i)(4);
■ l. Revising newly redesignated paragraph (i)(5) introductory text; and
■ m. Adding paragraphs (i)(7) through (12).

The revisions and additions read as follows:

§ 63.655 Reporting and recordkeeping requirements.

* * * * *

(f) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status report within 150 days after the compliance dates specified in § 63.640(h) with the exception of Notification of Compliance Status reports submitted to comply with § 63.640(l)(3) and for storage vessels subject to the compliance schedule specified in § 63.640(h)(2). Notification of Compliance Status reports required by § 63.640(l)(3) and for storage vessels subject to the compliance dates specified in § 63.640(h)(2) shall be submitted according to paragraph (f)(6) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If the required information has been submitted before the date 150 days after the compliance date specified in § 63.640(h), a separate Notification of Compliance Status report is not required within 150 days after the compliance dates specified in § 63.640(h). If an owner or operator submits the information specified in paragraphs (f)(1) through (5) of this section at different times, and/or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information. Each owner or operator of a gasoline loading rack classified under Standard Industrial Classification Code 2911 located within a contiguous area and under common control with a petroleum refinery subject to the standards of this subpart shall submit the Notification of Compliance Status report required by subpart R of this part within 150 days after the compliance dates specified in § 63.640(h).

(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (viii) of this section.

(i) * * *

(A) Identification of each storage vessel subject to this subpart, and for each Group 1 storage vessel subject to this subpart, the information specified in paragraphs (f)(1)(i)(A)(*1*) through (*3*) of this section. This information is to be revised each time a Notification of Compliance Status report is submitted for a storage vessel subject to the compliance schedule specified in § 63.640(h)(2) or to comply with § 63.640(l)(3).

* * * * *

(*2*) For storage vessels subject to the compliance schedule specified in § 63.640(h)(2) that are not complying with § 63.646, the anticipated compliance date.

(*3*) For storage vessels subject to the compliance schedule specified in § 63.640(h)(2) that are complying with § 63.646 and the Group 1 storage vessels described in § 63.640(l), the actual compliance date.

(B) If a closed vent system and a control device other than a flare is used to comply with § 63.646 or § 63.660, the owner or operator shall submit:

* * * * *

(*2*) The design evaluation documentation specified in § 63.120(d)(1)(i) of subpart G or § 63.985(b)(1)(i) of subpart SS (as applicable), if the owner or operator elects to prepare a design evaluation; or

* * * * *

(D) * * *

(*2*) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.120(e) of subpart G or § 63.987(b) of subpart SS or § 63.670(h), as applicable; and

* * * * *

(iv) For miscellaneous process vents controlled by flares, initial compliance test results including the information in paragraphs (f)(1)(iv)(A) and (B) of this section.

(A) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §§ 63.645 and 63.116(a) of subpart G or § 63.670(h), as applicable; and

* * * * *

(vii) For pressure relief devices in organic HAP service subject to the requirements in § 63.648(j)(3)(i) and (ii), this report shall include the information specified in paragraphs (f)(1)(vii)(A) and (B) of this section.

(A) A description of the monitoring system to be implemented, including the relief devices and process parameters to be monitored, and a description of the alarms or other methods by which operators will be notified of a pressure release.

(B) A description of the prevention measures to be implemented for each affected pressure relief device.

(viii) For each delayed coking unit, identification of whether the unit is an existing affected source or a new affected source and whether monitoring will be conducted as specified in § 63.657(b) or (c).

(2) If initial performance tests are required by §§ 63.643 through 63.653, the Notification of Compliance Status report shall include one complete test report for each test method used for a particular source. On and after February 1, 2016, performance tests shall be submitted according to paragraph (h)(9) of this section.

* * * * *

(3) For each monitored parameter for which a range is required to be established under § 63.120(d) of subpart G or § 63.985(b) of subpart SS for storage vessels or § 63.644 for miscellaneous process vents, the Notification of Compliance Status report shall include the information in paragraphs (f)(3)(i) through (iii) of this section.

* * * * *

(6) Notification of Compliance Status reports required by § 63.640(l)(3) and for storage vessels subject to the compliance dates specified in § 63.640(h)(2) shall be submitted no later than 60 days after the end of the 6-month period during which the change or addition was made that resulted in the Group 1 emission point or the existing Group 1 storage vessel was brought into compliance, and may be combined with the periodic report. * * *

(g) The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the information specified in paragraphs (g)(1) through (7) of this section or paragraphs (g)(9) through (14) of this section is collected. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the events identified in paragraphs (g)(1) through (7) of this section or paragraphs (g)(9) through (14) of this section occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emission averages, as provided in paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph (g) if the reports contain the information required by paragraphs (g)(1) through (14) of this section.

(1) For storage vessels, Periodic Reports shall include the information specified for Periodic Reports in paragraphs (g)(2) through (5) of this section. Information related to gaskets, slotted membranes, and sleeve seals is not required for storage vessels that are part of an existing source complying with § 63.646.

(2) *Internal floating roofs.* (i) An owner or operator who elects to comply with § 63.646 by using a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit the results of each inspection conducted in accordance with § 63.120(a) of subpart G in which a failure is detected in the control equipment.

(A) For vessels for which annual inspections are required under § 63.120(a)(2)(i) or (a)(3)(ii) of subpart G, the specifications and requirements listed in paragraphs (g)(2)(i)(A)(*1*) through (*3*) of this section apply.

(*1*) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

(*2*) Except as provided in paragraph (g)(2)(i)(A)(*3*) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.

(*3*) If an extension is utilized in accordance with § 63.120(a)(4) of subpart G, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(a)(4) of subpart G; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

(B) For vessels for which inspections are required under § 63.120(a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of subpart G (*i.e.*, internal inspections), the specifications and requirements listed in paragraphs (g)(2)(i)(B)(*1*) and (*2*) of this section apply.

(*1*) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than a 10 percent open.

(*2*) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(ii) An owner or operator who elects to comply with § 63.660 by using a fixed roof and an internal floating roof shall submit the results of each inspection conducted in accordance with § 63.1063(c)(1), (d)(1), and (d)(2) of subpart WW in which a failure is detected in the control equipment. For vessels for which inspections are required under § 63.1063(c) and (d), the specifications and requirements listed in paragraphs (g)(2)(ii)(A) through (C) of this section apply.

(A) A failure is defined in § 63.1063(d)(1) of subpart WW.

(B) Each Periodic Report shall include a copy of the inspection record required by § 63.1065(b) of subpart WW when a failure occurs.

(C) An owner or operator who elects to use an extension in accordance with § 63.1063(e)(2) of subpart WW shall, in the next Periodic Report, submit the documentation required by § 63.1063(e)(2).

(3) *External floating roofs.* (i) An owner or operator who elects to comply with § 63.646 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(i)(A) through (C) of this section.

(A) The owner or operator shall submit, as part of the Periodic Report, documentation of the results of each seal gap measurement made in accordance with § 63.120(b) of subpart G in which the seal and seal gap requirements of § 63.120(b)(3), (4), (5), or (6) of subpart G are not met. This documentation shall include the information specified in paragraphs (g)(3)(i)(A)(*1*) through (*4*) of this section.

(*1*) The date of the seal gap measurement.

(*2*) The raw data obtained in the seal gap measurement and the calculations described in § 63.120(b)(3) and (4) of subpart G.

(*3*) A description of any seal condition specified in § 63.120(b)(5) or (6) of subpart G that is not met.

(*4*) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.

(B) If an extension is utilized in accordance with § 63.120(b)(7)(ii) or (b)(8) of subpart G, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(b)(7)(ii) or (b)(8) of subpart G, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.

(C) The owner or operator shall submit, as part of the Periodic Report, documentation of any failures that are identified during visual inspections required by § 63.120(b)(10) of subpart G. This documentation shall meet the specifications and requirements in paragraphs (g)(3)(i)(C)(*1*) and (*2*) of this section.

(*1*) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or, for a storage vessel that is part of a new source, the gaskets no longer close off the liquid surface from the atmosphere; or, for a storage vessel that is part of a new source, the slotted membrane has more than 10 percent open area.

(*2*) Each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(ii) An owner or operator who elects to comply with § 63.660 by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (g)(3)(ii)(A) and (B) of this section.

(A) For vessels for which inspections are required under § 63.1063(c)(2), (d)(1), and (d)(3) of subpart WW, the owner or operator shall submit, as part of the Periodic Report, a copy of the inspection record required by § 63.1065(b) of subpart WW when a failure occurs. A failure is defined in § 63.1063(d)(1).

(B) An owner or operator who elects to use an extension in accordance with § 63.1063(e)(2) or (c)(2)(iv)(B) of subpart WW shall, in the next Periodic Report, submit the documentation required by those paragraphs.

(4) [Reserved]

(5) An owner or operator who elects to comply with § 63.646 or § 63.660 by installing a closed vent system and control device shall submit, as part of the next Periodic Report, the information specified in paragraphs (g)(5)(i) through (v) of this section, as applicable.

(i) The Periodic Report shall include the information specified in paragraphs (g)(5)(i)(A) and (B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of either § 63.119(e)(1) or (2) of subpart G, § 63.985(a) and (b) of subpart SS, or § 63.670, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of either § 63.119(e)(1) or (2) of subpart G, § 63.985(a) and (b) of subpart SS, or § 63.670, as applicable, due to planned routine maintenance.

(ii) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: Identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.

(iii) If a flare is used prior to January 30, 2019 and prior to electing to comply with the requirements in § 63.670, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in § 63.11(b) of subpart A and shall include: Identification of the flare that does not meet the general requirements specified in § 63.11(b) of subpart A, and reasons the flare did not meet the general requirements specified in § 63.11(b) of subpart A.

(iv) If a flare is used on or after the date for which compliance with the requirements in § 63.670 is elected, which can be no later than January 30, 2019, the Periodic Report shall include the items specified in paragraph (g)(11) of this section.

(v) An owner or operator who elects to comply with § 63.660 by installing an alternate control device as described in § 63.1064 of subpart WW shall submit, as part of the next Periodic Report, a written application as described in § 63.1066(b)(3) of subpart WW.

(6) * * *

(i) * * *

(D) For data compression systems under paragraph (h)(5)(iii) of this section, an operating day when the monitor operated for less than 75 percent of the operating hours or a day when less than 18 monitoring values were recorded.

* * * * *

(iii) For periods in closed vent systems when a Group 1 miscellaneous process vent stream was detected in the bypass line or diverted from the control device and either directly to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a), report the date, time, duration, estimate of the volume of gas, the concentration of organic HAP in the gas and the resulting mass emissions of organic HAP that bypassed the control device. For periods when the flow indicator is not operating, report the date, time, and duration.

(7) * * *

(i) Results of the performance test shall include the identification of the source tested, the date of the test, the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) for each run and for the average of all runs, and the values of the monitored operating parameters.

* * * * *

(10) For pressure relief devices subject to the requirements § 63.648(j), Periodic Reports must include the information specified in paragraphs (g)(10)(i) through (iii) of this section.

(i) For pressure relief devices in organic HAP gas or vapor service, pursuant to § 63.648(j)(1), report any instrument reading of 500 ppm or greater.

(ii) For pressure relief devices in organic HAP gas or vapor service subject to § 63.648(j)(2), report confirmation that any monitoring required to be done during the reporting period to show compliance was conducted.

(iii) For pressure relief devices in organic HAP service subject to § 63.648(j)(3), report each pressure release to the atmosphere, including duration of the pressure release and estimate of the mass quantity of each organic HAP released, and the results of any root cause analysis and corrective action analysis completed during the reporting period, including the corrective actions implemented during the reporting period and, if applicable, the implementation schedule for planned corrective actions to be implemented subsequent to the reporting period.

(11) For flares subject to § 63.670, Periodic Reports must include the information specified in paragraphs (g)(11)(i) through (iv) of this section.

(i) Records as specified in paragraph (i)(9)(i) of this section for each 15-minute block during which there was at least one minute when regulated material is routed to a flare and no pilot flame is present.

(ii) Visible emission records as specified in paragraph (i)(9)(ii)(C) of this section for each period of 2 consecutive hours during which visible emissions exceeded a total of 5 minutes.

(iii) The 15-minute block periods for which the applicable operating limits specified in § 63.670(d) through (f) are not met. Indicate the date and time for the period, the net heating value operating parameter(s) determined following the methods in § 63.670(k) through (n) as applicable.

(iv) For flaring events meeting the criteria in § 63.670(o)(3):

(A) The start and stop time and date of the flaring event.

(B) The length of time for which emissions were visible from the flare during the event.

(C) The periods of time that the flare tip velocity exceeds the maximum flare tip velocity determined using the methods in § 63.670(d)(2) and the maximum 15-minute block average flare tip velocity recorded during the event.

(D) Results of the root cause and corrective actions analysis completed during the reporting period, including the corrective actions implemented during the reporting period and, if applicable, the implementation schedule for planned corrective actions to be implemented subsequent to the reporting period.

(12) For delayed coking units, the Periodic Report must include the information specified in paragraphs (g)(12)(i) through (iv) of this section.

(i) For existing source delayed coking units, any 60-cycle average exceeding the applicable limit in § 63.657(a)(1).

(ii) For new source delayed coking units, any direct venting event exceeding the applicable limit in § 63.657(a)(2).

(iii) The total number of double quenching events performed during the reporting period.

(iv) For each double quenching draining event when the drain water temperature exceeded 210 °F, report the drum, date, time, the coke drum vessel pressure or temperature, as applicable, when pre-vent draining was initiated, and the maximum drain water temperature during the pre-vent draining period.

(13) For maintenance vents subject to the requirements in § 63.643(c), Periodic Reports must include the information specified in paragraphs (g)(13)(i) through (iv) of this section for any release exceeding the applicable limits in § 63.643(c)(1). For the purposes of this reporting requirement, owners or operators complying with § 63.643(c)(1)(iv) must report each venting event for which the lower explosive limit is 20 percent or greater.

(i) Identification of the maintenance vent and the equipment served by the maintenance vent.

(ii) The date and time the maintenance vent was opened to the atmosphere.

(iii) The lower explosive limit, vessel pressure, or mass of VOC in the equipment, as applicable, at the start of atmospheric venting. If the 5 psig vessel pressure option in § 63.643(c)(1)(ii) was used and active purging was initiated while the lower explosive limit was 10 percent or greater, also include the lower explosive limit of the vapors at the time active purging was initiated.

(iv) An estimate of the mass of organic HAP released during the entire atmospheric venting event.

(14) Any changes in the information provided in a previous Notification of Compliance Status report.

(h) * * *

(2) For storage vessels, notifications of inspections as specified in paragraphs (h)(2)(i) and (ii) of this section.

(i) * * *

(B) Except as provided in paragraph (h)(2)(i)(C) of this section, if the internal inspection required by § 63.120(a)(2), (a)(3), or (b)(10) of subpart G or § 63.1063(d)(1) of subpart WW is not planned and the owner or operator could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the owner or operator shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.

* * * * *

(ii) In order to afford the Administrator the opportunity to have an observer present, the owner or operator of a storage vessel equipped with an external floating roof shall notify the Administrator of any seal gap measurements. The notification shall be made in writing at least 30 calendar days in advance of any gap measurements required by § 63.120(b)(1) or (2) of subpart G or § 63.1062(d)(3) of subpart WW. The State or local permitting authority can waive this notification requirement for all or some storage vessels subject to the rule or can allow less than 30 calendar days' notice.

* * * * *

(5) * * *

(iii) An owner or operator may use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every hour) but records all values that meet set criteria for variation from previously recorded values.

(A) The system shall be designed to:

(*1*) Measure the operating parameter value at least once every hour.

(*2*) Record at least 24 values each day during periods of operation.

(*3*) Record the date and time when monitors are turned off or on.

(*4*) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(*5*) Compute daily average values of the monitored operating parameter based on recorded data.

(B) You must maintain a record of the description of the monitoring system and data compression recording system including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstrations that they system meets all criteria of paragraph (h)(5)(iii)(A) of this section.

* * * * *

(8) For fenceline monitoring systems subject to § 63.658, within 45 calendar days after the end of each quarterly reporting period covered by the periodic report, each owner or operator shall submit the following information to the EPA's Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The owner or operator need not transmit this data prior to obtaining 12 months of data.

(i) Individual sample results for each monitor for each sampling period during the quarterly reporting period. For the first reporting period and for any period in which a passive monitor is added or moved, the owner or operator shall report the coordinates of all of the passive monitor locations. The owner or operator shall determine the coordinates using an instrument with an accuracy of at least 3 meters. Coordinates shall be in decimal degrees with at least five decimal places.

(ii) The biweekly annual average concentration difference (Δc) values for benzene for the quarterly reporting period.

(iii) Notation for each biweekly value that indicates whether background correction was used, all measurements in the sampling period were below detection, or whether an outlier was removed from the sampling period data set.

(9) On and after February 1, 2016, if required to submit the results of a performance test or CEMS performance evaluation, the owner or operator shall submit the results according to the procedures in paragraphs (h)(9)(i) and (ii) of this section.

(i) Within 60 days after the date of completing each performance test as required by this subpart, the owner or operator shall submit the results of the performance tests following the procedure specified in either paragraph (h)(9)(i)(A) or (B) of this section.

(A) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, the owner or operator must submit the results of the performance test to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If an owner or operator claims that some of the performance test information being submitted is confidential business information (CBI), the owner or operator must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/

CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (h)(9)(i)(A).

(B) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, the owner or operator must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(ii) Within 60 days after the date of completing each CEMS performance evaluation as required by this subpart, the owner or operator must submit the results of the performance evaluation following the procedure specified in either paragraph (h)(9)(ii)(A) or (B) of this section.

(A) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, the owner or operator must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If an owner or operator claims that some of the performance evaluation information being submitted is CBI, the owner or operator must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (h)(9)(ii)(A).

(B) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, the owner or operator must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

(i) *Recordkeeping.* Each owner or operator of a source subject to this subpart shall keep copies of all applicable reports and records required by this subpart for at least 5 years except as otherwise specified in paragraphs (i)(1) through (12) of this section. All applicable records shall be maintained in such a manner that they can be readily accessed within 24 hours. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, flash drive, floppy disk, magnetic tape, or microfiche.

(1) Each owner or operator subject to the storage vessel provisions in § 63.646 shall keep the records specified in § 63.123 of subpart G except as specified in paragraphs (i)(1)(i) through (iv) of this section. Each owner or operator subject to the storage vessel provisions in § 63.660 shall keep records as specified in paragraphs (i)(1)(v) and (vi) of this section.

* * * * *

(ii) All references to § 63.122 in § 63.123 of subpart G shall be replaced with § 63.655(e).

* * * * *

(v) Each owner or operator of a Group 1 storage vessel subject to the provisions in § 63.660 shall keep records as specified in § 63.1065 or § 63.998, as applicable.

(vi) Each owner or operator of a Group 2 storage vessel shall keep the records specified in § 63.1065(a) of subpart WW. If a storage vessel is determined to be Group 2 because the weight percent total organic HAP of the stored liquid is less than or equal to 4 percent for existing sources or 2 percent for new sources, a record of any data, assumptions, and procedures used to make this determination shall be retained.

* * * * *

(4) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and either directly to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a), the owner or operator shall keep a record of the information specified in either paragraph (i)(4)(i) or (ii) of this section, as applicable.

(i) The owner or operator shall maintain records of periods when flow was detected in the bypass line, including the date and time and the duration of the flow in the bypass line. For each flow event, the owner or operator shall maintain records sufficient to determine whether or not the detected flow included flow of a Group 1 miscellaneous process vent stream requiring control. For periods when the Group 1 miscellaneous process vent stream requiring control is diverted from the control device and released either directly to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a), the owner or operator shall include an estimate of the volume of gas, the concentration of organic HAP in the gas and the resulting emissions of organic HAP that bypassed the control device using process knowledge and engineering estimates.

(ii) Where a seal mechanism is used to comply with § 63.644(c)(2), hourly records of flow are not required. In such cases, the owner or operator shall record the date that the monthly visual inspection of the seals or closure mechanisms is completed. The owner or operator shall also record the occurrence of all periods when the seal or closure mechanism is broken, the bypass line valve position has changed or the key for a lock-and-key type lock has been checked out. The owner or operator shall include an estimate of the volume of gas, the concentration of organic HAP in the gas and the resulting mass emissions of organic HAP from the Group 1 miscellaneous process vent stream requiring control that bypassed the control device or records sufficient to demonstrate that there was no flow of a Group 1 miscellaneous process vent stream requiring control during the period.

(5) The owner or operator of a heat exchange system subject to this subpart shall comply with the recordkeeping requirements in paragraphs (i)(5)(i) through (v) of this section and retain these records for 5 years.

* * * * *

(7) Each owner or operator subject to the delayed coking unit decoking operations provisions in § 63.657 must maintain records specified in paragraphs (i)(7)(i) through (iii) of this section.

(i) The average pressure or temperature, as applicable, for the 5-minute period prior to venting to the atmosphere, draining, or deheading the coke drum for each cooling cycle for each coke drum.

(ii) If complying with the 60-cycle rolling average, each 60-cycle rolling average pressure or temperature, as applicable, considering all coke drum venting events in the existing affected source.

(iii) For double-quench cooling cycles:

(A) The date, time and duration of each pre-vent draining event.

(B) The pressure or temperature of the coke drum vessel, as applicable, for the 15 minute period prior to the pre-vent draining.

(C) The drain water temperature at 1-minute intervals from the start of pre-vent draining to the complete closure of the drain valve.

(8) For fenceline monitoring systems subject to § 63.658, each owner or operator shall keep the records specified in paragraphs (i)(8)(i) through (x) of this section on an ongoing basis.

(i) Coordinates of all passive monitors, including replicate samplers and field blanks, and if applicable, the meteorological station. The owner or operator shall determine the coordinates using an instrument with an accuracy of at least 3 meters. The coordinates shall be in decimal degrees with at least five decimal places.

(ii) The start and stop times and dates for each sample, as well as the tube identifying information.

(iii) Sampling period average temperature and barometric pressure measurements.

(iv) For each outlier determined in accordance with Section 9.2 of Method 325A of appendix A of this part, the sampler location of and the concentration of the outlier and the evidence used to conclude that the result is an outlier.

(v) For samples that will be adjusted for a background, the location of and the concentration measured simultaneously by the background sampler, and the perimeter samplers to which it applies.

(vi) Individual sample results, the calculated Δc for benzene for each sampling period and the two samples used to determine it, whether background correction was used, and the annual average Δc calculated after each sampling period.

(vii) Method detection limit for each sample, including co-located samples and blanks.

(viii) Documentation of corrective action taken each time the action level was exceeded.

(ix) Other records as required by Methods 325A and 325B of appendix A of this part.

(x) If a near-field source correction is used as provided in § 63.658(i), records of hourly meteorological data, including temperature, barometric pressure, wind speed and wind direction, calculated daily unit vector wind direction and daily sigma theta, and other records specified in the site-specific monitoring plan.

(9) For each flare subject to § 63.670, each owner or operator shall keep the records specified in paragraphs (i)(9)(i) through (xii) of this section up-to-date and readily accessible, as applicable.

(i) Retain records of the output of the monitoring device used to detect the presence of a pilot flame as required in § 63.670(b) for a minimum of 2 years. Retain records of each 15-minute block during which there was at least one minute that no pilot flame is present when regulated material is routed to a flare for a minimum of 5 years.

(ii) Retain records of daily visible emissions observations or video surveillance images required in § 63.670(h) as specified in the paragraphs (i)(9)(ii)(A) through (C), as applicable, for a minimum of 3 years.

(A) If visible emissions observations are performed using Method 22 at 40 CFR part 60, appendix A–7, the record must identify whether the visible emissions observation was performed, the results of each observation, total duration of observed visible emissions, and whether it was a 5-minute or 2-hour observation. If the owner or operator performs visible emissions observations more than one time during a day, the record must also identify the date and time of day each visible emissions observation was performed.

(B) If video surveillance camera is used, the record must include all video surveillance images recorded, with time and date stamps.

(C) For each 2 hour period for which visible emissions are observed for more than 5 minutes in 2 consecutive hours, the record must include the date and time of the 2 hour period and an estimate of the cumulative number of minutes in the 2 hour period for which emissions were visible.

(iii) The 15-minute block average cumulative flows for flare vent gas and, if applicable, total steam, perimeter assist air, and premix assist air specified to be monitored under § 63.670(i), along with the date and time interval for the 15-minute block. If multiple monitoring locations are used to determine cumulative vent gas flow, total steam, perimeter assist air, and premix assist air, retain records of the 15-minute block average flows for each monitoring location for a minimum of 2 years, and retain the 15-minute block average cumulative flows that are used in subsequent calculations for a minimum of 5 years. If pressure and temperature monitoring is used, retain records of the 15-minute block average temperature, pressure and molecular weight of the flare vent gas or assist gas stream for each measurement location used to determine the 15-minute block average cumulative flows for a minimum of 2 years, and retain the 15-minute block average cumulative flows that are used in subsequent calculations for a minimum of 5 years.

(iv) The flare vent gas compositions specified to be monitored under § 63.670(j). Retain records of individual component concentrations from each compositional analyses for a minimum of 2 years. If NHVvg analyzer is used, retain records of the 15-minute block average values for a minimum of 5 years.

(v) Each 15-minute block average operating parameter calculated following the methods specified in § 63.670(k) through (n), as applicable.

(vi) [Reserved]

(vii) All periods during which operating values are outside of the applicable operating limits specified in § 63.670(d) through (f) when regulated material is being routed to the flare.

(viii) All periods during which the owner or operator does not perform flare monitoring according to the procedures in § 63.670(g) through (j).

(ix) Records of periods when there is flow of vent gas to the flare, but when there is no flow of regulated material to the flare, including the start and stop time and dates of periods of no regulated material flow.

(x) Records when the flow of vent gas exceeds the smokeless capacity of the flare, including start and stop time and dates of the flaring event.

(xi) Records of the root cause analysis and corrective action analysis conducted as required in § 63.670(o)(3), including an identification of the affected facility, the date and duration of the event, a statement noting whether the event resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 63.670(o)(5)(i).

(xii) For any corrective action analysis for which implementation of corrective actions are required in § 63.670(o)(5), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(10) [Reserved]

(11) For each pressure relief device subject to the pressure release management work practice standards in § 63.648(j)(3), the owner or operator shall keep the records specified in paragraphs (i)(11)(i) through (iii) of this section.

(i) Records of the prevention measures implemented as required in § 63.648(j)(3)(ii), if applicable.

(ii) Records of the number of releases during each calendar year and the number of those releases for which the root cause was determined to be a force majeure event. Keep these records for the current calendar year and the past five calendar years.

(iii) For each release to the atmosphere, the owner or operator shall keep the records specified in paragraphs (i)(11)(iii)(A) through (D) of this section.

(A) The start and end time and date of each pressure release to the atmosphere.

(B) Records of any data, assumptions, and calculations used to estimate of the mass quantity of each organic HAP released during the event.

(C) Records of the root cause analysis and corrective action analysis conducted as required in § 63.648(j)(3)(iii), including an identification of the affected facility, the date and duration of the event, a statement noting whether the event resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 63.648(j)(7)(i).

(D) For any corrective action analysis for which implementation of corrective actions are required in § 63.648(j)(7), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(12) For each maintenance vent opening subject to the requirements in § 63.643(c), the owner or operator shall keep the applicable records specified in (i)(12)(i) through (v) of this section.

(i) The owner or operator shall maintain standard site procedures used to deinventory equipment for safety purposes (*e.g.,* hot work or vessel entry procedures) to document the procedures used to meet the requirements in § 63.643(c). The current copy of the procedures shall be retained and available on-site at all times. Previous versions of the standard site procedures, is applicable, shall be retained for five years.

(ii) If complying with the requirements of § 63.643(c)(1)(i) and the lower explosive limit at the time of the vessel opening exceeds 10 percent, identification of the maintenance vent, the process units or equipment associated with the maintenance vent, the date of maintenance vent opening, and the lower explosive limit at the time of the vessel opening.

(iii) If complying with the requirements of § 63.643(c)(1)(ii) and either the vessel pressure at the time of the vessel opening exceeds 5 psig or the lower explosive limit at the time of the active purging was initiated exceeds 10 percent, identification of the maintenance vent, the process units or equipment associated with the maintenance vent, the date of maintenance vent opening, the pressure of the vessel or equipment at the time of discharge to the atmosphere and, if applicable, the lower explosive limit of the vapors in the equipment when active purging was initiated.

(iv) If complying with the requirements of § 63.643(c)(1)(iii), identification of the maintenance vent, the process units or equipment associated with the maintenance vent, the date of maintenance vent opening, and records used to estimate the total quantity of VOC in the equipment at the time the maintenance vent was opened to the atmosphere for each applicable maintenance vent opening.

(v) If complying with the requirements of § 63.643(c)(1)(iv), identification of the maintenance vent, the process units or equipment associated with the maintenance vent, records documenting the lack of a pure hydrogen supply, the date of maintenance vent opening, and the lower explosive limit of the vapors in the equipment at the time of discharge to the atmosphere for each applicable maintenance vent opening.

■ 28. Section 63.656 is amended by revising paragraph (c)(1) to read as follows:

§ 63.656 Implementation and enforcement.

* * * * *

(c) * * *

(1) Approval of alternatives to the requirements in §§ 63.640, 63.642(g) through (l), 63.643, 63.646 through 63.652, 63.654, 63.657 through 63.660, and 63.670. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

* * * * *

■ 29. Section 63.657 is added to read as follows:

§ 63.657 Delayed coking unit decoking operation standards.

(a) Except as provided in paragraphs (e) and (f) of this section, each owner or operator of a delayed coking unit shall depressure each coke drum to a closed blowdown system until the coke drum vessel pressure or temperature measured at the top of the coke drum or in the overhead line of the coke drum as near as practical to the coke drum meets the applicable limits specified in paragraph (a)(1) or (2) of this section prior to venting to the atmosphere, draining or deheading the coke drum at the end of the cooling cycle.

(1) For delayed coking units at an existing affected source, meet either:

(i) An average vessel pressure of 2 psig determined on a rolling 60-event average; or

(ii) An average vessel temperature of 220 degrees Fahrenheit determined on a rolling 60-event average.

(2) For delayed coking units at a new affected source, meet either:

(i) A vessel pressure of 2.0 psig for each decoking event; or

(ii) A vessel temperature of 218 degrees Fahrenheit for each decoking event.

(b) Each owner or operator of a delayed coking unit complying with the pressure limits in paragraph (a)(1)(i) or (a)(2)(i) of this section shall install, operate, calibrate, and maintain a monitoring system, as specified in paragraphs (b)(1) through (5) of this section, to determine the coke drum vessel pressure.

(1) The pressure monitoring system must be in a representative location (at the top of the coke drum or in the overhead line as near as practical to the coke drum) that minimizes or eliminates pulsating pressure, vibration, and, to the extent practical, internal and external corrosion.

(2) The pressure monitoring system must be capable of measuring a pressure of 2.0 psig within ±0.5 psig.

(3) The pressure monitoring system must be verified annually or at the frequency recommended by the instrument manufacturer. The pressure monitoring system must be verified following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale.

(4) All components of the pressure monitoring system must be visually inspected for integrity, oxidation and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor.

(5) The output of the pressure monitoring system must be reviewed

daily to ensure that the pressure readings fluctuate as expected between operating and cooling/decoking cycles to verify the pressure taps are not plugged. Plugged pressure taps must be unplugged or otherwise repaired prior to the next operating cycle.

(c) Each owner or operator of a delayed coking unit complying with the temperature limits in paragraph (a)(1)(ii) or (a)(2)(ii) of this section shall install, operate, calibrate, and maintain a continuous parameter monitoring system to measure the coke drum vessel temperature (at the top of the coke drum or in the overhead line as near as practical to the coke drum) according to the requirements specified in table 13 of this subpart.

(d) The owner or operator of a delayed coking unit shall determine the coke drum vessel pressure or temperature, as applicable, on a 5-minute rolling average basis while the coke drum is vented to the closed blowdown system and shall use the last complete 5-minute rolling average pressure or temperature just prior to initiating steps to isolate the coke drum prior to venting, draining or deheading to demonstrate compliance with the requirements in paragraph (a) of this section. Pressure or temperature readings after initiating steps to isolate the coke drum from the closed blowdown system just prior to atmospheric venting, draining, or deheading the coke drum shall not be used in determining the average coke drum vessel pressure or temperature for the purpose of compliance with the requirements in paragraph (a) of this section.

(e) The owner or operator of a delayed coking unit using the ''water overflow'' method of coke cooling must hardpipe the overflow water or otherwise prevent exposure of the overflow water to the atmosphere when transferring the overflow water to the overflow water storage tank whenever the coke drum vessel temperature exceeds 220 degrees Fahrenheit. The overflow water storage tank may be an open or fixed-roof tank provided that a submerged fill pipe (pipe outlet below existing liquid level in the tank) is used to transfer overflow water to the tank. The owner or operator of a delayed coking unit using the ''water overflow'' method of coke cooling shall determine the coke drum vessel temperature as specified in paragraphs (c) and (d) of this section regardless of the compliance method used to demonstrate compliance with the requirements in paragraph (a) of this section.

(f) The owner or operator of a delayed coking unit may partially drain a coke drum prior to achieving the applicable limits in paragraph (a) of this section in order to double-quench a coke drum that did not cool adequately using the normal cooling process steps provided that the owner or operator meets the conditions in paragraphs (f)(1) and (2) of this section.

(1) The owner or operator shall install, operate, calibrate, and maintain a continuous parameter monitoring system to measure the drain water temperature at the bottom of the coke drum or in the drain line as near as practical to the coke drum according to the requirements specified in table 13 of this subpart.

(2) The owner or operator must maintain the drain water temperature below 210 degrees Fahrenheit during the partial drain associated with the double-quench event.

■ 30. Section 63.658 is added to read as follows:

§ 63.658 Fenceline monitoring provisions.

(a) The owner or operator shall conduct sampling along the facility property boundary and analyze the samples in accordance with Methods 325A and 325B of appendix A of this part and paragraphs (b) through (k) of this section.

(b) The target analyte is benzene.

(c) The owner or operator shall determine passive monitor locations in accordance with Section 8.2 of Method 325A of appendix A of this part.

(1) As it pertains to this subpart, known sources of VOCs, as used in Section 8.2.1.3 in Method 325A of appendix A of this part for siting passive monitors means a wastewater treatment unit, process unit, or any emission source requiring control according to the requirements of this subpart, including marine vessel loading operations. For marine loading operations that are located offshore, one passive monitor should be sited on the shoreline adjacent to the dock.

(2) The owner or operator may collect one or more background samples if the owner or operator believes that an offsite upwind source or an onsite source excluded under § 63.640(g) may influence the sampler measurements. If the owner or operator elects to collect one or more background samples, the owner of operator must develop and submit a site-specific monitoring plan for approval according to the requirements in paragraph (i) of this section. Upon approval of the site-specific monitoring plan, the background sampler(s) should be operated co-currently with the routine samplers.

(3) The owner or operator shall collect at least one co-located duplicate sample for every 10 field samples per sampling period and at least two field blanks per sampling period, as described in Section 9.3 in Method 325A of appendix A of this part. The co-located duplicates may be collected at any one of the perimeter sampling locations.

(4) The owner or operator shall follow the procedure in Section 9.6 of Method 325B of appendix A of this part to determine the detection limit of benzene for each sampler used to collect samples, background samples (if the owner or operator elects to do so), co-located samples and blanks.

(d) The owner or operator shall collect and record meteorological data according to the applicable requirements in paragraphs (d)(1) through (3) of this section.

(1) If a near-field source correction is used as provided in paragraph (i)(1) of this section or if an alternative test method is used that provides time-resolved measurements, the owner or operator shall:

(i) Use an on-site meteorological station in accordance with Section 8.3 of Method 325A of appendix A of this part.

(ii) Collect and record hourly average meteorological data, including temperature, barometric pressure, wind speed and wind direction and calculate daily unit vector wind direction and daily sigma theta.

(2) For cases other than those specified in paragraph (d)(1) of this section, the owner or operator shall collect and record sampling period average temperature and barometric pressure using either an on-site meteorological station in accordance with Section 8.3 of Method 325A of appendix A of this part or, alternatively, using data from a United States Weather Service (USWS) meteorological station provided the USWS meteorological station is within 40 kilometers (25 miles) of the refinery.

(3) If an on-site meteorological station is used, the owner or operator shall follow the calibration and standardization procedures for meteorological measurements in EPA–454/B–08–002 (incorporated by reference—see § 63.14).

(e) The owner of operator shall use a sampling period and sampling frequency as specified in paragraphs (e)(1) through (3) of this section.

(1) *Sampling period.* A 14-day sampling period shall be used, unless a shorter sampling period is determined to be necessary under paragraph (g) or (i) of this section. A sampling period is defined as the period during which sampling tube is deployed at a specific sampling location with the diffusive

sampling end cap in-place and does not include the time required to analyze the sample. For the purpose of this subpart, a 14-day sampling period may be no shorter than 13 calendar days and no longer than 15 calendar days, but the routine sampling period shall be 14 calendar days.

(2) *Base sampling frequency.* Except as provided in paragraph (e)(3) of this section, the frequency of sample collection shall be once each contiguous 14-day sampling period, such that the beginning of the next 14-day sampling period begins immediately upon the completion of the previous 14-day sampling period.

(3) *Alternative sampling frequency for burden reduction.* When an individual monitor consistently achieves results at or below 0.9 μg/m^3, the owner or operator may elect to use the applicable minimum sampling frequency specified in paragraphs (e)(3)(i) through (v) of this section for that monitoring site. When calculating Δc for the monitoring period when using this alternative for burden reduction, zero shall be substituted for the sample result for the monitoring site for any period where a sample is not taken.

(i) If every sample at a monitoring site is at or below 0.9 μg/m^3 for 2 years (52 consecutive samples), every other sampling period can be skipped for that monitoring site, *i.e.,* sampling will occur approximately once per month.

(ii) If every sample at a monitoring site that is monitored at the frequency specified in paragraph (e)(3)(i) of this section is at or below 0.9 μg/m^3 for 2 years (*i.e.,* 26 consecutive ''monthly'' samples), five 14-day sampling periods can be skipped for that monitoring site following each period of sampling, *i.e.,* sampling will occur approximately once per quarter.

(iii) If every sample at a monitoring site that is monitored at the frequency specified in paragraph (e)(3)(ii) of this section is at or below 0.9 μg/m^3 for 2 years (*i.e.,* 8 consecutive quarterly samples), twelve 14-day sampling periods can be skipped for that monitoring site following each period of sampling, *i.e.,* sampling will occur twice a year.

(iv) If every sample at a monitoring site that is monitored at the frequency specified in paragraph (e)(3)(iii) of this section is at or below 0.9 μg/m^3 for an 2 years (*i.e.,* 4 consecutive semi-annual samples), only one sample per year is required for that monitoring site. For yearly sampling, samples shall occur at least 10 months but no more than 14 months apart.

(v) If at any time a sample for a monitoring site that is monitored at the frequency specified in paragraphs (e)(3)(i) through (iv) of this section returns a result that is above 0.9 μg/m^3, the sampling site must return to the original sampling requirements of contiguous 14-day sampling periods with no skip periods for one quarter (six 14-day sampling periods). If every sample collected during this quarter is at or below 0.9 μg/m^3 , the owner or operator may revert back to the reduced monitoring schedule applicable for that monitoring site prior to the sample reading exceeding 0.9 μg/m^3 If any sample collected during this quarter is above 0.9 μg/m^3, that monitoring site must return to the original sampling requirements of contiguous 14-day sampling periods with no skip periods for a minimum of two years. The burden reduction requirements can be used again for that monitoring site once the requirements of paragraph (e)(3)(i) of this section are met again, *i.e.,* after 52 contiguous 14-day samples with no results above 0.9 μg/m^3 .

(f) Within 45 days of completion of each sampling period, the owner or operator shall determine whether the results are above or below the action level as follows:

(1) The owner or operator shall determine the facility impact on the benzene concentration (Δc) for each 14-day sampling period according to either paragraph (f)(1)(i) or (ii) of this section, as applicable.

(i) Except when near-field source correction is used as provided in paragraph (i) of this section, the owner or operator shall determine the highest and lowest sample results for benzene concentrations from the sample pool and calculate Δc as the difference in these concentrations. The owner or operator shall adhere to the following procedures when one or more samples for the sampling period are below the method detection limit for benzene:

(A) If the lowest detected value of benzene is below detection, the owner or operator shall use zero as the lowest sample result when calculating Δc.

(B) If all sample results are below the method detection limit, the owner or operator shall use the method detection limit as the highest sample result.

(ii) When near-field source correction is used as provided in paragraph (i) of this section, the owner or operator shall determine Δc using the calculation protocols outlined in the approved site-specific monitoring plan and in paragraph (i) of this section.

(2) The owner or operator shall calculate the annual average Δc based on the average of the 26 most recent 14-day sampling periods. The owner or operator shall update this annual average value after receiving the results of each subsequent 14-day sampling period.

(3) The action level for benzene is 9 micrograms per cubic meter (μg/m3) on an annual average basis. If the annual average Δc value for benzene is less than or equal to 9 μg/m^3, the concentration is below the action level. If the annual average Δc value for benzene is greater than 9 μg/m^3, the concentration is above the action level, and the owner or operator shall conduct a root cause analysis and corrective action in accordance with paragraph (g) of this section.

(g) Within 5 days of determining that the action level has been exceeded for any annual average Δc and no longer than 50 days after completion of the sampling period, the owner or operator shall initiate a root cause analysis to determine the cause of such exceedance and to determine appropriate corrective action, such as those described in paragraphs (g)(1) through (4) of this section. The root cause analysis and initial corrective action analysis shall be completed and initial corrective actions taken no later than 45 days after determining there is an exceedance. Root cause analysis and corrective action may include, but is not limited to:

(1) Leak inspection using Method 21 of part 60, appendix A–7 of this chapter and repairing any leaks found.

(2) Leak inspection using optical gas imaging and repairing any leaks found.

(3) Visual inspection to determine the cause of the high benzene emissions and implementing repairs to reduce the level of emissions.

(4) Employing progressively more frequent sampling, analysis and meteorology (*e.g.,* using shorter sampling periods for Methods 325A and 325B of appendix A of this part, or using active sampling techniques).

(h) If, upon completion of the corrective action analysis and corrective actions such as those described in paragraph (g) of this section, the Δc value for the next 14-day sampling period for which the sampling start time begins after the completion of the corrective actions is greater than 9 μg/m^3 or if all corrective action measures identified require more than 45 days to implement, the owner or operator shall develop a corrective action plan that describes the corrective action(s) completed to date, additional measures that the owner or operator proposes to employ to reduce fenceline concentrations below the action level, and a schedule for completion of these measures. The owner or operator shall submit the corrective action plan to the

Administrator within 60 days after receiving the analytical results indicating that the Δc value for the 14-day sampling period following the completion of the initial corrective action is greater than 9 μg/m³ or, if no initial corrective actions were identified, no later than 60 days following the completion of the corrective action analysis required in paragraph (g) of this section.

(i) An owner or operator may request approval from the Administrator for a site-specific monitoring plan to account for offsite upwind sources or onsite sources excluded under § 63.640(g) according to the requirements in paragraphs (i)(1) through (4) of this section.

(1) The owner or operator shall prepare and submit a site-specific monitoring plan and receive approval of the site-specific monitoring plan prior to using the near-field source alternative calculation for determining Δc provided in paragraph (i)(2) of this section. The site-specific monitoring plan shall include, at a minimum, the elements specified in paragraphs (i)(1)(i) through (v) of this section. The procedures in Section 12 of Method 325A of appendix A of this part are not required, but may be used, if applicable, when determining near-field source contributions.

(i) Identification of the near-field source or sources. For onsite sources, documentation that the onsite source is excluded under § 63.640(g) and identification of the specific provision in § 63.640(g) that applies to the source.

(ii) Location of the additional monitoring stations that shall be used to determine the uniform background concentration and the near-field source concentration contribution.

(iii) Identification of the fenceline monitoring locations impacted by the near-field source. If more than one near-field source is present, identify the near-field source or sources that are expected to contribute to the concentration at that monitoring location.

(iv) A description of (including sample calculations illustrating) the planned data reduction and calculations to determine the near-field source concentration contribution for each monitoring location.

(v) If more frequent monitoring or a monitoring station other than a passive diffusive tube monitoring station is proposed, provide a detailed description of the measurement methods, measurement frequency, and recording frequency for determining the uniform background or near-field source concentration contribution.

(2) When an approved site-specific monitoring plan is used, the owner or operator shall determine Δc for comparison with the 9 μg/m³ action level using the requirements specified in paragraphs (i)(2)(i) through (iii) of this section.

(i) For each monitoring location, calculate Δc_i using the following equation.

$$\Delta c_i = MFC_i - NFS_i - UB$$

Where:

Δc_i = The fenceline concentration, corrected for background, at measurement location i, micrograms per cubic meter (μg/m³).

MFC_i = The measured fenceline concentration at measurement location i, μg/m³.

NFS_i = The near-field source contributing concentration at measurement location i determined using the additional measurements and calculation procedures included in the site-specific monitoring plan, μg/m³. For monitoring locations that are not included in the site-specific monitoring plan as impacted by a near-field source, use NFS_i = 0 μg/m³.

UB = The uniform background concentration determined using the additional measurements included in the site-specific monitoring plan, μg/m³. If no additional measurements are specified in the site-specific monitoring plan for determining the uniform background concentration, use UB = 0 μg/m³.

(ii) When one or more samples for the sampling period are below the method detection limit for benzene, adhere to the following procedures:

(A) If the benzene concentration at the monitoring location used for the uniform background concentration is below the method detection limit, the owner or operator shall use zero for UB for that monitoring period.

(B) If the benzene concentration at the monitoring location(s) used to determine the near-field source contributing concentration is below the method detection limit, the owner or operator shall use zero for the monitoring location concentration when calculating NFS_i for that monitoring period.

(C) If a fenceline monitoring location sample result is below the method detection limit, the owner or operator shall use the method detection limit as the sample result.

(iii) Determine Δc for the monitoring period as the maximum value of Δc_i from all of the fenceline monitoring locations for that monitoring period.

(3) The site-specific monitoring plan shall be submitted and approved as described in paragraphs (i)(3)(i) through (iv) of this section.

(i) The site-specific monitoring plan must be submitted to the Administrator for approval.

(ii) The site-specific monitoring plan shall also be submitted to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143–01), Attention: Refinery Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to *refineryrtr@epa.gov.*

(iii) The Administrator shall approve or disapprove the plan in 90 days. The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 90-day period shall begin when the Administrator receives the plan.

(iv) If the Administrator finds any deficiencies in the site-specific monitoring plan and disapproves the plan in writing, the owner or operator may revise and resubmit the site-specific monitoring plan following the requirements in paragraphs (i)(3)(i) and (ii) of this section. The 90-day period starts over with the resubmission of the revised monitoring plan.

(4) The approval by the Administrator of a site-specific monitoring plan will be based on the completeness, accuracy and reasonableness of the request for a site-specific monitoring plan. Factors that the Administrator will consider in reviewing the request for a site-specific monitoring plan include, but are not limited to, those described in paragraphs (i)(4)(i) through (v) of this section.

(i) The identification of the near-field source or sources. For onsite sources, the documentation provided that the onsite source is excluded under § 63.640(g).

(ii) The monitoring location selected to determine the uniform background concentration or an indication that no uniform background concentration monitor will be used.

(iii) The location(s) selected for additional monitoring to determine the near-field source concentration contribution.

(iv) The identification of the fenceline monitoring locations impacted by the near-field source or sources.

(v) The appropriateness of the planned data reduction and calculations to determine the near-field source concentration contribution for each monitoring location.

(vi) If more frequent monitoring is proposed, the adequacy of the description of the measurement and recording frequency proposed and the adequacy of the rationale for using the alternative monitoring frequency.

(j) The owner or operator shall comply with the applicable recordkeeping and reporting requirements in § 63.655(h) and (i).

(k) As outlined in § 63.7(f), the owner or operator may submit a request for an alternative test method. At a minimum, the request must follow the requirements outlined in paragraphs (k)(1) through (7) of this section.

(1) The alternative method may be used in lieu of all or a partial number of passive samplers required in Method 325A of appendix A of this part.

(2) The alternative method must be validated according to Method 301 in appendix A of this part or contain performance based procedures and indicators to ensure self-validation.

(3) The method detection limit must nominally be at least an order of magnitude below the action level, *i.e.,* 0.9 $\mu g/m^3$ benzene. The alternate test method must describe the procedures used to provide field verification of the detection limit.

(4) The spatial coverage must be equal to or better than the spatial coverage provided in Method 325A of appendix A of this part.

(i) For path average concentration open-path instruments, the physical path length of the measurement shall be no more than a passive sample footprint (the spacing that would be provided by the sorbent traps when following Method 325A). For example, if Method 325A requires spacing monitors A and B 610 meters (2000 feet) apart, then the physical path length limit for the measurement at that portion of the fenceline shall be no more than 610 meters (2000 feet).

(ii) For range resolved open-path instrument or approach, the instrument or approach must be able to resolve an average concentration over each passive sampler footprint within the path length of the instrument.

(iii) The extra samplers required in Sections 8.2.1.3 of Method 325A may be omitted when they fall within the path length of an open-path instrument.

(5) At a minimum, non-integrating alternative test methods must provide a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(6) For alternative test methods capable of real time measurements (less than a 5 minute sampling and analysis cycle), the alternative test method may allow for elimination of data points corresponding to outside emission sources for purpose of calculation of the high point for the two week average. The alternative test method approach must have wind speed, direction and stability class of the same time resolution and within the footprint of the instrument.

(7) For purposes of averaging data points to determine the Δc for the 14-day average high sample result, all results measured under the method detection limit must use the method detection limit. For purposes of averaging data points for the 14-day average low sample result, all results measured under the method detection limit must use zero.

■ 31. Section 63.660 is added to read as follows:

§ 63.660 Storage vessel provisions.

On and after the applicable compliance date for a Group 1 storage vessel located at a new or existing source as specified in § 63.640(h), the owner or operator of a Group 1 storage vessel that is part of a new or existing source shall comply with the requirements in subpart WW or SS of this part according to the requirements in paragraphs (a) through (i) of this section.

(a) As used in this section, all terms not defined in § 63.641 shall have the meaning given them in subpart A, WW, or SS of this part. The definitions of ‘‘Group 1 storage vessel’’ (paragraph (2)) and ‘‘Storage vessel’’ in § 63.641 shall apply in lieu of the definition of ‘‘Storage vessel’’ in § 63.1061.

(1) An owner or operator may use good engineering judgment or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented.

(2) When an owner or operator and the Administrator do not agree on whether the annual average weight percent organic HAP in the stored liquid is above or below 4 percent for a storage vessel at an existing source or above or below 2 percent for a storage vessel at a new source, an appropriate method (based on the type of liquid stored) as published by EPA or a consensus-based standards organization shall be used. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street NW., 6th Floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.naesb.org*).

(b) A floating roof storage vessel complying with the requirements of subpart WW of this part may comply with the control option specified in paragraph (b)(1) of this section and, if equipped with a ladder having at least one slotted leg, shall comply with one of the control options as described in paragraph (b)(2) of this section.

(1) In addition to the options presented in §§ 63.1063(a)(2)(viii)(A) and (B) and 63.1064, a floating roof storage vessel may comply with § 63.1063(a)(2)(vii) using a flexible enclosure device and either a gasketed or welded cap on the top of the guidepole.

(2) Each opening through a floating roof for a ladder having at least one slotted leg shall be equipped with one of the configurations specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) A pole float in the slotted leg and pole wipers for both legs. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(ii) A ladder sleeve and pole wipers for both legs of the ladder.

(iii) A flexible enclosure device and either a gasketed or welded cap on the top of the slotted leg.

(c) For the purposes of this subpart, references shall apply as specified in paragraphs (c)(1) through (6) of this section.

(1) All references to ‘‘the proposal date for a referencing subpart’’ and ‘‘the proposal date of the referencing subpart’’ in subpart WW of this part mean June 30, 2014.

(2) All references to ‘‘promulgation of the referencing subpart’’ and ‘‘the promulgation date of the referencing subpart’’ in subpart WW of this part mean February 1, 2016.

(3) All references to ‘‘promulgation date of standards for an affected source or affected facility under a referencing subpart’’ in subpart SS of this part mean February 1, 2016.

(4) All references to ‘‘the proposal date of the relevant standard established pursuant to CAA section 112(f)’’ in

subpart SS of this part mean June 30, 2014.

(5) All references to ''the proposal date of a relevant standard established pursuant to CAA section 112(d)'' in subpart SS of this part mean July 14, 1994.

(6) All references to the ''required control efficiency'' in subpart SS of this part mean reduction of organic HAP emissions by 95 percent or to an outlet concentration of 20 ppmv.

(d) For an uncontrolled fixed roof storage vessel that commenced construction on or before June 30, 2014, and that meets the definition of ''Group 1 storage vessel'', paragraph (2), in § 63.641 but not the definition of ''Group 1 storage vessel'', paragraph (1), in § 63.641, the requirements of § 63.982 and/or § 63.1062 do not apply until the next time the storage vessel is completely emptied and degassed, or January 30, 2026, whichever occurs first.

(e) Failure to perform inspections and monitoring required by this section shall constitute a violation of the applicable standard of this subpart.

(f) References in § 63.1066(a) to initial startup notification requirements do not apply.

(g) References to the Notification of Compliance Status in § 63.999(b) mean the Notification of Compliance Status required by § 63.655(f).

(h) References to the Periodic Reports in §§ 63.1066(b) and 63.999(c) mean the Periodic Report required by § 63.655(g).

(i) Owners or operators electing to comply with the requirements in subpart SS of this part for a Group 1 storage vessel must comply with the requirements in paragraphs (i)(1) through (3) of this section.

(1) If a flare is used as a control device, the flare shall meet the requirements of § 63.670 instead of the flare requirements in § 63.987.

(2) If a closed vent system contains a bypass line, the owner or operator shall comply with the provisions of either § 63.983(a)(3)(i) or (ii) for each closed vent system that contains bypass lines that could divert a vent stream either directly to the atmosphere or to a control device that does not comply with the requirements in subpart SS of this part. Except as provided in paragraphs (i)(2)(i) and (ii) of this section, use of the bypass at any time to divert a Group 1 storage vessel to either directly to the atmosphere or to a control device that does not comply with the requirements in subpart SS of this part is an emissions standards violation. Equipment such as low leg drains and equipment subject to § 63.648 are not subject to this paragraph (i)(2).

(i) If planned routine maintenance of the control device cannot be performed during periods that storage vessel emissions are vented to the control device or when the storage vessel is taken out of service for inspections or other planned maintenance reasons, the owner or operator may bypass the control device.

(ii) Periods for which storage vessel control device may be bypassed for planned routine maintenance of the control device shall not exceed 240 hours per calendar year.

(3) If storage vessel emissions are routed to a fuel gas system or process, the fuel gas system or process shall be operating at all times when regulated emissions are routed to it. The exception in § 63.984(a)(1) does not apply.

■ 32. Section 63.670 is added to read as follows:

§ 63.670 Requirements for flare control devices.

On or before January 30, 2019, the owner or operator of a flare used as a control device for an emission point subject to this subpart shall meet the applicable requirements for flares as specified in paragraphs (a) through (q) of this section and the applicable requirements in § 63.671. The owner or operator may elect to comply with the requirements of paragraph (r) of this section in lieu of the requirements in paragraphs (d) through (f) of this section, as applicable.

(a) [Reserved]

(b) *Pilot flame presence.* The owner or operator shall operate each flare with a pilot flame present at all times when regulated material is routed to the flare. Each 15-minute block during which there is at least one minute where no pilot flame is present when regulated material is routed to the flare is a deviation of the standard. Deviations in different 15-minute blocks from the same event are considered separate deviations. The owner or operator shall monitor for the presence of a pilot flame as specified in paragraph (g) of this section.

(c) *Visible emissions.* The owner or operator shall specify the smokeless design capacity of each flare and operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the flare as specified in paragraph (h) of this section.

(d) *Flare tip velocity.* For each flare, the owner or operator shall comply with either paragraph (d)(1) or (2) of this section, provided the appropriate monitoring systems are in-place, whenever regulated material is routed to the flare for at least 15-minutes and the flare vent gas flow rate is less than the smokeless design capacity of the flare.

(1) Except as provided in paragraph (d)(2) of this section, the actual flare tip velocity (V_{tip}) must be less than 60 feet per second. The owner or operator shall monitor V_{tip}using the procedures specified in paragraphs (i) and (k) of this section.

(2) V_{tip} must be less than 400 feet per second and also less than the maximum allowed flare tip velocity (V_{max}) as calculated according to the following equation. The owner or operator shall monitor Vtip using the procedures specified in paragraphs (i) and (k) of this section and monitor gas composition and determine NHV_{vg} using the procedures specified in paragraphs (j) and (l) of this section.

$$Log_{10}(V_{max}) = \frac{NHV_{vg} + 1{,}212}{850}$$

Where:

V_{max} = Maximum allowed flare tip velocity, ft/sec.

NHV_{vg} = Net heating value of flare vent gas, as determined by paragraph (l)(4) of this section, Btu/scf.

1,212 = Constant.

850 = Constant.

(e) *Combustion zone operating limits.* For each flare, the owner or operator shall operate the flare to maintain the net heating value of flare combustion zone gas (NHV_{cz}) at or above 270 British thermal units per standard cubic feet (Btu/scf) determined on a 15-minute block period basis when regulated material is routed to the flare for at least 15-minutes. The owner or operator shall monitor and calculate NHV_{cz} as specified in paragraph (m) of this section.

(f) *Dilution operating limits for flares with perimeter assist air.* For each flare actively receiving perimeter assist air, the owner or operator shall operate the flare to maintain the net heating value dilution parameter (NHVdil) at or above 22 British thermal units per square foot (Btu/ft^2) determined on a 15-minute block period basis when regulated material is being routed to the flare for at least 15-minutes. The owner or operator shall monitor and calculate NHV_{dil} as specified in paragraph (n) of this section.

(g) *Pilot flame monitoring.* The owner or operator shall continuously monitor the presence of the pilot flame(s) using a device (including, but not limited to, a thermocouple, ultraviolet beam sensor, or infrared sensor) capable of detecting that the pilot flame(s) is present.

(h) *Visible emissions monitoring.* The owner or operator shall monitor visible emissions while regulated materials are vented to the flare. An initial visible emissions demonstration must be conducted using an observation period of 2 hours using Method 22 at 40 CFR part 60, appendix A–7. Subsequent visible emissions observations must be conducted using either the methods in paragraph (h)(1) of this section or, alternatively, the methods in paragraph (h)(2) of this section. The owner or operator must record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours as specified in § 63.655(g)(11)(ii).

(1) At least once per day, conduct visible emissions observations using an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A–7. If at any time the owner or operator sees visible emissions, even if the minimum required daily visible emission monitoring has already been performed, the owner or operator shall immediately begin an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A–7. If visible emissions are observed for more than one continuous minute during any 5-minute observation period, the observation period using Method 22 at 40 CFR part 60, appendix A–7 must be extended to 2 hours or until 5-minutes of visible emissions are observed.

(2) Use a video surveillance camera to continuously record (at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

(i) *Flare vent gas, steam assist and air assist flow rate monitoring.* The owner or operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate in the flare header or headers that feed the flare as well as any supplemental natural gas used. Different flow monitoring methods may be used to measure different gaseous streams that make up the flare vent gas provided that the flow rates of all gas streams that contribute to the flare vent gas are determined. If assist air or assist steam is used, the owner or operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of assist air and/or assist steam used with the flare. If pre-mix assist air and perimeter assist are both used, the owner or operator shall install, operate, calibrate, and maintain a monitoring system capable of separately measuring, calculating, and recording the volumetric flow rate of premix assist air and perimeter assist air used with the flare. Continuously monitoring fan speed or power and using fan curves is an acceptable method for continuously monitoring assist air flow rates.

(1) The flow rate monitoring systems must be able to correct for the temperature and pressure of the system and output parameters in standard conditions (*i.e.,* a temperature of 20 °C (68 °F) and a pressure of 1 atmosphere).

(2) Mass flow monitors may be used for determining volumetric flow rate of flare vent gas provided the molecular weight of the flare vent gas is determined using compositional analysis as specified in paragraph (j) of this section so that the mass flow rate can be converted to volumetric flow at standard conditions using the following equation.

$$Q_{vol} = \frac{Q_{mass} \times 385.3}{MWt}$$

Where:

Q_{vol} = Volumetric flow rate, standard cubic feet per second.

Q_{mass} = Mass flow rate, pounds per second.

385.3 = Conversion factor, standard cubic feet per pound-mole.

MWt = Molecular weight of the gas at the flow monitoring location, pounds per pound-mole.

(3) Mass flow monitors may be used for determining volumetric flow rate of assist air or assist steam. Use equation in paragraph (i)(2) of this section to convert mass flow rates to volumetric flow rates. Use a molecular weight of 18 pounds per pound-mole for assist steam and use a molecular weight of 29 pounds per pound-mole for assist air.

(4) Continuous pressure/temperature monitoring system(s) and appropriate engineering calculations may be used in lieu of a continuous volumetric flow monitoring systems provided the molecular weight of the gas is known. For assist steam, use a molecular weight of 18 pounds per pound-mole. For assist air, use a molecular weight of 29 pounds per pound-mole. For flare vent gas, molecular weight must be determined using compositional analysis as specified in paragraph (j) of this section.

(j) *Flare vent gas composition monitoring.* The owner or operator shall determine the concentration of individual components in the flare vent gas using either the methods provided in paragraph (j)(1) or (2) of this section, to assess compliance with the operating limits in paragraph (e) of this section and, if applicable, paragraphs (d) and (f) of this section. Alternatively, the owner or operator may elect to directly monitor the net heating value of the flare vent gas following the methods provided in paragraphs (j)(3) of this section and, if desired, may directly measure the hydrogen concentration in the flare vent gas following the methods provided in paragraphs (j)(4) of this section. The owner or operator may elect to use different monitoring methods for different gaseous streams that make up the flare vent gas using different methods provided the composition or net heating value of all gas streams that contribute to the flare vent gas are determined.

(1) Except as provided in paragraphs (j)(5) and (6) of this section, the owner or operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring (*i.e.,* at least once every 15-minutes), calculating, and recording the individual component concentrations present in the flare vent gas.

(2) Except as provided in paragraphs (j)(5) and (6) of this section, the owner or operator shall install, operate, and maintain a grab sampling system capable of collecting an evacuated canister sample for subsequent compositional analysis at least once every eight hours while there is flow of regulated material to the flare. Subsequent compositional analysis of the samples must be performed according to Method 18 of 40 CFR part 60, appendix A–6, ASTM D6420–99 (Reapproved 2010), ASTM D1945–03 (Reapproved 2010), ASTM D1945–14 or ASTM UOP539–12 (all incorporated by reference—see § 63.14).

(3) Except as provided in paragraphs (j)(5) and (6) of this section, the owner or operator shall install, operate, calibrate, and maintain a calorimeter capable of continuously measuring, calculating, and recording NHV_{vg} at standard conditions.

(4) If the owner or operator uses a continuous net heating value monitor according to paragraph (j)(3) of this section, the owner or operator may, at their discretion, install, operate, calibrate, and maintain a monitoring

system capable of continuously measuring, calculating, and recording the hydrogen concentration in the flare vent gas.

(5) Direct compositional or net heating value monitoring is not required for purchased (''pipeline quality'') natural gas streams. The net heating value of purchased natural gas streams may be determined using annual or more frequent grab sampling at any one representative location. Alternatively, the net heating value of any purchased natural gas stream can be assumed to be 920 Btu/scf.

(6) Direct compositional or net heating value monitoring is not required for gas streams that have been demonstrated to have consistent composition (or a fixed minimum net heating value) according to the methods in paragraphs (j)(6)(i) through (v) of this section.

(i) The owner or operator shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:

(A) A description of the flare gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the flare gas stream/system and the affected flare(s) to be considered;

(B) A statement that there are no crossover or entry points to be introduced into the flare gas stream/system (this should be shown in the piping diagrams) prior to the point where the flow rate of the gas streams is measured;

(C) An explanation of the conditions that ensure that the flare gas net heating value is consistent and, if flare gas net heating value is expected to vary (*e.g.,* due to product loading of different material), the conditions expected to produce the flare gas with the lowest net heating value;

(D) The supporting test results from sampling the requested flare gas stream/system for the net heating value. Sampling data must include, at minimum, 2 weeks of daily measurement values (14 grab samples) for frequently operated flare gas streams/systems; for infrequently operated flare gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling. If the flare gas stream composition can vary, samples must be taken during those conditions expected to result in lowest net heating value identified in paragraph (j)(6)(i)(C) of this section. The owner or operator shall determine net heating value for the gas stream using either gas composition analysis or net heating value monitor (with optional hydrogen concentration analyzer) according to the method provided in paragraph (l) of this section; and

(E) A description of how the 2 weeks (or seven samples for infrequently operated flare gas streams/systems) of monitoring results compares to the typical range of net heating values expected for the flare gas stream/system going to the affected flare (*e.g.,* ''the samples are representative of typical operating conditions of the flare gas stream going to the loading rack flare'' or ''the samples are representative of conditions expected to yield the lowest net heating value of the flare gas stream going to the loading rack flare'').

(F) The net heating value to be used for all flows of the flare vent gas from the flare gas stream/system covered in the application. A single net heating value must be assigned to the flare vent gas either by selecting the lowest net heating value measured in the sampling program or by determining the 95th percent confidence interval on the mean value of all samples collected using the t-distribution statistic (which is 1.943 for 7 grab samples or 1.771 for 14 grab samples).

(ii) The effective date of the exemption is the date of submission of the information required in paragraph (j)(6)(i) of this section.

(iii) No further action is required unless refinery operating conditions change in such a way that affects the exempt fuel gas stream/system (*e.g.,* the stream composition changes). If such a change occurs, the owner or operator shall follow the procedures in paragraph (j)(6)(iii)(A), (B), or (C) of this section.

(A) If the operation change results in a flare vent gas net heating value that is still within the range of net heating values included in the original application, the owner or operator shall determine the net heating value on a grab sample and record the results as proof that the net heating value assigned to the vent gas stream in the original application is still appropriate.

(B) If the operation change results in a flare vent gas net heating value that is lower than the net heating value assigned to the vent gas stream in the original application, the owner or operator may submit new information following the procedures of paragraph (j)(6)(i) of this section within 60 days (or within 30 days after the seventh grab sample is tested for infrequently operated process units).

(C) If the operation change results in a flare vent gas net heating value has greater variability in the flare gas stream/system such the owner or operator chooses not to submit new information to support an exemption, the owner or operator must begin monitoring the composition or net heat content of the flare vent gas stream using the methods in this section (*i.e.,* grab samples every 8 hours until such time a continuous monitor, if elected, is installed).

(k) *Calculation methods for cumulative flow rates and determining compliance with Vtip operating limits.* The owner or operator shall determine V_{tip} on a 15-minute block average basis according to the following requirements.

(1) The owner or operator shall use design and engineering principles to determine the unobstructed cross sectional area of the flare tip. The unobstructed cross sectional area of the flare tip is the total tip area that vent gas can pass through. This area does not include any stability tabs, stability rings, and upper steam or air tubes because flare vent gas does not exit through them.

(2) The owner or operator shall determine the cumulative volumetric flow of flare vent gas for each 15-minute block average period using the data from the continuous flow monitoring system required in paragraph (i) of this section according to the following requirements, as applicable. If desired, the cumulative flow rate for a 15-minute block period only needs to include flow during those periods when regulated material is sent to the flare, but owners or operators may elect to calculate the cumulative flow rates across the entire 15-minute block period for any 15-minute block period where there is regulated material flow to the flare.

(i) Use set 15-minute time periods starting at 12 midnight to 12:15 a.m., 12:15 a.m. to 12:30 a.m. and so on concluding at 11:45 p.m. to midnight when calculating 15-minute block average flow volumes.

(ii) If continuous pressure/temperature monitoring system(s) and engineering calculations are used as allowed under paragraph (i)(4) of this section, the owner or operator shall, at a minimum, determine the 15-minute block average temperature and pressure from the monitoring system and use those values to perform the engineering calculations to determine the cumulative flow over the 15-minute block average period. Alternatively, the owner or operator may divide the 15-minute block average period into equal duration subperiods (*e.g.*, three 5-minute periods) and determine the average temperature and pressure for each subperiod, perform engineering calculations to determine the flow for each subperiod, then add the volumetric flows for the subperiods to determine the cumulative volumetric flow of vent gas for the 15-minute block average period.

(3) The 15-minute block average V_{tip} shall be calculated using the following equation.

$$V_{tip} = \frac{Q_{cum}}{Area \times 900}$$

Where:

V_{tip} = Flare tip velocity, feet per second.

Q_{cum} = Cumulative volumetric flow over 15-minute block average period, actual cubic feet.

Area = Unobstructed area of the flare tip, square feet.

900 = Conversion factor, seconds per 15-minute block average.

(4) If the owner or operator chooses to comply with paragraph (d)(2) of this section, the owner or operator shall also determine the net heating value of the flare vent gas following the requirements in paragraphs (j) and (l) of this section and calculate V_{max} using the equation in paragraph (d)(2) of this section in order to compare V_{tip} to V_{max} on a 15-minute block average basis.

(l) *Calculation methods for determining flare vent gas net heating value.* The owner or operator shall determine the net heating value of the flare vent gas (NHV_{vg}) based on the composition monitoring data on a 15-minute block average basis according to the following requirements.

(1) If compositional analysis data are collected as provided in paragraph (j)(1) or (2) of this section, the owner or operator shall determine NHV_{vg} of a specific sample by using the following equation.

$$NHV_{vg} = \sum_{i=1}^{n} x_i NHV_i$$

Where:

NHV_{vg} = Net heating value of flare vent gas, Btu/scf.

i = Individual component in flare vent gas.

n = Number of components in flare vent gas.

x_i = Concentration of component i in flare vent gas, volume fraction.

NHV_i = Net heating value of component i according to table 12 of this subpart, Btu/scf. If the component is not specified in table 12 of this subpart, the heats of combustion may be determined using any published values where the net enthalpy per mole of offgas is based on combustion at 25 °C and 1 atmosphere (or constant pressure) with offgas water in the gaseous state, but the standard temperature for determining the volume corresponding to one mole of vent gas is 20 °C.

(2) If direct net heating value monitoring data are collected as provided in paragraph (j)(3) of this section but a hydrogen concentration monitor is not used, the owner or operator shall use the direct output of the monitoring system(s) (in Btu/scf) to determine the NHV_{vg} for the sample.

(3) If direct net heating value monitoring data are collected as provided in paragraph (j)(3) of this section and hydrogen concentration monitoring data are collected as provided in paragraph (j)(4) of this section, the owner or operator shall use the following equation to determine NHV_{vg} for each sample measured via the net heating value monitoring system.

$$NHV_{vg} = NHV_{measured} + 938x_{H2}$$

Where:

NHV_{vg} = Net heating value of flare vent gas, Btu/scf.

$NHV_{measured}$ = Net heating value of flare vent gas stream as measured by the continuous net heating value monitoring system, Btu/scf.

x_{H2} = Concentration of hydrogen in flare vent gas at the time the sample was input into the net heating value monitoring system, volume fraction.

938 = Net correction for the measured heating value of hydrogen (1,212 − 274), Btu/scf.

(4) Use set 15-minute time periods starting at 12 midnight to 12:15 a.m., 12:15 a.m. to 12:30 a.m. and so on concluding at 11:45 p.m. to midnight when calculating 15-minute block averages.

(5) When a continuous monitoring system is used as provided in paragraph (j)(1) or (3) of this section and, if applicable, paragraph (j)(4) of this section, the owner or operator may elect to determine the 15-minute block average NHV_{vg} using either the calculation methods in paragraph (l)(5)(i) of this section or the calculation methods in paragraph (l)(5)(ii) of this section. The owner or operator may choose to comply using the calculation methods in paragraph (l)(5)(i) of this section for some flares at the petroleum refinery and comply using the calculation methods (l)(5)(ii) of this section for other flares. However, for each flare, the owner or operator must elect one calculation method that will apply at all times, and use that method for all continuously monitored flare vent streams associated with that flare. If the owner or operator intends to change the calculation method that applies to a flare, the owner or operator must notify the Administrator 30 days in advance of such a change.

(i) *Feed-forward calculation method.* When calculating NHV_{vg} for a specific 15-minute block:

(A) Use the results from the first sample collected during an event, (for periodic flare vent gas flow events) for the first 15-minute block associated with that event.

(B) If the results from the first sample collected during an event (for periodic flare vent gas flow events) are not available until after the second 15-minute block starts, use the results from the first sample collected during an event for the second 15-minute block associated with that event.

(C) For all other cases, use the results that are available from the most recent sample prior to the 15-minute block period for that 15-minute block period for all flare vent gas steams. For the purpose of this requirement, use the time that the results become available rather than the time the sample was collected. For example, if a sample is collected at 12:25 a.m. and the analysis is completed at 12:38 a.m., the results are available at 12:38 a.m. and these results would be used to determine compliance during the 15-minute block period from 12:45 a.m. to 1:00 a.m.

(ii) *Direct calculation method.* When calculating NHV_{vg} for a specific 15-minute block:

(A) If the results from the first sample collected during an event (for periodic flare vent gas flow events) are not available until after the second 15-minute block starts, use the results from the first sample collected during an event for the first 15-minute block associated with that event.

(B) For all other cases, use the arithmetic average of all NHV_{vg} measurement data results that become available during a 15-minute block to calculate the 15-minute block average for that period. For the purpose of this requirement, use the time that the results become available rather than the time the sample was collected. For example, if a sample is collected at 12:25 a.m. and the analysis is completed at 12:38 a.m., the results are available at 12:38 a.m. and these results would be used to determine compliance during the 15-minute block period from 12:30 a.m. to 12:45 a.m.

(6) When grab samples are used to determine flare vent gas composition:

(i) Use the analytical results from the first grab sample collected for an event for all 15-minute periods from the start of the event through the 15-minute block prior to the 15-minute block in which a subsequent grab sample is collected.

(ii) Use the results from subsequent grab sampling events for all 15 minute periods starting with the 15-minute block in which the sample was collected and ending with the 15-minute block prior to the 15-minute block in which the next grab sample is collected. For the purpose of this requirement, use the time the sample was collected rather than the time the analytical results become available.

(7) If the owner or operator monitors separate gas streams that combine to comprise the total flare vent gas flow, the 15-minute block average net heating value shall be determined separately for each measurement location according to the methods in paragraphs (l)(1) through (6) of this section and a flow-weighted average of the gas stream net heating values shall be used to determine the 15-minute block average net heating value of the cumulative flare vent gas.

(m) *Calculation methods for determining combustion zone net heating value.* The owner or operator shall determine the net heating value of the combustion zone gas (NHV_{cz}) as specified in paragraph (m)(1) or (2) of this section, as applicable.

(1) Except as specified in paragraph (m)(2) of this section, determine the 15-minute block average NHV_{cz} based on the 15-minute block average vent gas and assist gas flow rates using the following equation. For periods when there is no assist steam flow or premix assist air flow, $NHV_{cz} = NHV_{vg}$.

$$NHV_{cz} = \frac{Q_{vg} \times NHV_{vg}}{\left(Q_{vg} + Q_s + Q_{a,premix}\right)}$$

Where:

NHV_{cz} = Net heating value of combustion zone gas, Btu/scf.

NHV_{vg} = Net heating value of flare vent gas for the 15-minute block period, Btu/scf.

Q_{vg} = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Q_s = Cumulative volumetric flow of total steam during the 15-minute block period, scf.

$Q_{a,premix}$ = Cumulative volumetric flow of premix assist air during the 15-minute block period, scf.

(2) Owners or operators of flares that use the feed-forward calculation methodology in paragraph (l)(5)(i) of this section and that monitor gas composition or net heating value in a location representative of the cumulative vent gas stream and that directly monitor supplemental natural gas flow additions to the flare must determine the 15-minute block average NHV_{cz} using the following equation.

$$NHV_{cz} = \frac{\left(Q_{vg} - Q_{NG2} + Q_{NG1}\right) \times NHV_{vg} + \left(Q_{NG2} - Q_{NG1}\right) \times NHV_{NG}}{\left(Q_{vg} + Q_s + Q_{a,premix}\right)}$$

Where:

NHV_{cz} = Net heating value of combustion zone gas, Btu/scf.

NHV_{vg} = Net heating value of flare vent gas for the 15-minute block period, Btu/scf.

Q_{vg} = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Q_{NG2} = Cumulative volumetric flow of supplemental natural gas to the flare during the 15-minute block period, scf.

Q_{NG1} = Cumulative volumetric flow of supplemental natural gas to the flare during the previous 15-minute block period, scf. For the first 15-minute block period of an event, use the volumetric flow value for the current 15-minute block period, *i.e.,* $Q_{NG1}=Q_{NG2}$.

NHV_{NG} = Net heating value of supplemental natural gas to the flare for the 15-minute block period determined according to the requirements in paragraph (j)(5) of this section, Btu/scf.

Q_s = Cumulative volumetric flow of total steam during the 15-minute block period, scf.

$Q_{a,premix}$ = Cumulative volumetric flow of premix assist air during the 15-minute block period, scf.

(n) *Calculation methods for determining the net heating value dilution parameter.* The owner or operator shall determine the net heating value dilution parameter (NHV_{dil}) as specified in paragraph (n)(1) or (2) of this section, as applicable.

(1) Except as specified in paragraph (n)(2) of this section, determine the 15-minute block average NHV_{dil} based on the 15-minute block average vent gas and perimeter assist air flow rates using the following equation only during periods when perimeter assist air is used. For 15-minute block periods when there is no cumulative volumetric flow of perimeter assist air, the 15-minute block average NHV_{dil} parameter does not need to be calculated.

$$NHV_{dil} = \frac{Q_{vg} \times Diam \times NHV_{vg}}{\left(Q_{vg} + Q_s + Q_{a,premix} + Q_{a,perimeter}\right)}$$

Where:

NHV_{dil} = Net heating value dilution parameter, Btu/ft^2.

NHV_{vg} = Net heating value of flare vent gas determined for the 15-minute block period, Btu/scf.

Q_{vg} = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Diam = Effective diameter of the unobstructed area of the flare tip for flare vent gas flow, ft. Use the area as determined in paragraph (k)(1) of this section and determine the diameter as

$$Diam = 2 \times \sqrt{Area/\pi}\ .$$

Q_s = Cumulative volumetric flow of total steam during the 15-minute block period, scf.

$Q_{a,premix}$ = Cumulative volumetric flow of premix assist air during the 15-minute block period, scf.

$Q_{a,perimeter}$ = Cumulative volumetric flow of perimeter assist air during the 15-minute block period, scf.

(2) Owners or operators of flares that use the feed-forward calculation methodology in paragraph (l)(5)(i) of this section and that monitor gas composition or net heating value in a location representative of the cumulative vent gas stream and that directly monitor supplemental natural gas flow additions to the flare must determine the 15-minute block average NHV_{dil} using the following equation only during periods when perimeter assist air is used. For 15-minute block periods when there is no cumulative

volumetric flow of perimeter assist air, the 15-minute block average NHV_{dil} parameter does not need to be calculated.

$$NHV_{dil} = \frac{\left[\left(Q_{vg} - Q_{NG2} + Q_{NG1}\right) \times NHV_{vg} + \left(Q_{NG2} - Q_{NG1}\right) \times NHV_{NG}\right] \times Diam}{\left(Q_{vg} + Q_{s} + Q_{a,premix} + Q_{a,perimeter}\right)}$$

Where:

NHV_{dil} = Net heating value dilution parameter, Btu/ft^2.

NHV_{vg} = Net heating value of flare vent gas determined for the 15-minute block period, Btu/scf.

Q_{vg} = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Q_{NG2} = Cumulative volumetric flow of supplemental natural gas to the flare during the 15-minute block period, scf.

Q_{NG1} = Cumulative volumetric flow of supplemental natural gas to the flare during the previous 15-minute block period, scf. For the first 15-minute block period of an event, use the volumetric flow value for the current 15-minute block period, *i.e.,* $Q_{NG1} = Q_{NG2}$.

NHV_{NG} = Net heating value of supplemental natural gas to the flare for the 15-minute block period determined according to the requirements in paragraph (j)(5) of this section, Btu/scf.

Diam = Effective diameter of the unobstructed area of the flare tip for flare vent gas flow, ft. Use the area as determined in paragraph (k)(1) of this section and determine the diameter as

$$Diam = 2 \times \sqrt{Area/\pi}\ .$$

Q_s = Cumulative volumetric flow of total steam during the 15-minute block period, scf.

$Q_{a,premix}$ = Cumulative volumetric flow of premix assist air during the 15-minute block period, scf.

$Q_{a,perimeter}$ = Cumulative volumetric flow of perimeter assist air during the 15-minute block period, scf.

(o) *Emergency flaring provisions.* The owner or operator of a flare that has the potential to operate above its smokeless capacity under any circumstance shall comply with the provisions in paragraphs (o)(1) through (8) of this section.

(1) Develop a flare management plan to minimize flaring during periods of startup, shutdown, or emergency releases. The flare management plan must include the information described in paragraphs (o)(1)(i) through (vii) of this section.

(i) A listing of all refinery process units, ancillary equipment, and fuel gas systems connected to the flare for each affected flare.

(ii) An assessment of whether discharges to affected flares from these process units, ancillary equipment and fuel gas systems can be minimized or prevented during periods of startup, shutdown, or emergency releases. The flare minimization assessment must (at a minimum) consider the items in paragraphs (o)(1)(ii)(A) through (C) of this section. The assessment must provide clear rationale in terms of costs (capital and annual operating), natural gas offset credits (if applicable), technical feasibility, secondary environmental impacts and safety considerations for the selected minimization alternative(s) or a statement, with justifications, that flow reduction could not be achieved. Based upon the assessment, each owner or operator of an affected flare shall identify the minimization alternatives that it has implemented by the due date of the flare management plan and shall include a schedule for the prompt implementation of any selected measures that cannot reasonably be completed as of that date.

(A) Modification in startup and shutdown procedures to reduce the quantity of process gas discharge to the flare.

(B) Implementation of prevention measures listed for pressure relief devices in § 63.648(j)(5) for each pressure relief valve that can discharge to the flare.

(C) Installation of a flare gas recovery system or, for facilities that are fuel gas rich, a flare gas recovery system and a co-generation unit or combined heat and power unit.

(iii) A description of each affected flare containing the information in paragraphs (o)(1)(iii)(A) through (G) of this section.

(A) A general description of the flare, including whether it is a ground flare or elevated (including height), the type of assist system (*e.g.,* air, steam, pressure, non-assisted), whether the flare is used on a routine basis or if it is only used during periods of startup, shutdown or emergency release, and whether the flare is equipped with a flare gas recovery system.

(B) The smokeless capacity of the flare based on design conditions. Note: A single value must be provided for the smokeless capacity of the flare.

(C) The maximum vent gas flow rate (hydraulic load capacity).

(D) The maximum supplemental gas flow rate.

(E) For flares that receive assist steam, the minimum total steam rate and the maximum total steam rate.

(F) For flares that receive assist air, an indication of whether the fan/blower is single speed, multi-fixed speed (*e.g.,* high, medium, and low speeds), or variable speeds. For fans/blowers with fixed speeds, provide the estimated assist air flow rate at each fixed speed. For variable speeds, provide the design fan curve (*e.g.,* air flow rate as a function of power input).

(G) Simple process flow diagram showing the locations of the flare following components of the flare: Flare tip (date installed, manufacturer, nominal and effective tip diameter, tip drawing); knockout or surge drum(s) or pot(s) (including dimensions and design capacities); flare header(s) and subheader(s); assist system; and ignition system.

(iv) Description and simple process flow diagram showing all gas lines (including flare waste gas, purge or sweep gas (as applicable), supplemental gas) that are associated with the flare. For purge, sweep, supplemental gas, identify the type of gas used. Designate which lines are exempt from composition or net heating value monitoring and why (*e.g.,* natural gas, gas streams that have been demonstrated to have consistent composition, pilot gas). Designate which lines are monitored and identify on the process flow diagram the location and type of each monitor. Designate the pressure relief devices that are vented to the flare.

(v) For each flow rate, gas composition, net heating value or hydrogen concentration monitor identified in paragraph (o)(1)(iv) of this section, provide a detailed description of the manufacturer's specifications, including, but not limited to, make, model, type, range, precision, accuracy, calibration, maintenance and quality assurance procedures.

(vi) For each pressure relief valve vented to the flare identified in paragraph (o)(1)(iv) of this section, provide a detailed description of each pressure release valve, including type of relief device (rupture disc, valve type) diameter of the relief valve, set pressure of the relief valve and listing of the prevention measures implemented. This information may be maintained in an electronic database on-site and does not need to be submitted as part of the flare management plan unless requested to do so by the Administrator.

(vii) Procedures to minimize or eliminate discharges to the flare during the planned startup and shutdown of the refinery process units and ancillary equipment that are connected to the affected flare, together with a schedule for the prompt implementation of any procedures that cannot reasonably be implemented as of the date of the submission of the flare management plan.

(2) Each owner or operator required to develop and implement a written flare management plan as described in paragraph (o)(1) of this section must submit the plan to the Administrator as described in paragraphs (o)(2)(i) through (iii) of this section.

(i) The owner or operator must develop and implement the flare management plan no later than January 30, 2019 or at startup for a new flare that commenced construction on or after February 1, 2016.

(ii) The owner or operator must comply with the plan as submitted by the date specified in paragraph (o)(2)(i) of this section. The plan should be updated periodically to account for changes in the operation of the flare, such as new connections to the flare or the installation of a flare gas recovery system, but the plan need be re-submitted to the Administrator only if the owner or operator alters the design smokeless capacity of the flare. The owner or operator must comply with the updated plan as submitted.

(iii) All versions of the plan submitted to the Administrator shall also be submitted to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143–01), Attention: Refinery Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to *refineryRTR@epa.gov*.

(3) The owner or operator of a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each flow event that contains regulated material and that meets either the criteria in paragraph (o)(3)(i) or (ii) of this section.

(i) The vent gas flow rate exceeds the smokeless capacity of the flare and visible emissions are present from the flare for more than 5 minutes during any 2 consecutive hours during the release event.

(ii) The vent gas flow rate exceeds the smokeless capacity of the flare and the 15-minute block average flare tip velocity exceeds the maximum flare tip velocity determined using the methods in paragraph (d)(2) of this section.

(4) A root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a flare flow event meeting the criteria in paragraph (o)(3)(i) or (ii) of this section. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in paragraphs (o)(4)(i) through (v) of this section.

(i) You may conduct a single root cause analysis and corrective action analysis for a single continuous flare flow event that meets both of the criteria in paragraphs (o)(3)(i) and (ii) of this section.

(ii) You may conduct a single root cause analysis and corrective action analysis for a single continuous flare flow event regardless of the number of 15-minute block periods in which the flare tip velocity was exceeded or the number of 2 hour periods that contain more the 5 minutes of visible emissions.

(iii) You may conduct a single root cause analysis and corrective action analysis for a single event that causes two or more flares that are operated in series (*i.e.,* cascaded flare systems) to have a flow event meeting the criteria in paragraph (o)(3)(i) or (ii) of this section.

(iv) You may conduct a single root cause analysis and corrective action analysis for a single event that causes two or more flares to have a flow event meeting the criteria in paragraph (o)(3)(i) or (ii) of this section, regardless of the configuration of the flares, if the root cause is reasonably expected to be a force majeure event, as defined in this subpart.

(v) Except as provided in paragraphs (o)(4)(iii) and (iv) of this section, if more than one flare has a flow event that meets the criteria in paragraph (o)(3)(i) or (ii) of this section during the same time period, an initial root cause analysis shall be conducted separately for each flare that has a flow event meeting the criteria in paragraph (o)(3)(i) or (ii) of this section. If the initial root cause analysis indicates that the flow events have the same root cause(s), the initially separate root cause analyses may be recorded as a single root cause analysis and a single corrective action analysis may be conducted.

(5) Each owner or operator of a flare required to conduct a root cause analysis and corrective action analysis as specified in paragraphs (o)(3) and (4) of this section shall implement the corrective action(s) identified in the corrective action analysis in accordance with the applicable requirements in paragraphs (o)(5)(i) through (iii) of this section.

(i) All corrective action(s) must be implemented within 45 days of the event for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that no corrective action should be implemented, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the event.

(ii) For corrective actions that cannot be fully implemented within 45 days following the event for which the root cause and corrective action analyses were required, the owner or operator shall develop an implementation schedule to complete the corrective action(s) as soon as practicable.

(iii) No later than 45 days following the event for which a root cause and corrective action analyses were required, the owner or operator shall record the corrective action(s) completed to date, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(6) The owner or operator shall determine the total number of events for which a root cause and corrective action analyses was required during the calendar year for each affected flare separately for events meeting the criteria in paragraph (o)(3)(i) of this section and those meeting the criteria in paragraph (o)(3)(ii) of this section. For the purpose of this requirement, a single root cause analysis conducted for an event that met both of the criteria in paragraphs (o)(3)(i) and (ii) of this section would be counted as an event under each of the separate criteria counts for that flare. Additionally, if a single root cause analysis was conducted for an event that caused multiple flares to meet the criteria in paragraph (o)(3)(i) or (ii) of this section, that event would count as an event for each of the flares for each criteria in paragraph (o)(3) of this section that was met during that event. The owner or operator shall also determine the total number of events for which a root cause and correct action analyses was required and the analyses concluded that the root cause was a force majeure event, as defined in this subpart.

(7) The following events would be a violation of this emergency flaring work practice standard.

(i) Any flow event for which a root cause analysis was required and the root cause was determined to be operator error or poor maintenance.

(ii) Two visible emissions exceedance events meeting the criteria in paragraph (o)(3)(i) of this section that were not caused by a force majeure event from a single flare in a 3 calendar year period for the same root cause for the same equipment.

(iii) Two flare tip velocity exceedance events meeting the criteria in paragraph (o)(3)(ii) of this section that were not caused by a force majeure event from a single flare in a 3 calendar year period for the same root cause for the same equipment.

(iv) Three visible emissions exceedance events meeting the criteria in paragraph (o)(3)(i) of this section that were not caused by a force majeure event from a single flare in a 3 calendar year period for any reason.

(v) Three flare tip velocity exceedance events meeting the criteria in paragraph (o)(3)(ii) of this section that were not caused by a force majeure event from a single flare in a 3 calendar year period for any reason.

(p) *Flare monitoring records.* The owner or operator shall keep the records specified in § 63.655(i)(9).

(q) *Reporting.* The owner or operator shall comply with the reporting requirements specified in § 63.655(g)(11).

(r) *Alternative means of emissions limitation.* An owner or operator may request approval from the Administrator for site-specific operating limits that shall apply specifically to a selected flare. Site-specific operating limits include alternative threshold values for the parameters specified in paragraphs (d) through (f) of this section as well as threshold values for operating parameters other than those specified in paragraphs (d) through (f) of this section. The owner or operator must demonstrate that the flare achieves 96.5 percent combustion efficiency (or 98 percent destruction efficiency) using the site-specific operating limits based on a performance evaluation as described in paragraph (r)(1) of this section. The request shall include information as described in paragraph (r)(2) of this section. The request shall be submitted and followed as described in paragraph (r)(3) of this section.

(1) The owner or operator shall prepare and submit a site-specific test plan and receive approval of the site-specific performance evaluation plan prior to conducting any flare performance evaluation test runs intended for use in developing site-specific operating limits. The site-specific performance evaluation plan shall include, at a minimum, the elements specified in paragraphs (r)(1)(i) through (ix) of this section. Upon approval of the site-specific performance evaluation plan, the owner or operator shall conduct performance evaluation test runs for the flare following the procedures described in the site-specific performance evaluation plan.

(i) The design and dimensions of the flare, flare type (air-assisted only, steam-assisted only, air- and steam-assisted, pressure-assisted, or non-assisted), and description of gas being flared, including quantity of gas flared, frequency of flaring events (if periodic), expected net heating value of flare vent gas, minimum total steam assist rate.

(ii) The operating conditions (vent gas compositions, vent gas flow rates and assist flow rates, if applicable) likely to be encountered by the flare during normal operations and the operating conditions for the test period.

(iii) A description of (including sample calculations illustrating) the planned data reduction and calculations to determine the flare combustion or destruction efficiency.

(iv) Site-specific operating parameters to be monitored continuously during the flare performance evaluation. These parameters may include but are not limited to vent gas flow rate, steam and/or air assist flow rates, and flare vent gas composition. If new operating parameters are proposed for use other than those specified in paragraphs (d) through (f) of this section, an explanation of the relevance of the proposed operating parameter(s) as an indicator of flare combustion performance and why the alternative operating parameter(s) can adequately ensure that the flare achieves the required combustion efficiency.

(v) A detailed description of the measurement methods, monitored pollutant(s), measurement locations, measurement frequency, and recording frequency proposed for both emission measurements and flare operating parameters.

(vi) A description of (including sample calculations illustrating) the planned data reduction and calculations to determine the flare operating parameters.

(vii) The minimum number and length of test runs and range of operating values to be evaluated during the performance evaluation. A sufficient number of test runs shall be conducted to identify the point at which the combustion/destruction efficiency of the flare deteriorates.

(viii) [Reserved]

(ix) Test schedule.

(2) The request for flare-specific operating limits shall include sufficient and appropriate data, as determined by the Administrator, to allow the Administrator to confirm that the selected site-specific operating limit(s) adequately ensures that the flare destruction efficiency is 98 percent or greater or that the flare combustion efficiency is 96.5 percent or greater at all times. At a minimum, the request shall contain the information described in paragraphs (r)(2)(i) through (iv) of this section.

(i) The design and dimensions of the flare, flare type (air-assisted only, steam-assisted only, air- and steam-assisted, pressure-assisted, or non-assisted), and description of gas being flared, including quantity of gas flared, frequency of flaring events (if periodic), expected net heating value of flare vent gas, minimum total steam assist rate.

(ii) Results of each performance evaluation test run conducted, including, at a minimum:

(A) The measured combustion/destruction efficiency.

(B) The measured or calculated operating parameters for each test run. If operating parameters are calculated, the raw data from which the parameters are calculated must be included in the test report.

(C) Measurement location descriptions for both emission measurements and flare operating parameters.

(D) Description of sampling and analysis procedures (including number and length of test runs) and any modifications to standard procedures. If there were deviations from the approved test plan, a detailed description of the deviations and rationale why the test results or calculation procedures used are appropriate.

(E) Operating conditions (*e.g.*, vent gas composition, assist rates, etc.) that occurred during the test.

(F) Quality assurance procedures.

(G) Records of calibrations.

(H) Raw data sheets for field sampling.

(I) Raw data sheets for field and laboratory analyses.

(J) Documentation of calculations.

(iii) The selected flare-specific operating limit values based on the performance evaluation test results, including the averaging time for the operating limit(s), and rationale why the selected values and averaging times are sufficiently stringent to ensure proper flare performance. If new operating parameters or averaging times are proposed for use other than those specified in paragraphs (d) through (f) of this section, an explanation of why the alternative operating parameter(s) or averaging time(s) adequately ensures the flare achieves the required combustion efficiency.

(iv) The means by which the owner or operator will document on-going, continuous compliance with the selected flare-specific operating limit(s), including the specific measurement location and frequencies, calculation procedures, and records to be maintained.

(3) The request shall be submitted as described in paragraphs (r)(3)(i) through (iv) of this section.

(i) The owner or operator may request approval from the Administrator at any time upon completion of a performance evaluation conducted following the methods in an approved site-specific performance evaluation plan for an operating limit(s) that shall apply specifically to that flare.

(ii) The request must be submitted to the Administrator for approval. The owner or operator must continue to comply with the applicable standards for flares in this subpart until the requirements in § 63.6(g)(1) are met and a notice is published in the **Federal Register** allowing use of such an alternative means of emission limitation.

(iii) The request shall also be submitted to the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, U.S. EPA Mailroom (E143–01), Attention: Refinery Sector Lead, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. Electronic copies in lieu of hard copies may also be submitted to *refineryrtr@epa.gov.*

(iv) If the Administrator finds any deficiencies in the request, the request must be revised to address the deficiencies and be re-submitted for approval within 45 days of receipt of the notice of deficiencies. The owner or operator must comply with the revised request as submitted until it is approved.

(4) The approval process for a request for a flare-specific operating limit(s) is described in paragraphs (r)(4)(i) through (iii) of this section.

(i) Approval by the Administrator of a flare-specific operating limit(s) request will be based on the completeness, accuracy and reasonableness of the request. Factors that the EPA will consider in reviewing the request for approval include, but are not limited to, those described in paragraphs (r)(4)(i)(A) through (C) of this section.

(A) The description of the flare design and operating characteristics.

(B) If a new operating parameter(s) other than those specified in paragraphs (d) through (f) of this section is proposed, the explanation of how the proposed operating parameter(s) serves a good indicator(s) of flare combustion performance.

(C) The results of the flare performance evaluation test runs and the establishment of operating limits that ensures that the flare destruction efficiency is 98 percent or greater or that the flare combustion efficiency is 96.5 percent or greater at all times.

(D) The completeness of the flare performance evaluation test report.

(ii) If the request is approved by the Administrator, a flare-specific operating limit(s) will be established at the level(s) demonstrated in the approved request.

(iii) If the Administrator finds any deficiencies in the request, the request must be revised to address the deficiencies and be re-submitted for approval.

■ 33. Section 63.671 is added to read as follows:

§ 63.671 Requirements for flare monitoring systems.

(a) *Operation of CPMS.* For each CPMS installed to comply with applicable provisions in § 63.670, the owner or operator shall install, operate, calibrate, and maintain the CPMS as specified in paragraphs (a)(1) through (8) of this section.

(1) Except for CPMS installed for pilot flame monitoring, all monitoring equipment must meet the applicable minimum accuracy, calibration and quality control requirements specified in table 13 of this subpart.

(2) The owner or operator shall ensure the readout (that portion of the CPMS that provides a visual display or record) or other indication of the monitored operating parameter from any CPMS required for compliance is readily accessible onsite for operational control or inspection by the operator of the source.

(3) All CPMS must complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period.

(4) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall operate all CPMS and collect data continuously at all times when regulated emissions are routed to the flare.

(5) The owner or operator shall operate, maintain, and calibrate each CPMS according to the CPMS monitoring plan specified in paragraph (b) of this section.

(6) For each CPMS except for CPMS installed for pilot flame monitoring, the owner or operator shall comply with the out-of-control procedures described in paragraph (c) of this section.

(7) The owner or operator shall reduce data from a CPMS as specified in paragraph (d) of this section.

(8) The CPMS must be capable of measuring the appropriate parameter over the range of values expected for that measurement location. The data recording system associated with each CPMS must have a resolution that is equal to or better than the required system accuracy.

(b) *CPMS monitoring plan.* The owner or operator shall develop and implement a CPMS quality control program documented in a CPMS monitoring plan that covers each flare subject to the provisions in § 63.670 and each CPMS installed to comply with applicable provisions in § 63.670. The owner or operator shall have the CPMS monitoring plan readily available on-site at all times and shall submit a copy of the CPMS monitoring plan to the Administrator upon request by the Administrator. The CPMS monitoring plan must contain the information listed in paragraphs (b)(1) through (5) of this section.

(1) Identification of the specific flare being monitored and the flare type (air-assisted only, steam-assisted only, air- and steam-assisted, pressure-assisted, or non-assisted).

(2) Identification of the parameter to be monitored by the CPMS and the expected parameter range, including worst case and normal operation.

(3) Description of the monitoring equipment, including the information specified in paragraphs (b)(3)(i) through (vii) of this section.

(i) Manufacturer and model number for all monitoring equipment components installed to comply with applicable provisions in § 63.670.

(ii) Performance specifications, as provided by the manufacturer, and any differences expected for this installation and operation.

(iii) The location of the CPMS sampling probe or other interface and a justification of how the location meets the requirements of paragraph (a)(1) of this section.

(iv) Placement of the CPMS readout, or other indication of parameter values, indicating how the location meets the requirements of paragraph (a)(2) of this section.

(v) Span of the CPMS. The span of the CPMS sensor and analyzer must encompass the full range of all expected values.

(vi) How data outside of the span of the CPMS will be handled and the corrective action that will be taken to reduce and eliminate such occurrences in the future.

(vii) Identification of the parameter detected by the parametric signal analyzer and the algorithm used to convert these values into the operating parameter monitored to demonstrate compliance, if the parameter detected is different from the operating parameter monitored.

(4) Description of the data collection and reduction systems, including the information specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) A copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard and to calculate the applicable averages.

(ii) Identification of whether the algorithm excludes data collected during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable) and high-level adjustments.

(iii) If the data acquisition algorithm does not exclude data collected during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable) and high-level adjustments, a description of the procedure for excluding this data when the averages calculated as specified in paragraph (e) of this section are determined.

(5) Routine quality control and assurance procedures, including descriptions of the procedures listed in paragraphs (b)(5)(i) through (vi) of this section and a schedule for conducting these procedures. The routine procedures must provide an assessment of CPMS performance.

(i) Initial and subsequent calibration of the CPMS and acceptance criteria.

(ii) Determination and adjustment of the calibration drift of the CPMS.

(iii) Daily checks for indications that the system is responding. If the CPMS system includes an internal system check, the owner or operator may use the results to verify the system is responding, as long as the system provides an alarm to the owner or operator or the owner or operator checks the internal system results daily for proper operation and the results are recorded.

(iv) Preventive maintenance of the CPMS, including spare parts inventory.

(v) Data recording, calculations and reporting.

(vi) Program of corrective action for a CPMS that is not operating properly.

(c) *Out-of-control periods.* For each CPMS installed to comply with applicable provisions in § 63.670 except for CPMS installed for pilot flame monitoring, the owner or operator shall comply with the out-of-control procedures described in paragraphs (c)(1) and (2) of this section.

(1) A CPMS is out-of-control if the zero (low-level), mid-level (if applicable) or high-level calibration drift exceeds two times the accuracy requirement of table 13 of this subpart.

(2) When the CPMS is out of control, the owner or operator shall take the necessary corrective action and repeat all necessary tests that indicate the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour a performance check (*e.g.*, calibration drift) that indicates an exceedance of the performance requirements established in this section is conducted. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. The owner or operator shall not use data recorded during periods the CPMS is out of control in data averages and calculations, used to report emissions or operating levels, as specified in paragraph (d)(3) of this section.

(d) *CPMS data reduction.* The owner or operator shall reduce data from a CPMS installed to comply with applicable provisions in § 63.670 as specified in paragraphs (d)(1) through (3) of this section.

(1) The owner or operator may round the data to the same number of significant digits used in that operating limit.

(2) Periods of non-operation of the process unit (or portion thereof) resulting in cessation of the emissions to which the monitoring applies must not be included in the 15-minute block averages.

(3) Periods when the CPMS is out of control must not be included in the 15-minute block averages.

(e) *Additional requirements for gas chromatographs.* For monitors used to determine compositional analysis for net heating value per § 63.670(j)(1), the gas chromatograph must also meet the requirements of paragraphs (e)(1) through (3) of this section.

(1) The quality assurance requirements are in table 13 of this subpart.

(2) The calibration gases must meet one of the following options:

(i) The owner or operator must use a calibration gas or multiple gases that include all of compounds listed in paragraphs (e)(2)(i)(A) through (K) of this section that may be reasonably expected to exist in the flare gas stream and optionally include any of the compounds listed in paragraphs (e)(2)(i)(L) through (O) of this section. All of the calibration gases may be combined in one cylinder. If multiple calibration gases are necessary to cover all compounds, the owner or operator must calibrate the instrument on all of the gases.

(A) Hydrogen.

(B) Methane.

(C) Ethane.

(D) Ethylene.

(E) Propane.

(F) Propylene.

(G) n-Butane.

(H) iso-Butane.

(I) Butene (general). It is not necessary to separately speciate butene isomers, but the net heating value of trans-butene must be used for co-eluting butene isomers.

(J) 1,3-Butadiene. It is not necessary to separately speciate butadiene isomers, but you must use the response factor and net heating value of 1,3-butadiene for co-eluting butadiene isomers.

(K) n-Pentane. Use the response factor for n-pentane to quantify all C5+ hydrocarbons.

(L) Acetylene (optional).

(M) Carbon monoxide (optional).

(N) Propadiene (optional).

(O) Hydrogen sulfide (optional).

(ii) The owner or operator must use a surrogate calibration gas consisting of hydrogen and C1 through C5 normal hydrocarbons. All of the calibration gases may be combined in one cylinder. If multiple calibration gases are necessary to cover all compounds, the owner or operator must calibrate the instrument on all of the gases.

(3) If the owner or operator chooses to use a surrogate calibration gas under paragraph (e)(2)(ii) of this section, the owner or operator must comply with paragraphs (e)(3)(i) and (ii) of this section.

(i) Use the response factor for the nearest normal hydrocarbon (*i.e.,* n-alkane) in the calibration mixture to quantify unknown components detected in the analysis.

(ii) Use the response factor for n-pentane to quantify unknown components detected in the analysis that elute after n-pentane.

■ 34. The appendix to subpart CC is amended in table 6 by:

■ a. Revising the entries ''63.5(d)(1)(ii)'' and ''63.5(f)'';

■ b. Removing the entry ''63.6(e)(1)'';

■ c. Adding, in numerical order, the entries ''63.6(e)(1)(i) and (ii)'' and ''63.6(e)(1)(iii)'';

■ d. Revising the entries ''63.6(e)(3)(i),'' ''63.6(e)(3)(iii)–63.6(e)(3)(ix),'' and ''63.6(f)(1)'';

■ e. Removing the entry ''63.6(f)(2) and (3)'';

■ f. Adding, in numerical order, the entries ''63.6(f)(2)'' and ''63.6(f)(3)'';

■ g. Removing the entry ''63.6(h)(1) and 63.6(h)(2)'';

■ h. Adding, in numerical order, the entries ''63.6(h)(1)'' and ''63.6(h)(2)'';

■ i. Revising the entries ''63.7(b)'' and ''63.7(e)(1)'';

■ j. Removing the entry ''63.8(a)'';

■ k. Adding, in numerical order, the entries ''63.8(a)(1) and (2),'' ''63.8(a)(3),'' and ''63.8(a)(4)'';

■ l. Revising the entry ''63.8(c)(1)'';

■ m. Adding, in numerical order, the entries ''63.8(c)(1)(i)'' and ''63.8(c)(1)(iii)'';

■ n. Revising the entries ''63.8(c)(4),'' ''63.8(c)(5)–63.8(c)(8),'' ''63.8(d),'' ''63.8(e),'' ''63.8(g),'' ''63.10(b)(2)(i),'' ''63.10(b)(2)(ii),'' ''63.10(b)(2)(iv),'' ''63.10(b)(2)(v),'' and ''63.10(b)(2)(vii)'';

■ o. Removing the entry ''63.10(c)(9)–63.10(c)(15)'';

■ p. Adding, in numerical order, the entries ''63.10(c)(9),'' ''63.10(c)(10)–63.10(c)(11),'' and ''63.10(c)(12)–63.10(c)(15)'';

■ q. Revising the entry ''63.10(d)(2)'';

■ r. Removing the entries ''63.10(d)(5)(i)'' and ''63.10(d)(5)(ii)'';

■ s. Adding, in numerical order, the entry ''63.10(d)(5)'';

■ t. Removing the entry ''63.11–63.16'';

■ u. Adding, in numerical order, the entries ''63.11'' and ''63.12–63.16'';

■ v. Revising footnote a.

■ w. Removing footnote b.

The revisions and additions read as follows:

Appendix to Subpart CC of Part 63—Tables

* * * * *

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC[a]

Reference	Applies to subpart CC	Comment
* *	*	* * * *
63.5(d)(1)(ii)	Yes	Except that for affected sources subject to this subpart, emission estimates specified in § 63.5(d)(1)(ii)(H) are not required, and § 63.5(d)(1)(ii)(G) and (I) are Reserved and do not apply.
* *	*	* * * *
63.5(f)	Yes	Except that the cross-reference in § 63.5(f)(2) to § 63.9(b)(2) does not apply.
* *	*	* * * *
63.6(e)(1)(i) and (ii)	No	See § 63.642(n) for general duty requirement.
63.6(e)(1)(iii)	Yes.	
* *	*	* * * *
63.6(e)(3)(i)	No.	
* *	*	* * * *
63.6(e)(3)(iii)–63.6(e)(3)(ix)	No.	
63.6(f)(1)	No.	
63.6(f)(2)	Yes	Except the phrase ''as specified in § 63.7(c)'' in § 63.6(f)(2)(iii)(D) does not apply because this subpart does not require a site-specific test plan.
63.6(f)(3)	Yes	Except the cross-references to § 63.6(f)(1) and (e)(1)(i) are changed to § 63.642(n).
* *	*	* * * *
63.6(h)(1)	No.	
63.6(h)(2)	Yes	Except § 63.6(h)(2)(ii), which is reserved.
* *	*	* * * *
63.7(b)	Yes	Except this subpart requires notification of performance test at least 30 days (rather than 60 days) prior to the performance test.
* *	*	* * * *
63.7(e)(1)	No	See § 63.642(d)(3).
* *	*	* * * *
63.8(a)(1) and (2)	Yes.	
63.8(a)(3)	No	Reserved.
63.8(a)(4)	Yes	Except that for a flare complying with § 63.670, the cross-reference to § 63.11 in this paragraph does not include § 63.11(b).
* *	*	* * * *
63.8(c)(1)	Yes	Except § 63.8(c)(1)(i) and (iii).
63.8(c)(1)(i)	No	See § 63.642(n).
63.8(c)(1)(iii)	No.	

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]—Continued

Reference	Applies to subpart CC	Comment
* *	*	* * * *
63.8(c)(4)	Yes	Except that for sources other than flares, this subpart specifies the monitoring cycle frequency specified in § 63.8(c)(4)(ii) is ''once every hour'' rather than ''for each successive 15-minute period.''
63.8(c)(5)–63.8(c)(8)	No	This subpart specifies continuous monitoring system requirements.
63.8(d)	No	This subpart specifies quality control procedures for continuous monitoring systems.
63.8(e)	Yes.	
* *	*	* * * *
63.8(g)	No	This subpart specifies data reduction procedures in §§ 63.655(i)(3) and 63.671(d).
* *	*	* * * *
63.10(b)(2)(i)	No.	
63.10(b)(2)(ii)	No	§ 63.655(i) specifies the records that must be kept.
* *	*	* * * *
63.10(b)(2)(iv)	No.	
63.10(b)(2)(v)	No.	
* *	*	* * * *
63.10(b)(2)(vii)	No	§ 63.655(i) specifies records to be kept for parameters measured with continuous monitors.
* *	*	* * * *
63.10(c)(9)	No	Reserved.
63.10(c)(10)–63.10(c)(11)	No	§ 63.655(i) specifies the records that must be kept.
63.10(c)(12)–63.10(c)(15)	No.	
* *	*	* * * *
63.10(d)(2)	No	Although § 63.655(f) specifies performance test reporting, EPA may approve other timeframes for submittal of performance test data.
* *	*	* * * *
63.10(d)(5)	No	§ 63.655(g) specifies the reporting requirements.
* *	*	* * * *
63.11	Yes	Except that flares complying with § 63.670 are not subject to the requirements of § 63.11(b).
63.12–63.16	Yes.	

[a] Wherever subpart A of this part specifies ''postmark'' dates, submittals may be sent by methods other than the U.S. Mail (*e.g.,* by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

■ 35. The appendix to subpart CC is amended in table 10 by:

■ a. Redesignating the entry ''Flare'' as ''Flare (if meeting the requirements of §§ 63.643 and 63.644)'';

■ b. Adding the entry ''Flare (if meeting the requirements of §§ 63.670 and 63.671)'' after newly redesignated entry ''Flare (if meeting the requirements of §§ 63.643 and 63.644)'';

■ c. Revising the entry ''All control devices''; and

■ d. Revising footnote i.

The revisions and additions read as follows:

Appendix to Subpart CC of Part 63—Tables

* * * * *

TABLE 10—MISCELLANEOUS PROCESS VENTS—MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

Control device	Parameters to be monitored [a]	Recordkeeping and reporting requirements for monitored parameters
* *	* *	* * *
Flare (if meeting the requirements of §§ 63.670 and 63.671).	The parameters specified in § 63.670.	1. Records as specified in § 63.655(i)(9). 2. Report information as specified in § 63.655(g)(11)—PR.[g]
All control devices	Presence of flow diverted to the atmosphere from the control device (§ 63.644(c)(1)) *or*	1. Hourly records of whether the flow indicator was operating and whether flow was detected at any time during each hour. Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating—PR.[g]

TABLE 10—MISCELLANEOUS PROCESS VENTS—MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME—Continued

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
	Monthly inspections of sealed valves (§ 63.644(c)(2)).	1. Records that monthly inspections were performed. 2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed—PR.[g]

[a] Regulatory citations are listed in parentheses.

* * * * * * *

[g] PR = Periodic Reports described in § 63.655(g).

* * * * * * *

[i] Process vents that are routed to refinery fuel gas systems are not regulated under this subpart provided that on and after January 30, 2019, any flares receiving gas from that fuel gas system are in compliance with § 63.670. No monitoring, recordkeeping, or reporting is required for boilers and process heaters that combust refinery fuel gas.

■ 36. The appendix to subpart CC is amended by adding table 11 to read as follows:

Appendix to Subpart CC of Part 63—Tables

* * * * *

TABLE 11—COMPLIANCE DATES AND REQUIREMENTS

If the construction/reconstruction date[a] is . . .	Then the owner or operator must comply with . . .	And the owner or operator must achieve compliance . . .	Except as provided in . . .
(1) After June 30, 2014	(i) Requirements for new sources in §§ 63.640 through 63.642, 63.647, 63.650 through 63.653, and 63.656 through 63.660.	Upon initial startup or February 1, 2016, whichever is later.	§ 63.640(k), (l) and (m).
	(ii) The new source requirements in § 63.654 for heat exchange systems.	Upon initial startup or October 28, 2009, whichever is later.	§ 63.640(k), (l) and (m).
(2) After September 4, 2007 but on or before June 30, 2014.	(i) Requirements for new sources in §§ 63.640 through 63.653 and 63.656[b,c].	Upon initial startup	§ 63.640(k), (l) and (m).
	(ii) Requirements for new sources in §§ 63.640 through 63.645, §§ 63.647 through 63.653, and §§ 63.656 and 63.657[b].	On or before January 30, 2019	§ 63.640(k), (l) and (m).
	(iii) Requirements for existing sources in § 63.658.	On or before January 30, 2018	§ 63.640(k), (l) and (m).
	(iv) Requirements for new sources in § 63.660[c].	On or before April 29, 2016	§ 63.640(k), (l) and (m).
	(v) The new source requirements in § 63.654 for heat exchange systems.	Upon initial startup or October 28, 2009, whichever is later.	§ 63.640(k), (l) and (m).
(3) After July 14, 1994 but on or before September 4, 2007.	(i) Requirements for new sources in §§ 63.640 through 63.653 and 63.656[d,e].	Upon initial startup or August 18, 1995, whichever is later.	§ 63.640(k), (l) and (m).
	(ii) Requirements for new sources in §§ 63.640 through 63.645, 63.647 through 63.653, and 63.656 and 63.657[d].	On or before January 30, 2019	§ 63.640(k), (l) and (m).
	(iii) Requirements for existing sources in § 63.658.	On or before January 30, 2018	§ 63.640(k), (l) and (m).
	(iv) Requirements for new sources in § 63.660[e].	On or before April 29, 2016	§ 63.640(k), (l) and (m).
	(v) The existing source requirements in § 63.654 for heat exchange systems.	On or before October 29, 2012	§ 63.640(k), (l) and (m).
(4) On or before July 14, 1994	(i) Requirements for existing sources in §§ 63.640 through 63.653 and 63.656[f,g].	(a) On or before August 18, 1998	(1) § 63.640(k), (l) and (m). (2) § 63.6(c)(5) of subpart A of this part or unless an extension has been granted by the Administrator as provided in § 63.6(i) of subpart A of this part.
	(ii) Requirements for existing sources in §§ 63.640 through 63.645, 63.647 through 63.653, and 63.656 and 63.657[f].	On or before January 30, 2019	§ 63.640(k), (l) and (m).

TABLE 11—COMPLIANCE DATES AND REQUIREMENTS—Continued

If the construction/reconstruction date [a] is . . .	Then the owner or operator must comply with . . .	And the owner or operator must achieve compliance . . .	Except as provided in . . .
	(iii) Requirements for existing sources in § 63.658.	On or before January 30, 2018	§ 63.640(k), (l) and (m).
	(iv) Requirements for existing sources in § 63.660 [g].	On or before April 29, 2016	§ 63.640(k), (l) and (m).
(v) The existing source requirements in § 63.654 for heat exchange systems	On or before October 29, 2012	§ 63.640(k), (l) and (m).	

[a] For purposes of this table, the construction/reconstruction date means the date of construction or reconstruction of an entire affected source or the date of a process unit addition or change meeting the criteria in § 63.640(i) or (j). If a process unit addition or change does not meet the criteria in § 63.640(i) or (j), the process unit shall comply with the applicable requirements for existing sources.

[b] Between the compliance dates in items (2)(i) and (2)(ii) of this table, the owner or operator may elect to comply with either the requirements in item (2)(i) or item (2)(ii) of this table. The requirements in item (2)(i) of this table no longer apply after demonstrated compliance with the requirements in item (2)(ii) of this table.

[c] Between the compliance dates in items (2)(i) and (2)(iv) of this table, the owner or operator may elect to comply with either the requirements in item (2)(i) or item (2)(iv) of this table. The requirements in item (2)(i) of this table no longer apply after demonstrated compliance with the requirements in item (2)(iv) of this table.

[d] Between the compliance dates in items (3)(i) and (3)(ii) of this table, the owner or operator may elect to comply with either the requirements in item (3)(i) or item (3)(ii) of this table. The requirements in item (3)(i) of this table no longer apply after demonstrated compliance with the requirements in item (3)(ii) of this table.

[e] Between the compliance dates in items (3)(i) and (3)(iv) of this table, the owner or operator may elect to comply with either the requirements in item (3)(i) or item (3)(iv) of this table. The requirements in item (3)(i) of this table no longer apply after demonstrated compliance with the requirements in item (3)(iv) of this table.

[f] Between the compliance dates in items (4)(i) and (4)(ii) of this table, the owner or operator may elect to comply with either the requirements in item (4)(i) or item (4)(ii) of this table. The requirements in item (4)(i) of this table no longer apply after demonstrated compliance with the requirements in item (4)(ii) of this table.

[g] Between the compliance dates in items (4)(i) and (4)(iv) of this table, the owner or operator may elect to comply with either the requirements in item (4)(i) or item (4)(iv) of this table. The requirements in item (4)(i) of this table no longer apply after demonstrated compliance with the requirements in item (4)(iv) of this table.

■ 37. The appendix to subpart CC is amended by adding table 12 to read as follows:

Appendix to Subpart CC of Part 63—Tables

* * * * *

TABLE 12—INDIVIDUAL COMPONENT PROPERTIES

Component	Molecular formula	MW$_i$ (pounds per pound-mole)	CMN$_i$ (mole per mole)	NHV$_i$ (British thermal units per standard cubic foot)	LFL$_i$ (volume %)
Acetylene	C_2H_2	26.04	2	1,404	2.5
Benzene	C_6H_6	78.11	6	3,591	1.3
1,2-Butadiene	C_4H_6	54.09	4	2,794	2.0
1,3-Butadiene	C_4H_6	54.09	4	2,690	2.0
iso-Butane	C_4H_{10}	58.12	4	2,957	1.8
n-Butane	C_4H_{10}	58.12	4	2,968	1.8
cis-Butene	C_4H_8	56.11	4	2,830	1.6
iso-Butene	C_4H_8	56.11	4	2,928	1.8
trans-Butene	C_4H_8	56.11	4	2,826	1.7
Carbon Dioxide	CO_2	44.01	1	0	∞
Carbon Monoxide	CO	28.01	1	316	12.5
Cyclopropane	C_3H_6	42.08	3	2,185	2.4
Ethane	C_2H_6	30.07	2	1,595	3.0
Ethylene	C_2H_4	28.05	2	1,477	2.7
Hydrogen	H_2	2.02	0	1,212[a]	4.0
Hydrogen Sulfide	H_2S	34.08	0	587	4.0
Methane	CH_4	16.04	1	896	5.0
Methyl-Acetylene	C_3H_4	40.06	3	2,088	1.7
Nitrogen	N_2	28.01	0	0	∞
Oxygen	O_2	32.00	0	0	∞
Pentane+ (C5+)	C_5H_{12}	72.15	5	3,655	1.4
Propadiene	C_3H_4	40.06	3	2,066	2.16
Propane	C_3H_8	44.10	3	2,281	2.1
Propylene	C_3H_6	42.08	3	2,150	2.4
Water	H_2O	18.02	0	0	∞

[a] The theoretical net heating value for hydrogen is 274 Btu/scf, but for the purposes of the flare requirement in this subpart, a net heating value of 1,212 Btu/scf shall be used.

■ 38. The appendix to subpart CC is amended by adding table 13 to read as follows:

Appendix to Subpart CC of Part 63—Tables

* * * * *

TABLE 13—CALIBRATION AND QUALITY CONTROL REQUIREMENTS FOR CPMS

Parameter	Minimum accuracy requirements	Calibration requirements
Temperature	±1 percent over the normal range of temperature measured, expressed in degrees Celsius (C), or 2.8 degrees C, whichever is greater.	Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the temperature exceeded the manufacturer's specified maximum rated temperature or install a new temperature sensor. At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion, unless the CPMS has a redundant temperature sensor. Record the results of each calibration check and inspection. Locate the temperature sensor in a position that provides a representative temperature; shield the temperature sensor system from electromagnetic interference and chemical contaminants.
Flow Rate for All Flows Other Than Flare Vent Gas.	±5 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater, for liquid flow. ±5 percent over the normal range of flow measured or 280 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow. ±5 percent over the normal range measured for mass flow.	Conduct a flow sensor calibration check at least biennially (every two years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the CPMS has a redundant flow sensor. Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
Flare Vent Gas Flow Rate	±20 percent of flow rate at velocities ranging from 0.03 to 0.3 meters per second (0.1 to 1 feet per second). ±5 percent of flow rate at velocities greater than 0.3 meters per second (1 feet per second).	Conduct a flow sensor calibration check at least biennially (every two years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the CPMS has a redundant flow sensor. Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
Pressure	±5 percent over the normal operating range or 0.12 kilopascals (0.5 inches of water column), whichever is greater.	Review pressure sensor readings at least once a week for straightline (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated. Using an instrument recommended by the sensor's manufacturer, check gauge calibration and transducer calibration annually; conduct calibration checks following any period of more than 24 hours throughout which the pressure exceeded the manufacturer's specified maximum rated pressure or install a new pressure sensor. At least quarterly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage, unless the CPMS has a redundant pressure sensor. Record the results of each calibration check and inspection. Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure and minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
Net Heating Value by Calorimeter	±2 percent of span	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation. Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration or emission rate occurs.

TABLE 13—CALIBRATION AND QUALITY CONTROL REQUIREMENTS FOR CPMS—Continued

Parameter	Minimum accuracy requirements	Calibration requirements
Net Heating Value by Gas Chromatograph.	As specified in Performance Specification 9 of 40 CFR part 60, appendix B	Follow the procedure in Performance Specification 9 of 40 CFR part 60, appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate analysis), the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).
Hydrogen analyzer	±2 percent over the concentration measured or 0.1 volume percent, whichever is greater.	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration occurs.

Subpart UUU—National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

■ 39. Section 63.1562 is amended by revising paragraphs (b)(3) and (f)(5) to read as follows:

§ 63.1562 What parts of my plant are covered by this subpart?

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(b) * * *

(3) The process vent or group of process vents on Claus or other types of sulfur recovery plant units or the tail gas treatment units serving sulfur recovery plants that are associated with sulfur recovery.

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(f) * * *

(5) Gaseous streams routed to a fuel gas system, provided that on and after January 30, 2019, any flares receiving gas from the fuel gas system are subject to § 63.670.

■ 40. Section 63.1564 is amended by:

■ a. Revising paragraphs (a)(1) and (2);

■ b. Adding paragraph (a)(5);

■ c. Removing the equation following paragraph (b)(4)(ii) and adding it after paragraph (b)(4)(iii) introductory text;

■ d. Revising paragraphs (b)(2), (b)(4)(i) and (ii), and (b)(4)(iv); and

■ e. Adding paragraph (c)(5).

The revisions and additions read as follows:

§ 63.1564 What are my requirements for metal HAP emissions from catalytic cracking units?

(a) * * *

(1) Except as provided in paragraph (a)(5) of this section, meet each emission limitation in Table 1 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for PM in § 60.102 of this chapter or is subject to § 60.102a(b)(1) of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit is not subject to the NSPS for PM, you can choose from the four options in paragraphs (a)(1)(i) through (vi) of this section:

(i) You can elect to comply with the NSPS for PM in § 60.102 of this chapter (Option 1a);

(ii) You can elect to comply with the NSPS for PM coke burn-off emission limit in § 60.102a(b)(1) of this chapter (Option 1b);

(iii) You can elect to comply with the NSPS for PM concentration limit in § 60.102a(b)(1) of this chapter (Option 1c);

(iv) You can elect to comply with the PM per coke burn-off emission limit in § 60.102a(b)(1) of this chapter (Option 2);

(v) You can elect to comply with the Nickel (Ni) lb/hr emission limit (Option 3); or

(vi) You can elect to comply with the Ni per coke burn-off emission limit (Option 4).

(2) Comply with each operating limit in Table 2 of this subpart that applies to you. When a specific control device may be monitored using more than one continuous parameter monitoring system, you may select the parameter with which you will comply. You must provide notice to the Administrator (or other designated authority) if you elect to change the monitoring option.

* * * * *

(5) During periods of startup, shutdown and hot standby, you can choose from the two options in paragraphs (a)(5)(i) and (ii) of this section:

(i) You can elect to comply with the requirements in paragraphs (a)(1) and (2) of this section, except catalytic cracking units controlled using a wet scrubber must maintain only the liquid to gas ratio operating limit (the pressure drop operating limit does not apply); or

(ii) You can elect to maintain the inlet velocity to the primary internal cyclones of the catalytic cracking unit catalyst regenerator at or above 20 feet per second.

(b) * * *

(2) Conduct a performance test for each catalytic cracking unit according to the requirements in § 63.1571 and under the conditions specified in Table 4 of this subpart.

* * * * *

(4) * * *

(i) If you elect Option 1b or Option 2 in paragraph (a)(1)(ii) or (iv) of this section, compute the PM emission rate (lb/1,000 lb of coke burn-off) for each run using Equations 1, 2, and 3 (if applicable) of this section and the site-specific opacity limit, if applicable, using Equation 4 of this section as follows:

$$R_c = K_1Q_r(\%CO_2+\%CO)+K_2Q_a-K_3Q_r\left[\left(\frac{\%CO}{2}\right)+\%CO_2+\%O_2\right]+K_3Q_{oxy}(\%O_{xy}) \qquad \text{(Eq. 1)}$$

Where:

R_c = Coke burn-off rate, kg/hr (lb/hr);

Q_r = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams. Example: You may measure upstream or downstream of an electrostatic precipitator, but you must measure upstream of a carbon monoxide boiler, dscm/min (dscf/min). You may use the alternative in either § 63.1573(a)(1) or (2), as applicable, to calculate Qr;

Q_a = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min);

$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);

%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);

$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);

K_1 = Material balance and conversion factor, 0.2982 (kg-min)/(hr-dscm-%) (0.0186 (lb-min)/(hr-dscf-%));

K_2 = Material balance and conversion factor, 2.088 (kg-min)/(hr-dscm) (0.1303 (lb-min)/(hr-dscf));

K_3 = Material balance and conversion factor, 0.0994 (kg-min)/(hr-dscm-%) (0.0062 (lb-min)/(hr-dscf-%));

Q_{oxy} = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min); and

$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis).

$$E = \frac{K \times C_s \times Q_{sd}}{R_c} \qquad \text{(Eq. 2)}$$

Where:

E = Emission rate of PM, kg/1,000 kg (lb/1,000 lb) of coke burn-off;

C_s = Concentration of PM, g/dscm (lb/dscf);

Q_{sd} = Volumetric flow rate of the catalytic cracking unit catalyst regenerator flue gas as measured by Method 2 in appendix A–1 to part 60 of this chapter, dscm/hr (dscf/hr);

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr); and

K = Conversion factor, 1.0 (kg^2/g)/(1,000 kg) (1,000 lb/(1,000 lb)).

$$E_s = 1.0 + A\left(\frac{H}{R_c}\right)K' \qquad \text{(Eq. 3)}$$

Where:

E_s = Emission rate of PM allowed, kg/1,000 kg (1b/1,000 lb) of coke burn-off in catalyst regenerator;

1.0 = Emission limitation, kg coke/1,000 kg (lb coke/1,000 lb);

A = Allowable incremental rate of PM emissions. Before August 1, 2017, A = 0.18 g/million cal (0.10 lb/million Btu). On or after August 1, 2017, A = 0 g/million cal (0 lb/million Btu);

H = Heat input rate from solid or liquid fossil fuel, million cal/hr (million Btu/hr). Make sure your permitting authority approves procedures for determining the heat input rate;

R_c = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr) determined using Equation 1 of this section; and

K′ = Conversion factor to units to standard, 1.0 (kg_2/g)/(1,000 kg) $(10_3$ lb/(1,000 lb)).

$$Opacity\ Limit = Opacity_{st} \times \left(\frac{1\,\text{lb} / 1000\,\text{lb coke burn}}{PMEmR_{st}}\right) \qquad \text{(Eq. 4)}$$

Where:

Opacity Limit = Maximum permissible hourly average opacity, percent, or 10 percent, whichever is greater;

$Opacity_{st}$ = Hourly average opacity measured during the source test, percent; and

$PMEmR_{st}$ = PM emission rate measured during the source test, lb/1,000 lb coke burn.

(ii) If you elect Option 1c in paragraph (a)(1)(iii) of this section, the PM concentration emission limit, determine the average PM concentration from the initial performance test used to certify your PM CEMS.

* * * * *

(iv) If you elect Option 4 in paragraph (a)(1)(vi) of this section, the Ni per coke burn-off emission limit, compute your Ni emission rate using Equations 1 and 8 of this section and your site-specific Ni operating limit (if you use a continuous opacity monitoring system) using Equations 9 and 10 of this section as follows:

$$E_{Ni_2} = \frac{C_{Ni} \times Q_{sd}}{R_c} \qquad \text{(Eq. 8)}$$

Where:

E_{Ni2} = Normalized mass emission rate of Ni, mg/kg coke (lb/1,000 lb coke).

$$Opacity_2 = \frac{1.0\,\text{mg/kg coke}}{NiEmR2_{st}} \times Opacity_{st} \qquad \text{(Eq. 9)}$$

Where:

$Opacity_2$ = Opacity value for use in Equation 10 of this section, percent, or 10 percent, whichever is greater; and

$NiEmR2_{st}$ = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 of this section for each of the performance test runs, mg/kg coke.

$$Ni\ Operating\ Limit_2 = Opacity_2 \times E\text{-}Cat_{st} \times \frac{Q_{mon,st}}{R_{c,st}} \qquad \text{(Eq. 10)}$$

Where:

$Ni\ Operating\ Limit_2$ = Maximum permissible hourly average Ni operating limit, percent-ppmw-acfm-hr/kg coke, *i.e.*, your site-specific Ni operating limit; and

$R_{c,st}$ = Coke burn rate from Equation 1 of this section, as measured during the initial performance test, kg coke/hr.

* * * * *

(c) * * *

(5) If you elect to comply with the alternative limit in paragraph (a)(5)(ii) of this section during periods of startup, shutdown, and hot standby, demonstrate continuous compliance by:

(i) Collecting the volumetric flow rate from the catalyst regenerator (in acfm) and determining the average flow rate for each hour. For events lasting less than one hour, determine the average flow rate during the event.

(ii) Determining the cumulative cross-sectional area of the primary internal cyclone inlets in square feet (ft^2) using design drawings of the primary (first-stage) internal cyclones to determine the inlet cross-sectional area of each primary internal cyclone and summing the cross-sectional areas for all primary internal cyclones in the catalyst regenerator or, if primary cyclones. If all primary internal cyclones are identical, you may alternatively determine the inlet cross-sectional area of one primary internal cyclone using design drawings and multiply that area by the total number of primary internal cyclones in the catalyst regenerator.

(iii) Calculating the inlet velocity to the primary internal cyclones in square feet per second (ft^2/sec) by dividing the average volumetric flow rate (acfm) by the cumulative cross-sectional area of the primary internal cyclone inlets (ft^2) and by 60 seconds/minute (for unit conversion).

(iv) Maintaining the inlet velocity to the primary internal cyclones at or above 20 feet per second for each hour during the startup, shutdown, or hot standby event or, for events lasting less than 1 hour, for the duration of the event.

■ 41. Section 63.1565 is amended by revising paragraph (a)(1) introductory text and adding paragraph (a)(5) to read as follows:

§ 63.1565 What are my requirements for organic HAP emissions from catalytic cracking units?

(a) * * *

(1) Except as provided in paragraph (a)(5) of this section, meet each emission limitation in Table 8 of this subpart that applies to you. If your catalytic cracking unit is subject to the NSPS for carbon monoxide (CO) in § 60.103 of this chapter or is subject to § 60.102a(b)(4) of this chapter, you must meet the emission limitations for NSPS units. If your catalytic cracking unit is not subject to the NSPS for CO, you can choose from the two options in paragraphs (a)(1)(i) through (ii) of this section:

* * * * *

(5) During periods of startup, shutdown and hot standby, you can choose from the two options in paragraphs (a)(5)(i) and (ii) of this section:

(i) You can elect to comply with the requirements in paragraphs (a)(1) and (2) of this section; or

(ii) You can elect to maintain the oxygen (O_2) concentration in the exhaust gas from your catalyst regenerator at or above 1 volume percent (dry basis).

* * * * *

■ 42. Section 63.1566 is amended by revising paragraphs (a)(1) introductory text, (a)(1)(i), and (a)(4) to read as follows:

§ 63.1566 What are my requirements for organic HAP emissions from catalytic reforming units?

(a) * * *

(1) Meet each emission limitation in Table 15 of this subpart that applies to you. You can choose from the two options in paragraphs (a)(1)(i) and (ii) of this section.

(i) You can elect to vent emissions of total organic compounds (TOC) to a flare (Option 1). On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare must meet the control device requirements in § 63.11(b) or the requirements of § 63.670.

* * * * *

(4) The emission limitations in Tables 15 and 16 of this subpart do not apply to emissions from process vents during passive depressuring when the reactor vent pressure is 5 pounds per square inch gauge (psig) or less. The emission limitations in Tables 15 and 16 of this subpart do apply to emissions from process vents during active purging operations (when nitrogen or other purge gas is actively introduced to the reactor vessel) or active depressuring (using a vacuum pump, ejector system, or similar device) regardless of the reactor vent pressure.

* * * * *

■ 43. Section 63.1568 is amended by revising paragraphs (a)(1) introductory text and (a)(1)(i) and adding paragraph (a)(4) to read as follows:

§ 63.1568 What are my requirements for HAP emissions from sulfur recovery units?

(a) * * *

(1) Meet each emission limitation in Table 29 of this subpart that applies to you. If your sulfur recovery unit is subject to the NSPS for sulfur oxides in § 60.104 or § 60.102a(f)(1) of this chapter, you must meet the emission limitations for NSPS units. If your sulfur recovery unit is not subject to one of these NSPS for sulfur oxides, you can choose from the options in paragraphs (a)(1)(i) through (ii) of this section:

(i) You can elect to meet the NSPS requirements in § 60.104(a)(2) or § 60.102a(f)(1) of this chapter (Option 1); or

* * * * *

(4) During periods of startup and shutdown, you can choose from the three options in paragraphs (a)(4)(i) through (iii) of this section.

(i) You can elect to comply with the requirements in paragraphs (a)(1) and (2) of this section.

(ii) You can elect to send any startup or shutdown purge gases to a flare. On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare must meet the design and operating requirements in § 63.11(b) or the requirements of § 63.670.

(iii) You can elect to send any startup or shutdown purge gases to a thermal oxidizer or incinerator operated at a minimum hourly average temperature of 1,200 degrees Fahrenheit in the firebox and a minimum hourly average outlet oxygen (O_2) concentration of 2 volume percent (dry basis).

* * * * *

■ 44. Section 63.1570 is amended by revising paragraphs (a) through (d) and removing paragraph (g) to read as follows:

§ 63.1570 What are my general requirements for complying with this subpart?

(a) You must be in compliance with all of the non-opacity standards in this subpart at all times.

(b) You must be in compliance with the opacity and visible emission limits in this subpart at all times.

(c) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(d) During the period between the compliance date specified for your affected source and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been set, you must maintain a log that documents the procedures used to minimize emissions from process and emissions control equipment according to the general duty in paragraph (c) of this section.

* * * * *

■ 45. Section 63.1571 is amended by:

■ a. Adding paragraphs (a)(5) and (6);

■ b. Revising paragraph (b)(1);

■ c. Removing paragraph (b)(4);

■ d. Redesignating paragraph (b)(5) as paragraph (b)(4); and

■ e. Revising the first sentence of paragraph (d)(2) and paragraph (d)(4).

The revisions and additions read as follows:

§ 63.1571 How and when do I conduct a performance test or other initial compliance demonstration?

(a) * * *

(5) *Periodic performance testing for PM or Ni.* Except as provided in paragraphs (a)(5)(i) and (ii) of this section, conduct a periodic performance test for PM or Ni for each catalytic cracking unit at least once every 5 years according to the requirements in Table 4 of this subpart. You must conduct the first periodic performance test no later than August 1, 2017.

(i) Catalytic cracking units monitoring PM concentration with a PM CEMS are not required to conduct a periodic PM performance test.

(ii) Conduct a performance test annually if you comply with the emission limits in Item 1 (NSPS subpart J) or Item 4 (Option 1a) in Table 1 of this subpart and the PM emissions measured during the most recent performance source test are greater than 0.80 g/kg coke burn-off.

(6) *One-time performance testing for HCN.* Conduct a performance test for HCN from each catalytic cracking unit no later than August 1, 2017 according to the applicable requirements in paragraphs (a)(6)(i) and (ii) of this section.

(i) If you conducted a performance test for HCN for a specific catalytic cracking unit between March 31, 2011 and February 1, 2016, you may submit a request to the Administrator to use the previously conducted performance test results to fulfill the one-time performance test requirement for HCN for each of the catalytic cracking units tested according to the requirements in paragraphs (a)(6)(i)(A) through (D) of this section.

(A) The request must include a copy of the complete source test report, the date(s) of the performance test and the test methods used. If available, you must also indicate whether the catalytic cracking unit catalyst regenerator was operated in partial or complete combustion mode during the test, the control device configuration, including whether platinum or palladium combustion promoters were used during the test, and the CO concentration (measured using CO CEMS or manual test method) for each test run.

(B) You must submit a separate request for each catalytic cracking unit tested and you must submit each request to the Administrator no later than March 30, 2016.

(C) The Administrator will evaluate each request with respect to the completeness of the request, the completeness of the submitted test report and the appropriateness of the test methods used. The Administrator will notify the facility within 60 days of receipt of the request if it is approved or denied. If the Administrator fails to respond to the facility within 60 days of receipt of the request, the request will be automatically approved.

(D) If the request is approved, you do not need to conduct an additional HCN performance test. If the request is denied, you must conduct an additional HCN performance test following the requirements in (a)(6)(ii) of this section.

(ii) Unless you receive approval to use a previously conducted performance test to fulfill the one-time performance test requirement for HCN for your catalytic cracking unit as provided in paragraph (a)(6)(i) of this section, conduct a performance test for HCN for each catalytic cracking unit no later than August 1, 2017 according to following requirements:

(A) Select sampling port location, determine volumetric flow rate, conduct gas molecular weight analysis and measure moisture content as specified in either Item 1 of Table 4 of this subpart or Item 1 of Table 11 of this subpart.

(B) Measure HCN concentration using Method 320 of appendix A of this part. The method ASTM D6348–03 (Reapproved 2010) including Annexes A1 through A8 (incorporated by reference—see § 63.14) is an acceptable alternative to EPA Method 320 of appendix A of this part. The method ASTM D6348–12e1 (incorporated by reference—see § 63.14) is an acceptable alternative to EPA Method 320 of appendix A of this part with the following two caveats:

(*1*) The test plan preparation and implementation in the Annexes to ASTM D6348–03 (Reapproved 2010), Sections A1 through A8 are mandatory; and

(*2*) In ASTM D6348–03 (Reapproved 2010) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be 70% ≥ R ≤ 130%. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound by using the following equation:

Reported Result = (Measured Concentration in the Stack × 100÷/ % R.

(C) Measure CO concentration as specified in either Item 2 or 3a of Table 11 of this subpart.

(D) Record and include in the test report an indication of whether the catalytic cracking unit catalyst regenerator was operated in partial or complete combustion mode and the control device configuration, including whether platinum or palladium combustion promoters were used during the test.

(b) * * *

(1) Performance tests shall be conducted according to the provisions of § 63.7(e) except that performance tests shall be conducted at maximum representative operating capacity for the process. During the performance test, you must operate the control device at either maximum or minimum representative operating conditions for monitored control device parameters, whichever results in lower emission reduction. You must not conduct a performance test during startup, shutdown, periods when the control device is bypassed or periods when the process, monitoring equipment or control device is not operating properly. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that the test was conducted at maximum representative operating capacity. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

(d) * * *

(2) If you must meet the HAP metal emission limitations in § 63.1564, you elect the option in paragraph (a)(1)(iv) in § 63.1564 (Ni per coke burn-off), and you use continuous parameter monitoring systems, you must establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. * * *

* * * * *

(4) Except as specified in paragraph (d)(3) of this section, if you use continuous parameter monitoring systems, you may adjust one of your monitored operating parameters (flow rate, total power and secondary current, pressure drop, liquid-to-gas ratio) from the average of measured values during the performance test to the maximum value (or minimum value, if applicable) representative of worst-case operating conditions, if necessary. This adjustment of measured values may be done using control device design specifications, manufacturer recommendations, or other applicable information. You must provide supporting documentation and rationale in your Notification of Compliance Status, demonstrating to the satisfaction of your permitting authority, that your affected source complies with the applicable emission limit at the operating limit based on adjusted values.

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■ 46. Section 63.1572 is amended by revising paragraphs (c) introductory text, (c)(1), (3), and (4) and (d)(1) and (2) to read as follows:

§ 63.1572 What are my monitoring installation, operation, and maintenance requirements?

* * * * *

(c) Except for flare monitoring systems, you must install, operate, and maintain each continuous parameter monitoring system according to the requirements in paragraphs (c)(1) through (5) of this section. For flares, on and after January 30, 2019, you must install, operate, calibrate, and maintain monitoring systems as specified in §§ 63.670 and 63.671. Prior to January 30, 2019, you must either meet the monitoring system requirements in paragraphs (c)(1) through (5) of this section or meet the requirements in §§ 63.670 and 63.671.

(1) You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart. You must also meet the equipment specifications in Table 41 of this subpart if pH strips or colormetric tube sampling systems are used. You must install, operate, and maintain each continuous parameter monitoring system according to the requirements in Table 41 of this subpart. You must meet the requirements in Table 41 of this subpart for BLD systems. Alternatively, before August 1, 2017, you may install, operate, and maintain each continuous parameter monitoring system in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

* * * * *

(3) Each continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated, except for BLD systems.

(4) Each continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day, except for BLD systems. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous, except for BLD systems.

* * * * *

(d) * * *

(1) You must conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the affected source is operating.

(2) You may not use data recorded during required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments) for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

■ 47. Section 63.1573 is amended by:

■ a. Redesignating paragraphs (b), (c), (d), (e), and (f) as paragraphs (c), (d), (e), (f), and (g);

■ b. Adding paragraph (b); and

■ c. Revising newly redesignated paragraphs (c) introductory text, (d) introductory text, (f) introductory text, and (g)(1) introductory text.

The revisions and additions read as follows:

§ 63.1573 What are my monitoring alternatives?

* * * * *

(b) *What is the approved alternative for monitoring pressure drop?* You may use this alternative to a continuous parameter monitoring system for pressure drop if you operate a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles. You shall:

(1) Conduct a daily check of the air or water pressure to the spray nozzles;

(2) Maintain records of the results of each daily check; and

(3) Repair or replace faulty (*e.g.,* leaking or plugged) air or water lines within 12 hours of identification of an abnormal pressure reading.

(c) *What is the approved alternative for monitoring pH or alkalinity levels?* You may use the alternative in paragraph (c)(1) or (2) of this section for a catalytic reforming unit.

* * * * *

(d) *Can I use another type of monitoring system?* You may use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (*e.g.,* once every hour) but records all values that meet set criteria for variation from previously recorded values. You must maintain a record of the description of the monitoring system and data recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all of the criteria in paragraphs (d)(1) through (5) of this section:

* * * * *

(f) *How do I request to monitor alternative parameters?* You must submit a request for review and approval or disapproval to the Administrator. The request must include the information in paragraphs (f)(1) through (5) of this section.

* * * * *

(g) * * *

(1) You may request alternative monitoring requirements according to the procedures in this paragraph if you meet each of the conditions in paragraphs (g)(1)(i) through (iii) of this section:

* * * * *

■ 48. Section 63.1574 is amended by revising paragraphs (a)(3) introductory text and (f)(1) to read as follows:

§ 63.1574 What notifications must I submit and when?

(a) * * *

(3) If you are required to conduct an initial performance test, performance evaluation, design evaluation, opacity observation, visible emission observation, or other initial compliance demonstration, you must submit a notification of compliance status according to § 63.9(h)(2)(ii). You can submit this information in an operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. In a State with an approved operating permit program where delegation of authority under section 112(l) of the CAA has not been requested or approved, you must provide a duplicate notification to the applicable Regional Administrator. If the required information has been submitted previously, you do not have to provide a separate notification of compliance status. Just refer to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

* * * * *

(f) * * *

(1) You must submit the plan to your permitting authority for review and approval along with your notification of compliance status. While you do not have to include the entire plan in your permit under part 70 or 71 of this chapter, you must include the duty to prepare and implement the plan as an applicable requirement in your part 70 or 71 operating permit. You must submit any changes to your permitting authority for review and approval and comply with the plan as submitted until the change is approved.

* * * * *

■ 49. Section 63.1575 is amended by:

■ a. Revising paragraphs (d) introductory text and (d)(1) and (2);

■ b. Adding paragraph (d)(4);

■ c. Revising paragraph (e) introductory text;

■ d. Removing and reserving paragraph (e)(1);

■ e. Revising paragraphs (e)(4) and (6) and (f)(1) and (2);

■ f. Removing and reserving paragraph (h); and

■ g. Adding paragraph (k).

The revisions and additions read as follows:

§ 63.1575 What reports must I submit and when?

* * * * *

(d) For each deviation from an emission limitation and for each deviation from the requirements for work practice standards that occurs at an affected source where you are not using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation or work practice standard in this subpart, the semiannual compliance report must contain the information in paragraphs (c)(1) through (3) of this section and the information in paragraphs (d)(1) through (4) of this section.

(1) The total operating time of each affected source during the reporting period and identification of the sources for which there was a deviation.

(2) Information on the number, date, time, duration, and cause of deviations (including unknown cause, if applicable).

* * * * *

(4) The applicable operating limit or work practice standard from which you deviated and either the parameter monitor reading during the deviation or a description of how you deviated from the work practice standard.

(e) For each deviation from an emission limitation occurring at an affected source where you are using a continuous opacity monitoring system or a continuous emission monitoring system to comply with the emission limitation, you must include the information in paragraphs (c)(1) through (3) of this section, in paragraphs (d)(1) through (3) of this section, and in paragraphs (e)(2) through (13) of this section.

* * * * *

(4) An estimate of the quantity of each regulated pollutant emitted over the emission limit during the deviation, and a description of the method used to estimate the emissions.

* * * * *

(6) A breakdown of the total duration of the deviations during the reporting period and into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

* * * * *

(f) * * *

(1) You must include the information in paragraph (f)(1)(i) or (ii) of this section, if applicable.

(i) If you are complying with paragraph (k)(1) of this section, a summary of the results of any performance test done during the reporting period on any affected unit. Results of the performance test include the identification of the source tested, the date of the test, the percentage of emissions reduction or outlet pollutant concentration reduction (whichever is needed to determine compliance) for each run and for the average of all runs, and the values of the monitored operating parameters.

(ii) If you are not complying with paragraph (k)(1) of this section, a copy of any performance test done during the reporting period on any affected unit. The report may be included in the next semiannual compliance report. The copy must include a complete report for each test method used for a particular kind of emission point tested. For additional tests performed for a similar emission point using the same method, you must submit the results and any other information required, but a complete test report is not required. A complete test report contains a brief process description; a simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; documentation of calculations; and any other information required by the test method.

(2) Any requested change in the applicability of an emission standard (*e.g.,* you want to change from the PM standard to the Ni standard for catalytic cracking units or from the HCl concentration standard to percent reduction for catalytic reforming units) in your compliance report. You must include all information and data necessary to demonstrate compliance with the new emission standard selected and any other associated requirements.

* * * * *

(k) *Electronic submittal of performance test and CEMS performance evaluation data.* For performance tests or CEMS performance evaluations conducted on and after February 1, 2016, if required to submit the results of a performance test or CEMS performance evaluation, you must submit the results according to the procedures in paragraphs (k)(1) and (2) of this section.

(1) Within 60 days after the date of completing each performance test as required by this subpart, you must submit the results of the performance tests following the procedure specified in either paragraph (k)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (k)(1)(i).

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation required by § 63.1571(a) and (b), you must submit the results of the performance evaluation following the procedure specified in either paragraph (k)(2)(i) or (ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI is accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being submitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (k)(2)(i).

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.

■ 50. Section 63.1576 is amended by revising paragraphs (a)(2) and (b)(3) and (5) to read as follows:

§ 63.1576 What records must I keep, in what form, and for how long?

(a) * * *

(2) The records specified in paragraphs (a)(2)(i) through (iv) of this section.

(i) Record the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time and duration of each failure.

(iii) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Record actions taken to minimize emissions in accordance with § 63.1570(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

* * * * *

(b) * * *

(3) The performance evaluation plan as described in § 63.8(d)(2) for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, you must keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

* * * * *

(5) Records of the date and time that each deviation started and stopped.

* * * * *

■ 51. Section 63.1579 is amended by:

■ a. Revising the introductory text;

■ b. Adding, in alphabetical order, a new definition of ''Hot standby''; and

■ c. Revising the definitions of ''Deviation'' and ''PM''.

The revisions read as follows:

§ 63.1579 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, the General Provisions of this part (§§ 63.1 through 63.15), and in this section as listed. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for purposes of this subpart.

* * * * *

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limit, operating limit, or work practice standard; or

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

* * * * *

Hot standby means periods when the catalytic cracking unit is not receiving fresh or recycled feed oil but the catalytic cracking unit is maintained at elevated temperatures, typically using torch oil in the catalyst regenerator and recirculating catalyst, to prevent a complete shutdown and cold restart of the catalytic cracking unit.

* * * * *

PM means, for the purposes of this subpart, emissions of particulate matter that serve as a surrogate measure of the total emissions of particulate matter and metal HAP contained in the particulate matter, including but not limited to: Antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium as measured by Methods 5, 5B or 5F in appendix A–3 to part 60 of this chapter or by an approved alternative method.

* * * * *

■ 52. Table 1 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(a)(1), you shall meet each emission limitation in the following table that applies to you.

TABLE 1 TO SUBPART UUU OF PART 63—METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit . . .	You shall meet the following emission limits for each catalyst regenerator vent . . .
1. Subject to new source performance standard (NSPS) for PM in 40 CFR 60.102 and not electing § 60.100(e).	PM emissions must not exceed 1.0 gram per kilogram (g/kg) (1.0 lb/1,000 lb) of coke burn-off, and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. Before August 1, 2017, if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or in supplemental liquid or solid fossil fuel, the incremental rate of PM emissions must not exceed 43.0 grams per Gigajoule (g/GJ) or 0.10 pounds per million British thermal units (lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i); or 40 CFR 60.102 and electing § 60.100(e).	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off or, if a PM CEMS is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii)	PM emissions must not exceed 0.5 g/kg coke burn-off (0.5 lb/1000 lb coke burn-off) or, if a PM CEMS is used, 0.020 gr/dscf corrected to 0 percent excess air.
4. Option 1a: Elect NSPS subpart J requirements for PM per coke burn limit and 30% opacity, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed the limits specified in Item 1 of this table.
5. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1000 lb) of coke burn-off.
6. Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 0.040 gr/dscf corrected to 0 percent excess air.
7. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1000 lb) of coke burn-off in the catalyst regenerator.
8. Option 3: Ni lb/hr limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Nickel (Ni) emissions must not exceed 13,000 milligrams per hour (mg/hr) (0.029 lb/hr).
9. Option 4: Ni per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Ni emissions must not exceed 1.0 mg/kg (0.001 lb/1,000 lb) of coke burn-off in the catalyst regenerator.

■ 53. Table 2 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(a)(2), you shall meet each operating limit in the following table that applies to you.

TABLE 2 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
1. Subject to the NSPS for PM in 40 CFR 60.102 and not electing § 60.100(e).	Continuous opacity monitoring system.	Any	Maintain the 3-hour rolling average opacity of emissions from your catalyst regenerator vent no higher than 20 percent.

TABLE 2 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i) or electing § 60.100(e).	a. PM CEMS	Any	Not applicable.
	b. Continuous opacity monitoring system used to comply with a site-specific opacity limit.	Cyclone or electrostatic precipitator.	Maintain the 3-hour rolling average opacity of emissions from your catalyst regenerator vent no higher than the site-specific opacity limit established during the performance test.
	c. Continuous parameter monitoring systems.	Electrostatic precipitator	i. Maintain the daily average coke burn-off rate or daily average flow rate no higher than the limit established in the performance test. ii. Maintain the 3-hour rolling average total power and secondary current above the limit established in the performance test.
	d. Continuous parameter monitoring systems.	Wet scrubber	i. Maintain the 3-hour rolling average liquid-to-gas ratio above the limit established in the performance test. ii. Except for periods of startup, shutdown, and hot standby, maintain the 3-hour rolling average pressure drop above the limit established in the performance test.[1]
	e. Bag leak detection (BLD) system.	Fabric filter	Maintain particulate loading below the BLD alarm set point established in the initial adjustment of the BLD system or allowable seasonal adjustments.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii).	Any	Any	The applicable operating limits in Item 2 of this table.
4. Option 1a: Elect NSPS subpart J requirements for PM per coke burn limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Any	Any	See Item 1 of this table.
5. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Any	Any	The applicable operating limits in Item 2.b, 2.c, 2.d, and 2.e of this table.
6. Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM CEMS	Any	Not applicable.
7. Option 2: PM per coke burn-off limit not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Continuous opacity monitoring system used to comply with a site-specific opacity limit.	Cyclone, fabric filter, or electrostatic precipitator.	See Item 2.b of this table. Alternatively, before August 1, 2017, you may maintain the hourly average opacity of emissions from your catalyst generator vent no higher than the site-specific opacity limit established during the performance test.
	b. Continuous parameter monitoring systems.	i. Electrostatic precipitator	(1) See Item 2.c.i of this table. (2) See item 2.c.ii of this table. Alternatively, before August 1, 2017, you may maintain the daily average voltage and secondary current above the limit established in the performance test.

TABLE 2 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
		ii. Wet scrubber	(1) See Item 2.d.i of this table. Alternatively, before August 1, 2017, you may maintain the daily average liquid-to-gas ratio above the limit established in the performance test. (2) See Item 2.d.ii of the table. Alternatively, before August 1, 2017, you may maintain the daily average pressure drop above the limit established in the performance test (not applicable to a wet scrubber of the non-venturi jet-ejector design).
	c. Bag leak detection (BLD) system.	Fabric filter	See item 2.e of this table.
8. Option 3: Ni lb/hr limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	Cyclone, fabric filter, or electrostatic precipitator.	Maintain the 3-hour rolling average Ni operating value no higher than the limit established during the performance test. Alternatively, before August 1, 2017, you may maintain the daily average Ni operating value no higher than the limit established during the performance test.
	b. Continuous parameter monitoring systems.	i. Electrostatic precipitator	(1) See Item 2.c.i of this table. (2) Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test. (3) See Item 2.c.ii of this table. Alternatively, before August 1, 2017, you may maintain the daily average voltage and secondary current (or total power input) above the established during the performance test.
		ii. Wet scrubber	(1) Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test. (2) See Item 2.d.i of this table. Alternatively, before August 1, 2017, you may maintain the daily average liquid-to-gas ratio above the limit established during the performance test. (3) See Item 2.d.ii of this table. Alternatively, before August 1, 2017, you may maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design).
	c. Bag leak detection (BLD) system.	Fabric filter	See item 2.e of this table.

TABLE 2 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
9. Option 4: Ni per coke burn-off limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	Cyclone, fabric filter, or electrostatic precipitator.	Maintain the 3-hour rolling average Ni operating value no higher than Ni operating limit established during the performance test. Alternatively, before August 1, 2017, you may elect to maintain the daily average Ni operating value no higher than the Ni operating limit established during the performance test.
	b. Continuous parameter monitoring systems.	i. Electrostatic precipitator	(1) Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test. (2) See Item 2.c.ii of this table. Alternatively, before August 1, 2017, you may maintain the daily average voltage and secondary current (or total power input) above the limit established during the performance test.
		ii. Wet scrubber	(1) Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test. (2) See Item 2.d.i of this table. Alternatively, before August 1, 2017, you may maintain the daily average liquid-to-gas ratio above the limit established during the performance test. (3) See Item 2.d.ii of this table. Alternatively, before August 1, 2017, you may maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design).
	c. Bag leak detection (BLD) system.	Fabric filter	See item 2.e of this table.
10. During periods of startup, shutdown, or hot standby.	Any	Any	Meet the requirements in § 63.1564(a)(5).

[1] If you use a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles, you can use the alternative in § 63.1573(b), and comply with the daily inspections, recordkeeping, and repair provisions, instead of a continuous parameter monitoring system for pressure drop across the scrubber.

■ 54. Table 3 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(b)(1), you shall meet each requirement in the following table that applies to you.

TABLE 3 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit . . .	If you use this type of control device for your vent . . .	You shall install, operate, and maintain a . . .
1. Subject to the NSPS for PM in 40 CFR 60.102 and not electing § 60.100(e).	Any	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.

TABLE 3 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use this type of control device for your vent . . .	You shall install, operate, and maintain a . . .
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i); or in § 60.102 and electing § 60.100(e); electing to meet the PM per coke burn-off limit.	a. Cyclone	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent.
	b. Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the coke burn-off rate or the gas flow rate entering or exiting the control device,[1] the voltage, current, and secondary current to the control device.
	c. Wet scrubber	Continuous parameter monitoring system to measure and record the pressure drop across the scrubber,[2] the coke burn-off rate or the gas flow rate entering or exiting the control device,[3] and total liquid (or scrubbing liquor) flow rate to the control device.
	d. Fabric Filter	Continuous bag leak detection system to measure and record increases in relative particulate loading from each catalyst regenerator vent.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i); or in § 60.102 and electing § 60.100(e); electing to meet the PM concentration limit.	Any	Continuous emission monitoring system to measure and record the concentration of PM and oxygen from each catalyst regenerator vent.
4. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii) electing to meet the PM per coke burn-off limit.	Any	The applicable continuous monitoring systems in item 2 of this table.
5. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii) electing to meet the PM concentration limit.	Any	See item 3 of this table.
6. Option 1a: Elect NSPS subpart J, PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.120a(b)(1).	Any	See item 1 of this table.
7. Option 1b: Elect NSPS subpart Ja, PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.120a(b)(1).	Any	The applicable continuous monitoring systems in item 2 of this table.
8. Option 1c: Elect NSPS subpart Ja, PM concentration limit not subject to the NSPS for PM in 40 CFR 60.102 or 60.120a(b)(1).	Any	See item 3 of this table.
9. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.120a(b)(1).	Any	The applicable continuous monitoring systems in item 2 of this table.
10. Option 3: Ni lb/hr limit not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Cyclone	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate entering or exiting the control device.[1]
	b. Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate entering or exiting the control device[1]; or continuous parameter monitoring systems to measure and record the coke burn-off rate or the gas flow rate entering or exiting the control device[1] and the voltage and current (to measure the total power to the system) and secondary current to the control device.
	c. Wet scrubber	Continuous parameter monitoring system to measure and record the pressure drop across the scrubber,[2] gas flow rate entering or exiting the control device,[1] and total liquid (or scrubbing liquor) flow rate to the control device.
	d. Fabric Filter	Continuous bag leak detection system to measure and record increases in relative particulate loading from each catalyst regenerator vent or the monitoring systems specified in item 10.a of this table.
11. Option 4: Ni per coke burn-off limit not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Cyclone	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the coke burn-off rate and the gas flow rate entering or exiting the control device.[1]

TABLE 3 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use this type of control device for your vent . . .	You shall install, operate, and maintain a . . .
	b. Electrostatic precipitator	Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the coke burn-off rate and the gas flow rate entering or exiting the control device[1]; or continuous parameter monitoring systems to measure and record the coke burn-off rate or the gas flow rate entering or exiting the control device[1] and voltage and current (to measure the total power to the system) and secondary current to the control device.
	c. Wet scrubber	Continuous parameter monitoring system to measure and record the pressure drop across the scrubber,[2] gas flow rate entering or exiting the control device,[1] and total liquid (or scrubbing liquor) flow rate to the control device.
	d. Fabric Filter	Continuous bag leak detection system to measure and record increases in relative particulate loading from each catalyst regenerator vent or the monitoring systems specified in item 11.a of this table.
12. Electing to comply with the operating limits in § 63.1566(a)(5)(iii) during periods of startup, shutdown, or hot standby.	Any	Continuous parameter monitoring system to measure and record the gas flow rate exiting the catalyst regenerator.[1]

[1] If applicable, you can use the alternative in § 63.1573(a)(1) instead of a continuous parameter monitoring system for gas flow rate.

[2] If you use a jet ejector type wet scrubber or other type of wet scrubber equipped with atomizing spray nozzles, you can use the alternative in § 63.1573(b) instead of a continuous parameter monitoring system for pressure drop across the scrubber.

■ 55. Table 4 to subpart UUU of part 63 is revised to read as follows:

As stated in §§ 63.1564(b)(2) and 63.1571(a)(5), you shall meet each requirement in the following table that applies to you.

TABLE 4 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
1. Any	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in appendix A–1 to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, or 2F in appendix A–1 to part 60 of this chapter, or Method 2G in appendix A–2 to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A–2 to part 60 of this chapter, as applicable.	
	d. Measure moisture content of the stack gas.	Method 4 in appendix A–3 to part 60 of this chapter.	
	e. If you use an electrostatic precipitator, record the total number of fields in the control system and how many operated during the applicable performance test.		
	f. If you use a wet scrubber, record the total amount (rate) of water (or scrubbing liquid) and the amount (rate) of make-up liquid to the scrubber during each test run.		

TABLE 4 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
2. Subject to the NSPS for PM in 40 CFR 60.102 and not elect § 60.100(e).	a. Measure PM emissions	Method 5, 5B, or 5F (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5 or 5B (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for unit with wet scrubber.	You must maintain a sampling rate of at least 0.15 dry standard cubic meters per minute (dscm/min) (0.53 dry standard cubic feet per minute (dscf/min)).
	b. Compute coke burn-off rate and PM emission rate (lb/1,000 lb of coke burn-off).	Equations 1, 2, and 3 of § 63.1564 (if applicable).	
	c. Measure opacity of emissions ..	Continuous opacity monitoring system.	You must collect opacity monitoring data every 10 seconds during the entire period of the Method 5, 5B, or 5F performance test and reduce the data to 6-minute averages.
3. Subject to the NSPS for PM in 40 CFR 60.102a(b)(1) or elect § 60.100(e), electing the PM for coke burn-off limit.	a. Measure PM emissions	Method 5, 5B, or 5F (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5 or 5B (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for unit with wet scrubber.	You must maintain a sampling rate of at least 0.15 dscm/min (0.53 dscf/min).
	b. Compute coke burn-off rate and PM emission rate (lb/1,000 lb of coke burn-off).	Equations 1, 2, and 3 of § 63.1564 (if applicable).	
	c. Establish site-specific limit if you use a COMS.	Continuous opacity monitoring system.	If you elect to comply with the site-specific opacity limit in § 63.1564(b)(4)(i), you must collect opacity monitoring data every 10 seconds during the entire period of the Method 5, 5B, or 5F performance test. For site specific opacity monitoring, reduce the data to 6-minute averages; determine and record the average opacity for each test run; and compute the site-specific opacity limit using Equation 4 of § 63.1564.
4. Subject to the NSPS for PM in 40 CFR 60.102a(b)(1) or elect § 60.100(e).	a. Measure PM emissions	Method 5, 5B, or 5F (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5 or 5B (40 CFR part 60, appendix A–3) to determine PM emissions and associated moisture content for unit with wet scrubber.	You must maintain a sampling rate of at least 0.15 dscm/min (0.53 dscf/min).
5. Option 1a: Elect NSPS subpart J requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	See item 2 of this table.	....	
6. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	See item 3 of this table.		

TABLE 4 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
7. Option 1c: Elect NSPS requirements for PM concentration, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	See item 4 of this table.		
8. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	See item 3 of this table.		
9. Option 3: Ni lb/hr limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Measure concentration of Ni	Method 29 (40 CFR part 60, appendix A–8).	
	b. Compute Ni emission rate (lb/hr).	Equation 5 of § 63.1564.	
	c. Determine the equilibrium catalyst Ni concentration.	XRF procedure in appendix A to this subpart1; or EPA Method 6010B or 6020 or EPA Method 7520 or 7521 in SW–8462; or an alternative to the SW–846 method satisfactory to the Administrator.	You must obtain 1 sample for each of the 3 test runs; determine and record the equilibrium catalyst Ni concentration for each of the 3 samples; and you may adjust the laboratory results to the maximum value using Equation 2 of § 63.1571.
	d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.	i. Equations 6 and 7 of § 63.1564 using data from continuous opacity monitoring system, gas flow rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test.	(1) You must collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the average opacity from all the 6-minute averages for each test run. (2) You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate for each test run.
10. Option 4: Ni per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Measure concentration of Ni.	Method 29 (40 CFR part 60, appendix A–8).	
	b. Compute Ni emission rate (lb/1,000 lb of coke burn-off).	Equations 1 and 8 of § 63.1564.	
	c. Determine the equilibrium catalyst Ni concentration.	See item 6.c. of this table	You must obtain 1 sample for each of the 3 test runs; determine and record the equilibrium catalyst Ni concentration for each of the 3 samples; and you may adjust the laboratory results to the maximum value using Equation 2 of § 63.1571.
	d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit.	i. Equations 9 and 10 of § 63.1564 with data from continuous opacity monitoring system, coke burn-off rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test.	(1) You must collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the average opacity from all the 6-minute averages for each test run.

TABLE 4 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
			(2) You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow rate as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate for each test run.
	e. Record the catalyst addition rate for each test and schedule for the 10-day period prior to the test.		
11. If you elect item 5 Option 1b in Table 1, item 7 Option 2 in Table 1, item 8 Option 3 in Table 1, or item 9 Option 4 in Table 1 of this subpart and you use continuous parameter monitoring systems.	a. Establish each operating limit in Table 2 of this subpart that applies to you.	Data from the continuous parameter monitoring systems and applicable performance test methods.	
	b. Electrostatic precipitator or wet scrubber: Gas flow rate.	i. Data from the continuous parameter monitoring systems and applicable performance test methods.	(1) You must collect gas flow rate monitoring data every 15 minutes during the entire period of the initial performance test; determine and record the average gas flow rate for each test run. (2) You must determine and record the 3-hr average gas flow rate from the test runs. Alternatively, before August 1, 2017, you may determine and record the maximum hourly average gas flow rate from all the readings.
	c. Electrostatic precipitator: Total power (voltage and current) and secondary current.	i. Data from the continuous parameter monitoring systems and applicable performance test methods.	(1) You must collect voltage, current, and secondary current monitoring data every 15 minutes during the entire period of the performance test; and determine and record the average voltage, current, and secondary current for each test run. Alternatively, before August 1, 2017, you may collect voltage and secondary current (or total power input) monitoring data every 15 minutes during the entire period of the initial performance test. (2) You must determine and record the 3-hr average total power to the system for the test runs and the 3-hr average secondary current from the test runs. Alternatively, before August 1, 2017, you may determine and record the minimum hourly average voltage and secondary current (or total power input) from all the readings.

TABLE 4 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit catalyst regenerator vent . . .	You must . . .	Using . . .	According to these requirements . . .
	d. Electrostatic precipitator or wet scrubber: Equilibrium catalyst Ni concentration.	Results of analysis for equilibrium catalyst Ni concentration.	You must determine and record the average equilibrium catalyst Ni concentration for the 3 runs based on the laboratory results. You may adjust the value using Equation 1 or 2 of § 63.1571 as applicable.
	e. Wet scrubber: Pressure drop (not applicable to non-venturi scrubber of jet ejector design).	i. Data from the continuous parameter monitoring systems and applicable performance test methods.	(1) You must collect pressure drop monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the average pressure drop for each test run. (2) You must determine and record the 3-hr average pressure drop from the test runs. Alternatively, before August 1, 2017, you may determine and record the minimum hourly average pressure drop from all the readings.
	f. Wet scrubber: Liquid-to-gas ratio.	i. Data from the continuous parameter monitoring systems and applicable performance test methods.	(1) You must collect gas flow rate and total water (or scrubbing liquid) flow rate monitoring data every 15 minutes during the entire period of the initial performance test; determine and record the average gas flow rate for each test run; and determine the average total water (or scrubbing liquid) flow for each test run. (2) You must determine and record the hourly average liquid-to-gas ratio from the test runs. Alternatively, before August 1, 2017, you may determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate from all the readings. (3) You must determine and record the 3-hr average liquid-to-gas ratio. Alternatively, before August 1, 2017, you may determine and record the minimum liquid-to-gas ratio.
	g. Alternative procedure for gas flow rate.	i. Data from the continuous parameter monitoring systems and applicable performance test methods.	(1) You must collect air flow rate monitoring data or determine the air flow rate using control room instrumentation every 15 minutes during the entire period of the initial performance test. (2) You must determine and record the 3-hr average rate of all the readings from the test runs. Alternatively, before August 1, 2017, you may determine and record the hourly average rate of all the readings. (3) You must determine and record the maximum gas flow rate using Equation 1 of § 63.1573.

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[1] Determination of Metal Concentration on Catalyst Particles (Instrumental Analyzer Procedure).

[2] EPA Method 6010B, Inductively Coupled Plasma-Atomic Emission Spectrometry, EPA Method 6020, Inductively Coupled Plasma-Mass Spectrometry, EPA Method 7520, Nickel Atomic Absorption, Direct Aspiration, and EPA Method 7521, Nickel Atomic Absorption, Direct Aspiration are included in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW–846, Revision 5 (April 1998). The SW–846 and Updates (document number 955–001–00000–1) are available for purchase from the Superintendent of Documents, U.S. Government Publishing Office, Washington, DC 20402, (202) 512–1800; and from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the EPA Docket Center, William Jefferson Clinton (WJC) West Building, (Air Docket), Room 3334, 1301 Constitution Ave. NW., Washington, DC; or at the Office of the Federal Register, 800 North Capitol Street NW., Suite 700, Washington, DC.

■ 56. Table 5 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(b)(5), you shall meet each requirement in the following table that applies to you.

TABLE 5 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

For each new and existing catalytic cracking unit catalyst regenerator vent . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Subject to the NSPS for PM in 40 CFR 60.102 and not electing § 60.100(e).	PM emissions must not exceed 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off, and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. Before August 1, 2017, if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ or 0.10 lb/million Btu of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM emission rate is less than or equal to 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance test to demonstrate initial compliance with the NSPS and the average hourly opacity is no more than 30 percent, except that one 6-minute average in any 1-hour period can exceed 30 percent. As part of the Notification of Compliance Status, you must certify that your vent meets the 30 percent opacity limit. As part of your Notification of Compliance Status, you certify that your continuous opacity monitoring system meets the requirements in § 63.1572.
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i); or in § 60.102 and electing § 60.100(e); electing to meet the PM per coke burn-off limit.	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM emission rate is less than or equal to 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. As part of your Notification of Compliance Status, you certify that your BLD; CO_2, O_2, or CO monitor; or continuous opacity monitoring system meets the requirements in § 63.1572.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i), electing to meet the PM per coke burn-off limit.	PM emissions must not exceed 0.5 g/kg (0.5 lb PM/1,000 lb) of coke burn-off).	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM emission rate is less than or equal to 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. As part of your Notification of Compliance Status, you certify that your BLD; CO_2, O_2, or CO monitor; or continuous opacity monitoring system meets the requirements in § 63.1572.
4. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i), electing to meet the PM concentration limit.	If a PM CEMS is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM concentration is less than or equal to 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. As part of your Notification of Compliance Status, you certify that your PM CEMS meets the requirements in § 63.1572.

TABLE 5 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS—Continued

For each new and existing catalytic cracking unit catalyst regenerator vent . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
5. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii), electing to meet the PM concentration limit.	If a PM CEMS is used, 0.020 gr/dscf corrected to 0 percent excess air.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured PM concentration is less than or equal to 0.020 gr/dscf corrected to 0 percent excess air. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. You are not required to do another performance test to demonstrate initial compliance. As part of your Notification of Compliance Status, you certify that your PM CEMS meets the requirements in § 63.1572.
6. Option 1a: Elect NSPS subpart J requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 gram per kilogram (g/kg) (1.0 lb/1,000 lb) of coke burn-off, and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. Before August 1, 2017, PM emission must not exceed 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	The average PM emission rate, measured using EPA Method 5, 5B, or 5F (for a unit without a wet scrubber) or 5 or 5B (for a unit with a wet scrubber) (40 CFR part 60, appendix A–3), over the period of the initial performance test, is no higher than 1.0 g/kg coke burn-off (1.0 lb/1,000 lb) in the catalyst regenerator. The PM emission rate is calculated using Equations 1, 2, and 3 of § 63.1564. As part of the Notification of Compliance Status, you must certify that your vent meets the PM limit. The average hourly opacity is no more than 30 percent, except that one 6-minute average in any 1-hour period can exceed 30 percent. As part of the Notification of Compliance Status, you must certify that your vent meets the 30 percent opacity limit. If you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.
7. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off.	The average PM emission rate, measured using EPA Method 5, 5B, or 5F (for a unit without a wet scrubber) or 5 or 5B (for a unit with a wet scrubber) (40 CFR part 60, appendix A–3), over the period of the initial performance test, is no higher than 1.0 g/kg coke burn-off (1.0 lb/1,000 lb) in the catalyst regenerator. The PM emission rate is calculated using Equations 1, 2, and 3 of § 63.1564. If you use a BLD; CO_2, O_2, CO monitor; or continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.
8. Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 0.040 gr/dscf corrected to 0 percent excess air.	The average PM concentration, measured using EPA Method 5, 5B, or 5F (for a unit without a wet scrubber) or Method 5 or 5B (for a unit with a wet scrubber) (40 CFR part 60, appendix A–3), over the period of the initial performance test, is less than or equal to 0.040 gr/dscf corrected to 0 percent excess air. Your performance evaluation shows your PM CEMS meets the applicable requirements in § 63.1572.
9. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off.	The average PM emission rate, measured using EPA Method 5, 5B, or 5F (for a unit without a wet scrubber) or 5 or 5B (for a unit with a wet scrubber) (40 CFR part 60, appendix A–3), over the period of the initial performance test, is no higher than 1.0 g/kg coke burn-off (1.0 lb/1,000 lb) in the catalyst regenerator. The PM emission rate is calculated using Equations 1, 2, and 3 of § 63.1564. If you use a BLD; CO_2, O_2, CO monitor; or continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.
10. Option 3: Ni lb/hr limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Nickel (Ni) emissions from your catalyst regenerator vent must not exceed 13,000 mg/hr (0.029 lb/hr).	The average Ni emission rate, measured using Method 29 (40 CFR part 60, appendix A–8) over the period of the initial performance test, is not more than 13,000 mg/hr (0.029 lb/hr). The Ni emission rate is calculated using Equation 5 of § 63.1564; and if you use a BLD; CO_2, O_2, or CO monitor; or continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.

TABLE 5 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS—Continued

For each new and existing catalytic cracking unit catalyst regenerator vent . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
11. Option 4: Ni per coke burn-off limit not subject to the NSPS for PM.	Ni emissions from your catalyst regenerator vent must not exceed 1.0 mg/kg (0.001 lb/1,000 lb) of coke burn-off in the catalyst regenerator.	The average Ni emission rate, measured using Method 29 (40 CFR part 60, appendix A–8) over the period of the initial performance test, is not more than 1.0 mg/kg (0.001 lb/1,000 lb) of coke burn-off in the catalyst regenerator. The Ni emission rate is calculated using Equation 8 of § 63.1564; and if you use a BLD; CO_2, O_2, or CO monitor; or continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572.

■ 57. Table 6 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 6 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

For each new and existing catalytic cracking unit . . .	Subject to this emission limit for your catalyst regenerator vent . . .	You shall demonstrate continuous compliance by . . .
1. Subject to the NSPS for PM in 40 CFR 60.102 and not electing § 60.100(e).	a. PM emissions must not exceed 1.0 g/kg (1.0 lb/1,000 lb) of coke burn-off, and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. Before August 1, 2017, if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, the incremental rate of PM must not exceed 43.0 g/GJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions must not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.	i. Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 1 in § 63.1564 and the hours of operation for each catalyst regenerator.
		ii. Conducting a performance test before August 1, 2017 and thereafter following the testing frequency in § 63.1571(a)(5) as applicable to your unit.
		iii. Collecting the continuous opacity monitoring data for each catalyst regenerator vent according to § 63.1572 and maintaining each 6-minute average at or below 30 percent, except that one 6-minute average during a 1-hour period can exceed 30 percent.
		iv. Before August 1, 2017, if applicable, determining and recording each day the rate of combustion of liquid or solid fossil fuels (liters/hour or kilograms/hour) and the hours of operation during which liquid or solid fossil-fuels are combusted in the incinerator-waste heat boiler; if applicable, maintaining the incremental rate of PM at or below 43 g/GJ (0.10 lb/million Btu) of heat input attributable to the solid or liquid fossil fuel.
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i), electing to meet the PM per coke burn-off limit.	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off.	Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 1 in § 63.1564 and the hours of operation for each catalyst regenerator; maintaining PM emission rate below 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off; and conducting a performance test once every year.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii), electing to meet the PM per coke burn-off limit.	PM emissions must not exceed 0.5 g/kg coke burn-off (0.5 lb/1000 lb coke burn-off).	Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 1 in § 63.1564 and the hours of operation for each catalyst regenerator; maintaining PM emission rate below 0.5 g/kg (0.5 lb/1,000 lb) of coke burn-off; and conducting a performance test once every year.

Table 6 to Subpart UUU of Part 63—Continuous Compliance With Metal HAP Emission Limits for Catalytic Cracking Units—Continued

For each new and existing catalytic cracking unit . . .	Subject to this emission limit for your catalyst regenerator vent . . .	You shall demonstrate continuous compliance by . . .
4. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(i), electing to meet the PM concentration limit.	If a PM CEMS is used, 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air.	Maintaining PM concentration below 0.040 gr/dscf corrected to 0 percent excess air.
5. Subject to NSPS for PM in 40 CFR 60.102a(b)(1)(ii), electing to meet the PM concentration limit.	If a PM CEMS is used, 0.020 gr/dscf corrected to 0 percent excess air.	Maintaining PM concentration below 0.020 gr/dscf corrected to 0 percent excess air.
6. Option 1a: Elect NSPS subpart J requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	See item 1 of this table	See item 1 of this table.
7. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit and 30% opacity, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off.	See item 2 of this table.
8. Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 0.040 gr/dscf corrected to 0 percent excess air.	See item 4 of this table.
9. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM emissions must not exceed 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off.	Determining and recording each day the average coke burn-off rate and the hours of operation and the hours of operation for each catalyst regenerator by Equation 1 of § 63.1564 (you can use process data to determine the volumetric flow rate); maintaining PM emission rate below 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn-off; and conducting a performance test before August 1, 2017 and thereafter following the testing frequency in § 63.1571(a)(5) as applicable to your unit.
10. Option 3: Ni lb/hr limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Ni emissions must not exceed 13,000 mg/hr (0.029 lb/hr).	Maintaining Ni emission rate below 13,000 mg/hr (0.029 lb/hr); and conducting a performance test before August 1, 2017 and thereafter following the testing frequency in § 63.1571(a)(5) as applicable to your unit.
11. Option 4: Ni per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Ni emissions must not exceed 1.0 mg/kg (0.001 lb/1,000 lb) of coke burn-off in the catalyst regenerator.	Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) and the hours of operation for each catalyst regenerator by Equation 1 of § 63.1564 (you can use process data to determine the volumetric flow rate); and maintaining Ni emission rate below 1.0 mg/kg (0.001 lb/1,000 lb) of coke burn-off in the catalyst regenerator; and conducting a performance test before August 1, 2017 and thereafter following the testing frequency in § 63.1571(a)(5) as applicable to your unit.

■ 58. Table 7 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you.

Table 7 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Metal HAP Emissions From Catalytic Cracking Units

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
1. Subject to NSPS for PM in 40 CFR 60.102 and not electing § 60.100(e).	Continuous opacity monitoring system.	The 3-hour average opacity of emissions from your catalyst regenerator vent must not exceed 20 percent.	Collecting the continuous opacity monitoring data for each regenerator vent according to § 63.1572 and maintain each 3-hour rolling average opacity of emissions no higher than 20 percent.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
2. Subject to NSPS for PM in 40 CFR 60.102a(b)(1); or 40 CFR 60.102 and elect § 60.100(e), electing to meet the PM per coke burn-off limit.	a. Continuous opacity monitoring system, used for site-specific opacity limit—Cyclone or electrostatic precipitator.	The average opacity must not exceed the opacity established during the performance test.	Collecting the hourly and 3-hr rolling average opacity monitoring data according to § 63.1572; maintaining the 3-hr rolling average opacity at or above the site-specific limit established during the performance test.
	b. Continuous parametric monitoring systems—electrostatic precipitator.	i. The average gas flow rate entering or exiting the control device must not exceed the operating limit established during the performance test.	Collecting the hourly and daily average coke burn-off rate or average gas flow rate monitoring data according to § 63.1572; and maintaining the daily average coke burn-off rate or average gas flow rate at or below the limit established during the performance test.
		ii. The average total power and secondary current to the control device must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average total power and secondary current monitoring data according to § 63.1572; and maintaining the 3-hr rolling average total power and secondary current at or above the limit established during the performance test.
	c. Continuous parametric monitoring systems—wet scrubber.	i. The average liquid-to-gas ratio must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average gas flow rate and scrubber liquid flow rate monitoring data according to § 63.1572; determining and recording the 3-hr liquid-to-gas ratio; and maintaining the 3-hr rolling average liquid-to-gas ratio at or above the limit established during the performance test.
		ii. Except for periods of startup, shutdown and hot standby, the average pressure drop across the scrubber must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average pressure drop monitoring data according to § 63.1572; and except for periods of startup, shutdown and hot standby, maintaining the 3-hr rolling average pressure drop at or above the limit established during the performance test.
	d. BLD—fabric filter	Increases in relative particulate	Collecting and maintaining records of BLD system output; determining the cause of the alarm within 1 hour of the alarm; and alleviating the cause of the alarm within 3 hours by corrective action.
3. Subject to NSPS for PM in 40 CFR 60.102a(b)(1), electing to meet the PM concentration limit.	PM CEMS	Not applicable	Complying with Table 6 of this subpart, item 4 or 5.
4. Option 1a: Elect NSPS subpart J requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	Continuous opacity monitoring system.	The 3-hour average opacity of emissions from your catalyst regenerator vent must not exceed 20 percent.	Collecting the 3-hr rolling average continuous opacity monitoring system data according to § 63.1572; and maintaining the 3-hr rolling average opacity no higher than 20 percent.
5. Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Continuous opacity monitoring system.	The opacity of emissions from your catalyst regenerator vent must not exceed the site-specific opacity operating limit established during the performance test.	Collecting the 3-hr rolling average continuous opacity monitoring system data according to § 63.1572; maintaining the 3-hr rolling average opacity at or below the site-specific limit.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
	b. Continuous parametric monitoring systems—electrostatic precipitator.	See item 2.b of this table	See item 2.b of this table.
	c. Continuous parametric monitoring systems—wet scrubber.	See item 2.c of this table	See item 2.c of this table.
	d. BLD—fabric filter	See item 2.d of this table	See item 2.d of this table.
6. Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	PM CEMS	Not applicable	Complying with Table 6 of this subpart, item 4.
7. Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR 60.102 or 60.102a(b)(1).	a. Continuous opacity monitoring system.	The opacity of emissions from your catalyst regenerator vent must not exceed the site-specific opacity operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average continuous opacity monitoring system data according to § 63.1572; and maintaining the 3-hr rolling average opacity at or below the site-specific limit established during the performance test. Alternatively, before August 1, 2017, collecting the hourly average continuous opacity monitoring system data according to § 63.1572; and maintaining the hourly average opacity at or below the site-specific limit.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The average coke burn-off rate or average gas flow rate entering or exiting the control device must not exceed the operating limit established during the performance test.	Collecting the hourly and daily average coke burn-off rate or gas flow rate monitoring data according to § 63.1572; and maintaining the daily coke burn-off rate or average gas flow rate at or below the limit established during the performance test.
		ii. The average total power (voltage and current) and secondary current to the control device must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average total power and secondary current monitoring data according to § 63.1572; and maintaining the 3-hr rolling average total power and secondary current at or above the limit established during the performance test. Alternatively, before August 1, 2017, collecting the hourly and daily average voltage and secondary current (or total power input) monitoring data according to § 63.1572; and maintaining the daily average voltage and secondary current (or total power input) at or above the limit established during the performance test.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
	c. Continuous parameter monitoring systems—wet scrubber.	i. The average liquid-to-gas ratio must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average gas flow rate and scrubber liquid flow rate monitoring data according to § 63.1572; determining and recording the 3-hr liquid-to-gas ratio; and maintaining the 3-hr rolling average liquid-to-gas ratio at or above the limit established during the performance test. Alternatively, before August 1, 2017, collecting the hourly average gas flow rate and water (or scrubbing liquid) flow rate monitoring data according to § 63.1572 [1]; determining and recording the hourly average liquid-to-gas ratio; determining and recording the daily average liquid-to-gas ratio; and maintaining the daily average liquid-to-gas ratio above the limit established during the performance test.
		ii. Except for periods of startup, shutdown and hot standby, the average pressure drop across the scrubber must not fall below the operating limit established during the performance test.	Collecting the hourly and 3-hr rolling average pressure drop monitoring data according to § 63.1572; and except for periods of startup, shutdown and hot standby, maintaining the 3-hr rolling average pressure drop at or above the limit established during the performance test. Alternatively, before August 1, 2017, collecting the hourly and daily average pressure drop monitoring data according to § 63.1572; and maintaining the daily average pressure drop above the limit established during the performance test.
	d. BLD—fabric filter	See item 2.d of this table	See item 2.d of this table.
8. Option 3: Ni lb/hr limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	i. The daily average Ni operating value must not exceed the site-specific Ni operating limit established during the performance test.	(1) Collecting the hourly average continuous opacity monitoring system data according to § 63.1572; determining and recording equilibrium catalyst Ni concentration at least once a week [2]; collecting the hourly average gas flow rate monitoring data according to § 63.1572 [1]; and determining and recording the hourly average Ni operating value using Equation 11 of § 63.1564.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
			(2) Determining and recording the 3-hour rolling average Ni operating value and maintaining the 3-hour rolling average Ni operating value below the site-specific Ni operating limit established during the performance test. Alternatively, before August 1, 2017, determining and recording the daily average Ni operating value and maintaining the daily average Ni operating value below the site-specific Ni operating limit established during the performance test.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The average gas flow rate entering or exiting the control device must not exceed the operating limit established during the performance test.	See item 7.b.i of this table.
		ii. The average total power (voltage and current) and secondary current must not fall below the level established in the performance test.	See item 7.b.ii of this table.
		iii. The monthly rolling average of the equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining and recording the equilibrium catalyst Ni concentration at least once a week[2]; determining and recording the monthly rolling average of the equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test.
	c. Continuous parameter monitoring systems—wet scrubber.	i. The average liquid-to-gas ratio must not fall below the operating limit established during the performance test..	See item 7.c.i of this table.
		ii. Except for periods of startup, shutdown and hot standby, the average pressure drop must not fall below the operating limit established in the performance test.	See item 7.c.ii of this table.
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining and recording the equilibrium catalyst Ni concentration at least once a week[2]; determining and recording the monthly rolling average of equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test.
	d. BLD—fabric filter	i. Increases in relative particulate	See item 7.d of this table.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
		ii. The monthly rolling average of the equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining and recording the equilibrium catalyst Ni concentration at least once a week[2]; determining and recording the monthly rolling average of the equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test.
9. Option 4: Ni per coke burn-off limit not subject to the NSPS for PM in 40 CFR 60.102.	a. Continuous opacity monitoring system.	i. The daily average Ni operating value must not exceed the site-specific Ni operating limit established during the performance test.	(1) Collecting the hourly average continuous opacity monitoring system data according to § 63.1572; collecting the hourly average coke burn rate and hourly average gas flow rate monitoring data according to § 63.15721; determining and recording equilibrium catalyst Ni concentration at least once a week[2]; and determining and recording the hourly average Ni operating value using Equation 12 of § 63.1564. (2) Determining and recording the 3-hour rolling average Ni operating value and maintaining the 3-hour rolling average Ni operating value below the site-specific Ni operating limit established during the performance test Alternatively, before August 1, 2017, determining and recording the daily average Ni operating value and maintaining the daily average Ni operating value below the site-specific Ni operating limit established during the performance test.
	b. Continuous parameter monitoring systems—electrostatic precipitator.	i. The average gas flow rate to the control device must not exceed the level established in the performance test.	See item 7.b.i of this table.
		ii. The average voltage and secondary current (or total power input) must not fall below the level established in the performance test.	See item 7.b.ii of this table.
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	See item 8.b.iii of this table.
	c. Continuous parameter monitoring systems—wet scrubber.	i. The average liquid-to-gas ratio must not fall below the operating limit established during the performance test.	See item 7.c.i of this table.
		ii. Except for periods of startup, shutdown and hot standby, the daily average pressure drop must not fall below the operating limit established in the performance test.	See item 7.c.ii of this table.

TABLE 7 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new or existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
		iii. The monthly rolling average equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	See item 8.c.iii of this table.
	d. BLD—fabric filter	i. See item 2.d of this table	See item 2.d of this table.
		ii. The monthly rolling average of the equilibrium catalyst Ni concentration must not exceed the level established during the performance test.	Determining and recording the equilibrium catalyst Ni concentration at least once a week[2]; determining and recording the monthly rolling average of the equilibrium catalyst Ni concentration once each week using the weekly or most recent value; and maintaining the monthly rolling average below the limit established in the performance test.
10. During periods of startup, shutdown, or hot standby.	Any control device, if elected	The inlet velocity limit to the primary internal cyclones of the catalytic cracking unit catalyst regenerator in § 63.1564(a)(5)(ii).	Meeting the requirements in § 63.1564(c)(5).

[1] If applicable, you can use the alternative in § 63.1573(a)(1) for gas flow rate instead of a continuous parameter monitoring system if you used the alternative method in the initial performance test.

[2] The equilibrium catalyst Ni concentration must be measured by the procedure, Determination of Metal Concentration on Catalyst Particles (Instrumental Analyzer Procedure) in appendix A to this subpart; or by EPA Method 6010B, Inductively Coupled Plasma-Atomic Emission Spectrometry, EPA Method 6020, Inductively Coupled Plasma-Mass Spectrometry, EPA Method 7520, Nickel Atomic Absorption, Direct Aspiration, or EPA Method 7521, Nickel Atomic Absorption, Direct Aspiration; or by an alternative to EPA Method 6010B, 6020, 7520, or 7521 satisfactory to the Administrator. The EPA Methods 6010B, 6020, 7520, and 7521 are included in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Revision 5 (April 1998). The SW–846 and Updates (document number 955–001–00000–1) are available for purchase from the Superintendent of Documents, U.S. Government Publishing Office, Washington, DC 20402, (202) 512–1800; and from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the EPA Docket Center, William Jefferson Clinton (WJC) West Building (Air Docket), Room 3334, 1301 Constitution Ave. NW., Washington, DC; or at the Office of the Federal Register, 800 North Capitol Street NW., Suite 700, Washington, DC. These methods are also available at *http://www.epa.gov/epaoswer/hazwaste/test/main.htm*.

■ 59. Table 8 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(a)(1), you shall meet each emission limitation in the following table that applies to you.

TABLE 8 TO SUBPART UUU OF PART 63—ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

For each new and existing catalytic cracking unit . . .	You shall meet the following emission limit for each catalyst regenerator vent . . .
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103 or 60.102a(b)(4).	CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 parts per million volume (ppmv) (dry basis).
2. Not subject to the NSPS for CO in 40 CFR 60.103 or 60.102a(b)(4)	a. CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).
	b. If you use a flare to meet the CO limit, then on and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare must meet the requirements for control devices in § 63.11(b) and visible emissions must not exceed a total of 5 minutes during any 2 consecutive hours, or the flare must meet the requirements of § 63.670.

■ 60. Table 9 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(a)(2), you shall meet each operating limit in the following table that applies to you.

TABLE 9 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit . . .	For this type of continuous monitoring system . . .	For this type of control device . . .	You shall meet this operating limit . . .
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103 or 60.102a(b)(4).	Continuous emission monitoring system.	Not applicable	Not applicable.
2. Not subject to the NSPS for CO in 40 CFR 60.103 or 60.102a(b)(4).	a. Continuous emission monitoring system.	Not applicable	Not applicable.
	b. Continuous parameter monitoring systems.	i. Thermal incinerator	Maintain the daily average combustion zone temperature above the limit established during the performance test; and maintain the daily average oxygen concentration in the vent stream (percent, dry basis) above the limit established during the performance test.
		ii. Boiler or process heater with a design heat input capacity under 44 MW or a boiler or process heater in which all vent streams are not introduced into the flame zone.	Maintain the daily average combustion zone temperature above the limit established in the performance test.
		iii. Flare	On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it, or the flare must meet the requirements of § 63.670.
3. During periods of startup, shutdown or hot standby.	Any	Any	Meet the requirements in § 63.1565(a)(5).

■ 61. Table 10 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(b)(1), you shall meet each requirement in the following table that applies to you.

TABLE 10 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new or existing catalytic cracking unit . . .	And you use this type of control device for your vent . . .	You shall install, operate, and maintain this type of continuous monitoring system . . .
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103 or 60.102a(b)(4).	Not applicable	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.
2. Not subject to the NSPS for CO in 40 CFR 60.103 or 60.102a(b)(4).	a. Thermal incinerator	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature and oxygen content (percent, dry basis) in the incinerator vent stream.
	b. Process heater or boiler with a design heat input capacity under 44 MW or process heater or boiler in which all vent streams are not introduced into the flame zone.	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature.

Table 10 to Subpart UUU of Part 63—Continuous Monitoring Systems for Organic HAP Emissions From Catalytic Cracking Units—Continued

For each new or existing catalytic cracking unit . . .	And you use this type of control device for your vent . . .	You shall install, operate, and maintain this type of continuous monitoring system . . .
	c. Flare	On and after January 30, 2019, the monitoring systems required in §§ 63.670 and 63.671. Prior to January 30, 2019, monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame, or the monitoring systems required in §§ 63.670 and 63.671.
	d. No control device	Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent.
3. During periods of startup, shutdown or hot standby electing to comply with the operating limit in § 63.1565(a)(5)(ii).	Any	Continuous parameter monitoring system to measure and record the concentration by volume (dry basis) of oxygen from each catalyst regenerator vent.

■ 62. Table 11 to subpart UUU of part 63 is amended by revising the entry for item 3 to read as follows:

* * * * *

Table 11 to Subpart UUU of Part 63—Requirements for Performance Tests for Organic HAP Emissions From Catalytic Cracking Units Not Subject to New Source Performance Standard (NSPS) for Carbon Monoxide (CO)

For . . .	You must . . .	Using . . .	According to these requirements . . .
*	* *	* *	*
3. Each catalytic cracking unit catalyst regenerator vent if you use continuous parameter monitoring systems.	a. Measure the CO concentration (dry basis) of emissions exiting the control device.	Method 10, 10A, or 10B in appendix A–4 to part 60 of this chapter, as applicable.	
	b. Establish each operating limit in Table 9 of this subpart that applies to you.	Data from the continuous parameter monitoring systems.	
	c. Thermal incinerator combustion zone temperature.	Data from the continuous parameter monitoring systems.	Collect temperature monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average combustion zone temperature from all the readings.
	d. Thermal incinerator: oxygen, content (percent, dry basis) in the incinerator vent stream.	Data from the continuous parameter monitoring systems.	Collect oxygen concentration (percent, dry basis) monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average percent excess oxygen concentration from all the readings.
	e. If you use a process heater or boiler with a design heat input capacity under 44 MW or process heater or boiler in which all vent streams are not introduced into the flame zone, establish operating limit for combustion zone temperature.	Data from the continuous parameter monitoring systems.	Collect the temperature monitoring data every 15 minutes during the entire period of the CO initial performance test; and determine and record the minimum hourly average combustion zone temperature from all the readings.

Table 11 to Subpart UUU of Part 63—Requirements for Performance Tests for Organic HAP Emissions From Catalytic Cracking Units Not Subject to New Source Performance Standard (NSPS) for Carbon Monoxide (CO)—Continued

For . . .	You must . . .	Using . . .	According to these requirements . . .
	f. If you use a flare, conduct visible emission observations.	Method 22 (40 CFR part 60, appendix A–7).	On and after January 30, 2019, meet the requirements of § 63.670. Prior to January 30, 2019, maintain a 2-hour observation period; and record the presence of a flame at the pilot light over the full period of the test or meet the requirements of § 63.670.
	g. If you use a flare, determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.	40 CFR 63.11(b)(6) through (8)	On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare must meet the control device requirements in § 63.11(b) or the requirements of § 63.670.

■ 63. Table 12 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(b)(4), you shall meet each requirement in the following table that applies to you.

Table 12 to Subpart UUU of Part 63—Initial Compliance With Organic HAP Emission Limits for Catalytic Cracking Units

For each new and existing catalytic cracking unit . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103, 60.100(e), or 60.102a(b)(4).	CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured CO emissions are less than or equal to 500 ppm (dry basis). As part of the Notification of Compliance Status, you must certify that your vent meets the CO limit. You are not required to conduct another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to conduct another performance evaluation to demonstrate initial compliance.
2. Not subject to the NSPS for CO in 40 CFR 60.103 60.102a(b)(4).	a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	i. If you use a continuous parameter monitoring system, the average CO emissions measured by Method 10 over the period of the initial performance test are less than or equal to 500 ppmv (dry basis).
		ii. If you use a continuous emission monitoring system, the hourly average CO emissions over the 24-hour period for the initial performance test are not more than 500 ppmv (dry basis); and your performance evaluation shows your continuous emission monitoring system meets the applicable requirements in § 63.1572.
	b. If you use a flare, visible emissions must not exceed a total of 5 minutes during any 2 operating hours.	On and after January 30, 2019, the flare meets the requirements of § 63.670. Prior to January 30, 2019, visible emissions, measured by Method 22 during the 2-hour observation period during the initial performance test, are no higher than 5 minutes, or the flare meets the requirements of § 63.670.

■ 64. Table 13 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 13 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

For each new and existing catalytic cracking unit . . .	Subject to this emission limit for your catalyst regenerator vent . . .	If you must . . .	You shall demonstrate continuous compliance by . . .
1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103, 60.100(e), or 60.102a(b)(4).	CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Collecting the hourly average CO monitoring data according to § 63.1572; and maintaining the hourly average CO concentration at or below 500 ppmv (dry basis).
2. Not subject to the NSPS for CO in 40 CFR 60.103 or 60.102a(b)(4).	a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous emission monitoring system.	Same as item 1.
	b. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit must not exceed 500 ppmv (dry basis).	Continuous parameter monitoring system.	Maintaining the hourly average CO concentration below 500 ppmv (dry basis).
	c. Visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour period.	Control device-flare	On and after January 30, 2019, meeting the requirements of § 63.670. Prior to January 30, 2019, maintaining visible emissions below a total of 5 minutes during any 2-hour operating period, or meeting the requirements of § 63.670.

■ 65. Table 14 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1565(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 14 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

For each new existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
1. Subject to NSPS for carbon monoxide (CO) in 40 CFR 60.103, 60.100(e), 60.102a(b)(4).	Continuous emission monitoring system.	Not applicable	Complying with Table 13 of this subpart, item 1.
2. Not subject to the NSPS for CO in 40 CFR 60.103 or 60.102a(b)(4).	a. Continuous emission monitoring system.	Not applicable	Complying with Table 13 of this subpart, item 2.a.
	b. Continuous parameter monitoring systems—thermal incinerator.	i. The daily average combustion zone temperature must not fall below the level established during the performance test.	Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test.
		ii. The daily average oxygen concentration in the vent stream (percent, dry basis) must not fall below the level established during the performance test.	Collecting the hourly and daily average oxygen concentration monitoring data according to § 63.1572; and maintaining the daily average oxygen concentration above the limit established during the performance test.
	c. Continuous parameter monitoring systems—boiler or process heater with a design heat input capacity under 44 MW or boiler or process heater in which all vent streams are not introduced into the flame zone.	The daily combustion zone temperature must not fall below the level established in the performance test.	Collecting the average hourly and daily temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test.

TABLE 14 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

For each new existing catalytic cracking unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
	d. Continuous parameter monitoring system—flare.	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.	On and after January 30, 2019, meeting the requirements of § 63.670. Prior to January 30, 2019, collecting the flare monitoring data according to § 63.1572 and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period, or meeting the requirements of § 63.670.
3. During periods of startup, shutdown or hot standby electing to comply with the operating limit in § 63.1565(a)(5)(ii).	Any control device	The oxygen concentration limit in § 63.1565(a)(5)(ii).	Collecting the hourly average oxygen concentration monitoring data according to § 63.1572 and maintaining the hourly average oxygen concentration at or above 1 volume percent (dry basis).

■ 66. Table 15 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

* * * * *

TABLE 15 TO SUBPART UUU OF PART 63—ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

For each applicable process vent for a new or existing catalytic reforming unit . . .	You shall meet this emission limit during initial catalyst depressuring and catalyst purging operations . . .
1. Option 1	On and after January 30, 2019, vent emissions to a flare that meets the requirements of § 63.670. Prior to January 30, 2019, vent emissions to a flare that meets the requirements for control devices in § 63.11(b) and visible emissions from a flare must not exceed a total of 5 minutes during any 2-hour operating period, or vent emissions to a flare that meets the requirements of § 63.670.

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■ 67. Table 16 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

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TABLE 16 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

For each new or existing catalytic reforming unit . . .	For this type of control device . . .	You shall meet this operating limit during initial catalyst depressuring and purging operations. . .
1. Option 1: Vent to flare	Flare	On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it, or the flare must meet the requirements of § 63.670.

* * * * * * *

■ 68. Table 17 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

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TABLE 17 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

For each applicable process vent for a new or existing catalytic reforming unit . . .	If you use this type of control device . . .	You shall install and operate this type of continuous monitoring system . . .
1. Option 1: Vent to a flare	Flare	On and after January 30, 2019, the monitoring systems required in §§ 63.670 and 63.671. Prior to January 30, 2019, monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame, or the monitoring systems required in §§ 63.670 and 63.671.

* * * * * * *

■ 69. Table 18 to subpart UUU of part 63 is amended by revising the column headings and the entry for item 1 to read as follows:

* * * * *

TABLE 18 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

For each new or existing catalytic reforming unit . . .	You must . . .	Using . . .	According to these requirements . . .
1. Option 1: Vent to a flare	a. Conduct visible emission observations.	Method 22 (40 CFR part 60, appendix A–7).	On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, 2-hour observation period. Record the presence of a flame at the pilot light over the full period of the test, or the requirements of § 63.670.
	b. Determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity.	40 CFR 63.11(b)(6) through (8)	On and after January 30, 2019, the flare must meet the requirements of § 63.670. Prior to January 30, 2019, the flare must meet the control device requirements in § 63.11(b) or the requirements of § 63.670.

* * * * * * *

■ 70. Table 19 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

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TABLE 19 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

For each applicable process vent for a new or existing catalytic reforming unit . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
Option 1	Visible emissions from a flare must not exceed a total of 5 minutes during any 2 consecutive hours.	On and after January 30, 2019, the flare meets the requirements of § 63.670. Prior to January 30, 2019, visible emissions, measured using Method 22 over the 2-hour observation period of the performance test, do not exceed a total of 5 minutes, or the flare meets the requirements of § 63.670.

* * * * * * *

■ 71. Table 20 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

* * * * *

TABLE 20 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

For each applicable process vent for a new or existing catalytic reforming unit . . .	For this emission limit . . .	You shall demonstrate continuous compliance during initial catalyst depressuring and catalyst purging operations by . . .
1. Option 1	Vent emissions from your process vent to a flare.	On and after January 30, 2019, meeting the requirements of § 63.670. Prior to January 30, 2019, maintaining visible emissions from a flare below a total of 5 minutes during any 2 consecutive hours, or meeting the requirements of § 63.670.

* * * * * * *

■ 72. Table 21 to subpart UUU of part 63 is amended by revising the entry for item 1 to read as follows:

* * * * *

TABLE 21 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

For each applicable process vent for a new or existing catalytic reforming unit . . .	If you use . . .	For this operating limit . . .	You shall demonstrate continuous compliance during initial catalyst depressuring and purging operations by . . .
1. Option 1	Flare	The flare pilot light must be present at all times and the flare must be operating at all times that emissions may be vented to it.	On and after January 30, 2019, meeting the requirements of § 63.670. Prior to January 30, 2019, collecting flare monitoring data according to § 63.1572 and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period, or meeting the requirements of § 63.670.

* * * * * * *

■ 73. Table 22 to subpart UUU of part 63 is amended by revising the entries for items 2 and 3 to read as follows:

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TABLE 22 TO SUBPART UUU OF PART 63—INORGANIC HAP EMISSION LIMITS FOR CATALYTIC REFORMING UNITS

For . . .	You shall meet this emission limit for each applicable catalytic reforming unit process vent during coke burn-off and catalyst rejuvenation . . .
* * * *	* * *
2. Each existing cyclic or continuous catalytic reforming unit	Reduce uncontrolled emissions of HCl by 97 percent by weight or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.
3. Each new semi-regenerative, cyclic, or continuous catalytic reforming unit.	Reduce uncontrolled emissions of HCl by 97 percent by weight or to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.

■ 74. Table 24 to subpart UUU of part 63 is amended by revising the entries for items 2 through 4 and footnote 2 to read as follows:

* * * * *

TABLE 24 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

If you use this type of control device for your vent . . .	You shall install and operate this type of continuous monitoring system . . .
* * * * * * *	
2. Internal scrubbing system or no control device (*e.g.,* hot regen system) to meet HCl outlet concentration limit.	Colormetric tube sampling system to measure the HCl concentration in the catalyst regenerator exhaust gas during coke burn-off and catalyst rejuvenation. The colormetric tube sampling system must meet the requirements in Table 41 of this subpart.
3. Internal scrubbing system to meet HCl percent reduction standard ...	Continuous parameter monitoring system to measure and record the gas flow rate entering or exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation; and continuous parameter monitoring system to measure and record the total water (or scrubbing liquid) flow rate entering the internal scrubbing system during coke burn-off and catalyst rejuvenation; and continuous parameter monitoring system to measure and record the pH or alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation.[2]
4. Fixed-bed gas-solid adsorption system	Continuous parameter monitoring system to measure and record the temperature of the gas entering or exiting the adsorption system during coke burn-off and catalyst rejuvenation; and colormetric tube sampling system to measure the gaseous HCl concentration in the adsorption system exhaust and at a point within the absorbent bed not to exceed 90 percent of the total length of the absorbent bed during coke burn-off and catalyst rejuvenation. The colormetric tube sampling system must meet the requirements in Table 41 of this subpart.
* * * * * * *	

* * * * * * *

[2] If applicable, you can use the alternative in § 63.1573(c)(1) instead of a continuous parameter monitoring system for pH of the water (or scrubbing liquid) or the alternative in § 63.1573(c)(2) instead of a continuous parameter monitoring system for alkalinity of the water (or scrubbing liquid).

* * * * *

■ 75. Table 25 to subpart UUU of part 63 is amended by revising the entries for items 2.a and 4.a and footnote 1 to read as follows:

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TABLE 25 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS

For each new and existing catalytic reforming unit using . . .	You shall . . .	Using . . .	According to these requirements . . .
* * * * * * *			
2. Wet scrubber	a. Establish operating limit for pH level or alkalinity.	i. Data from continuous parameter monitoring systems.	Measure and record the pH or alkalinity of the water (or scrubbing liquid) exiting scrubber every 15 minutes during the entire period of the performance test. Determine and record the minimum hourly average pH or alkalinity level from the recorded values.
		ii. Alternative pH procedure in § 63.1573(b)(1).	Measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation using pH strips at least three times during each test run. Determine and record the average pH level for each test run. Determine and record the minimum test run average pH level.

Table 25 to Subpart UUU of Part 63—Requirements for Performance Tests for Inorganic HAP Emissions From Catalytic Reforming Units—Continued

For each new and existing catalytic reforming unit using . . .	You shall . . .	Using . . .	According to these requirements . . .
		iii. Alternative alkalinity method in § 63.1573(c)(2).	Measure and record the alkalinity of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation using discrete titration at least three times during each test run. Determine and record the average alkalinity level for each test run. Determine and record the minimum test run average alkalinity level.
* *	* *	* *	*
4. Internal scrubbing system meeting HCl percent reduction standard.	a. Establish operating limit for pH level or alkalinity.	i. Data from continuous parameter monitoring system.	Measure and record the pH alkalinity of the water (or scrubbing liquid) exiting the internal scrubbing system every 15 minutes during the entire period of the performance test. Determine and record the minimum hourly average pH or alkalinity level from the recorded values.
		ii. Alternative pH method in § 63.1573(c)(1).	Measure and in record pH of the water (or scrubbing liquid) exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation using pH strips at least three times during each test run. Determine and record the average pH level for each test run. Determine and record the minimum test run average pH level.
		iii. Alternative alkalinity method in § 63.1573(c)(2).	Measure and record the alkalinity water (or scrubbing liquid) exiting the internal scrubbing system during coke burn-off and catalyst rejuvenation using discrete titration at least three times during each test run. Determine and record the average alkalinity level for each test run. Determine and record the minimum test run average alkalinity level.
* *	* *	* *	*

[1] The EPA Methods 5050, 9056, 9212 and 9253 are included in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Revision 5 (April 1998). The SW–846 and Updates (document number 955–001–00000–1) are available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800; and from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the EPA Docket Center, William Jefferson Clinton (WJC) West Building (Air Docket), Room 3334, 1301 Constitution Ave. NW., Washington, DC; or at the Office of the Federal Register, 800 North Capitol Street NW., Suite 700, Washington, DC. These methods are also available at *http://www.epa.gov/epaoswer/hazwaste/test/main.htm*.

■ 76. Table 28 to subpart UUU of part 63 is amended by revising the entry for item 5 and footnotes 1 and 3 to read as follows:

* * * * *

Table 28 to Subpart UUU of Part 63—Continuous Compliance With Operating Limits for Inorganic HAP Emissions From Catalytic Reforming Units

For each new and existing catalytic reforming unit using this type of control device or system . . .	For this operating limit . . .	You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by . . .

TABLE 28 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR INORGANIC HAP EMISSIONS FROM CATALYTIC REFORMING UNITS—Continued

For each new and existing catalytic reforming unit using this type of control device or system . . .	For this operating limit . . .	You shall demonstrate continuous compliance during coke burn-off and catalyst rejuvenation by . . .
* *	* * *	* *
5. Moving-bed gas-solid adsorption system (*e.g.,* ChlorsorbTM System).	a. The daily average temperature of the gas entering or exiting the adsorption system must not exceed the limit established during the performance test.	Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average temperature below the operating limit established during the performance test.
	b. The weekly average chloride level on the sorbent entering the adsorption system must not exceed the design or manufacturer's recommended limit (1.35 weight percent for the Chlorsorb™ System).	Collecting samples of the sorbent exiting the adsorption system three times per week (on non-consecutive days); and analyzing the samples for total chloride[3]; and determining and recording the weekly average chloride concentration; and maintaining the chloride concentration below the design or manufacturer's recommended limit (1.35 weight percent for the Chlorsorb™ System).
	c. The weekly average chloride level on the sorbent exiting the adsorption system must not exceed the design or manufacturer's recommended limit (1.8 weight percent for the Chlorsorb™ System).	Collecting samples of the sorbent exiting the adsorption system three times per week (on non-consecutive days); and analyzing the samples for total chloride concentration; and determining and recording the weekly average chloride concentration; and maintaining the chloride concentration below the design or manufacturer's recommended limit (1.8 weight percent Chlorsorb™ System).

[1] If applicable, you can use either alternative in § 63.1573(c) instead of a continuous parameter monitoring system for pH or alkalinity if you used the alternative method in the initial performance test.

* * * * * * *

[3] The total chloride concentration of the sorbent material must be measured by the procedure, ''Determination of Metal Concentration on Catalyst Particles (Instrumental Analyzer Procedure)'' in appendix A to this subpart; or by using EPA Method 5050, Bomb Preparation Method for Solid Waste, combined either with EPA Method 9056, Determination of Inorganic Anions by Ion Chromatography, or with EPA Method 9253, Chloride (Titrimetric, Silver Nitrate); or by using EPA Method 9212, Potentiometric Determination of Chloride in Aqueous Samples with Ion-Selective Electrode, and using the soil extraction procedures listed within the method. The EPA Methods 5050, 9056, 9212 and 9253 are included in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Revision 5 (April 1998). The SW–846 and Updates (document number 955–001–00000–1) are available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800; and from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the EPA Docket Center, William Jefferson Clinton (WJC) West Building, (Air Docket), Room 3334, 1301 Constitution Ave. NW., Washington, DC; or at the Office of the Federal Register, 800 North Capitol Street NW., Suite 700, Washington, DC. These methods are also available at *http://www.epa.gov/epaoswer/hazwaste/test/main.htm.*

■ 77. Table 29 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(a)(1), you shall meet each emission limitation in the following table that applies to you.

TABLE 29 TO SUBPART UUU OF PART 63—HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS

For . . .	You shall meet this emission limit for each process vent . . .
1. Subject to NSPS. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 long tons per day (LTD) and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of sulfur dioxide (SO_2) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation control system or if you use a reduction control system followed by incineration.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation control system or if you use a reduction control system followed by incineration.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.

■ 78. Table 30 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(a)(2), you shall meet each operating limit in the following table that applies to you.

TABLE 30 TO SUBPART UUU OF PART 63—OPERATING LIMITS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

For . . .	If use this type of control device . . .	You shall meet this operating limit . . .
1. Subject to NSPS. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 LTD and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Not applicable	Not applicable.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Not applicable	Not applicable.
3. Option 2: TRS limit, if using continuous emissions monitoring systems. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Not applicable	Not applicable.
4. Option 2: TRS limit, if using continuous parameter monitoring systems. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Thermal incinerator	Maintain the daily average combustion zone temperature above the limit established during the performance test; and maintain the daily average oxygen concentration in the vent stream (percent, dry basis) above the limit established during the performance test.
5. Startup or shutdown option 1: Electing to comply with § 63.1568(a)(4)(ii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during periods of startup or shutdown.	Flare	On and after January 30, 2019, meet the applicable requirements of § 63.670. Prior to January 30, 2019, meet the applicable requirements of either § 63.11(b) or § 63.670.
6. Startup or shutdown option 2: Electing to comply with § 63.1568(a)(4)(iii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during startup or shutdown events.	Thermal incinerator or thermal oxidizer	Maintain the hourly average combustion zone temperature at or above 1,200 degrees Fahrenheit and maintain the hourly average oxygen concentration in the exhaust gas stream at or above 2 volume percent (dry basis).

■ 79. Table 31 to subpart UUU is revised to read as follows:

As stated in § 63.1568(b)(1), you shall meet each requirement in the following table that applies to you.

TABLE 31 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

For . . .	For this limit . . .	You shall install and operate this continuous monitoring system . . .
1. Subject to NSPS. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 LTD and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis) at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.

TABLE 31 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS—Continued

For . . .	For this limit . . .	You shall install and operate this continuous monitoring system . . .
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and oxygen (O_2) emissions. Calculate the reduced sulfur emissions as SO_2 (dry basis) at zero percent excess air. *Exception:* You can use an instrument having an air or SO_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.
	c. If you use Equation 1 of 40 CFR 60.102a(f)(1)(i) to set your emission limit.	i. Complete either item 1.a or item 1.b; and ii. Either a continuous emission monitoring system to measure and record the O_2 concentration for the inlet air/oxygen supplied to the system or a continuous parameter monitoring system to measure and record the volumetric gas flow rate of ambient air and purchased oxygen-enriched gas.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air if you use an oxidation or reduction control system followed by incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of SO_2 (dry basis), at zero percent excess air for each exhaust stack. This system must include an oxygen monitor for correcting the data for excess air.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air if you use a reduction control system without incineration.	Continuous emission monitoring system to measure and record the hourly average concentration of reduced sulfur and O_2 emissions for each exhaust stack. Calculate the reduced sulfur emissions as SO_2 (dry basis), at zero percent excess air. *Exception:* You can use an instrument having an air or O_2 dilution and oxidation system to convert the reduced sulfur to SO_2 for continuously monitoring and recording the concentration (dry basis) at zero percent excess air of the resultant SO_2 instead of the reduced sulfur monitor. The monitor must include an oxygen monitor for correcting the data for excess oxygen.
	c. If you use Equation 1 of 40 CFR 60.102a(f)(1)(i) to set your emission limit.	i. Complete either item 2.a or item 2.b; and ii. Either a continuous emission monitoring system to measure and record the O_2 concentration for the inlet air/oxygen supplied to the system, or a continuous parameter monitoring system to measure and record the volumetric gas flow rate of ambient air and purchased oxygen-enriched gas.
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 300 ppmv of total reduced sulfur (TRS) compounds, expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.	i. Continuous emission monitoring system to measure and record the hourly average concentration of TRS for each exhaust stack; this monitor must include an oxygen monitor for correcting the data for excess oxygen; or ii. Continuous parameter monitoring systems to measure and record the combustion zone temperature of each thermal incinerator and the oxygen content (percent, dry basis) in the vent stream of the incinerator.

TABLE 31 TO SUBPART UUU OF PART 63—CONTINUOUS MONITORING SYSTEMS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS—Continued

For . . .	For this limit . . .	You shall install and operate this continuous monitoring system . . .
4. Startup or shutdown option 1: electing to comply with § 63.1568(a)(4)(ii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during periods of startup or shutdown.	Any	On and after January 30, 2019, monitoring systems as specified in §§ 63.670 and 63.671. Prior to January 30, 2019, either continuous parameter monitoring systems following the requirements in § 63.11 (to detect the presence of a flame; to measure and record the net heating value of the gas being combusted; and to measure and record the volumetric flow of the gas being combusted) or monitoring systems as specified in §§ 63.670 and 63.671.
5. Startup or shutdown option 2: electing to comply with § 63.1568(a)(4)(iii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during periods of startup or shutdown.	Any	Continuous parameter monitoring systems to measure and record the firebox temperature of each thermal incinerator or oxidizer and the oxygen content (percent, dry basis) in the exhaust vent from the incinerator or oxidizer.

■ 80. Table 32 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(b)(2) and (3), you shall meet each requirement in the following table that applies to you.

TABLE 32 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR SULFUR OXIDES

For . . .	You must . . .	Using . . .	According to these requirements . . .
1. Option 1: Elect NSPS. Each new and existing sulfur recovery unit.	a. Measure SO_2 concentration (for an oxidation or reduction system followed by incineration) or measure the concentration of reduced sulfur (or SO_2 if you use an instrument to convert the reduced sulfur to SO_2) for a reduction control system without incineration.	Data from continuous emission monitoring system.	Collect SO_2 monitoring data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.
	b. Measure O_2 concentration for the inlet air/oxygen supplied to the system, if using Equation 1 of 40 CFR 60.102a(f)1)(i) to set your emission limit. You may use either an O_2 CEMS method in item 1.b.i of this table or the flow monitor in item 1.b.ii of this table.	i. Data from continuous emission monitoring system; or	Collect O_2 monitoring data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period; and average over the 24-hour period for input to Equation 1 of 40 CFR 60.102a(f)(1)(i).
		ii. Data from flow monitor for ambient air and purchased oxygen-enriched gas.	Collect gas flow rate monitoring data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from 4 or more data points equally spaced over each 1-hour period; calculate the hourly O_2 percent using Equation 10 of 40 CFR 60.106a(a)(6)(iv); and average over the 24-hour period for input to Equation 1 of 40 CFR 60.102a(f)(1)(i).
2. Option 2: TRS limit, using CEMS. Each new and existing sulfur recovery unit.	Measure the concentration of reduced sulfur (or SO_2 if you use an instrument to convert the reduced sulfur to SO_2).	Data from continuous emission monitoring system.	Collect TRS data every 15 minutes for 24 consecutive operating hours. Reduce the data to 1-hour averages computed from four or more data points equally spaced over each 1-hour period.

TABLE 32 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR SULFUR OXIDES—Continued

For . . .	You must . . .	Using . . .	According to these requirements . . .
3. Option 2: TRS limit, if using continuous parameter monitoring systems. Each new and existing sulfur recovery unit.	a. Select sampling port's location and the number of traverse ports.	Method 1 or 1A in Appendix A–1 to part 60 of this chapter.	Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.
	b. Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, or 2F in appendix A–1 to part 60 of this chapter, or Method 2G in appendix A–2 to part 60 of this chapter, as applicable.	
	c. Conduct gas molecular weight analysis; obtain the oxygen concentration needed to correct the emission rate for excess air.	Method 3, 3A, or 3B in appendix A–2 to part 60 of this chapter, as applicable.	Take the samples simultaneously with reduced sulfur or moisture samples.
	d. Measure moisture content of the stack gas.	Method 4 in appendix A–3 to part 60 of this chapter.	Make your sampling time for each Method 4 sample equal to that for 4 Method 15 samples.
	e. Measure the concentration of TRS.	Method 15 or 15A in appendix A–5 to part 60 of this chapter, as applicable.	If the cross-sectional area of the duct is less than 5 square meters (m^2) or 54 square feet, you must use the centroid of the cross section as the sampling point. If the cross-sectional area is 5 m^2 or more and the centroid is more than 1 meter (m) from the wall, your sampling point may be at a point no closer to the walls than 1 m or 39 inches. Your sampling rate must be at least 3 liters per minute or 0.10 cubic feet per minute to ensure minimum residence time for the sample inside the sample lines.
	f. Calculate the SO_2 equivalent for each run after correcting for moisture and oxygen.	The arithmetic average of the SO_2 equivalent for each sample during the run.	
	g. Correct the reduced sulfur samples to zero percent excess air.	Equation 1 of § 63.1568	
	h. Establish each operating limit in Table 30 of this subpart that applies to you.	Data from the continuous parameter monitoring system.	
	i. Measure thermal incinerator: combustion zone temperature.	Data from the continuous parameter monitoring system.	Collect temperature monitoring data every 15 minutes during the entire period of the performance test; and determine and record the minimum hourly average temperature from all the readings.
	j. Measure thermal incinerator: oxygen concentration (percent, dry basis) in the vent stream.	Data from the continuous parameter monitoring system.	Collect oxygen concentration (percent, dry basis) data every 15 minutes during the entire period of the performance test; and determine and record the minimum hourly average percent excess oxygen concentration.

■ 81. Table 33 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(b)(5), you shall meet each requirement in the following table that applies to you.

TABLE 33 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS

For . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Subject to NSPS: Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 LTD and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) SO_2 at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation or reduction control system followed by incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and each 12-hour rolling average concentration of SO_2 emissions measured by the continuous emission monitoring system is less than or equal to 250 ppmv (dry basis) at zero percent excess air, or the concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i). As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.	You have already conducted a performance test to demonstrate initial compliance with the NSPS and each 12-hour rolling average concentration of reduced sulfur compounds measured by your continuous emission monitoring system is less than or equal to 300 ppmv, calculated as ppmv SO_2 (dry basis) at zero percent excess air, or the concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i). As part of the Notification of Compliance Status, you must certify that your vent meets the SO_2 limit. You are not required to do another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you must certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to do another performance evaluation to demonstrate initial compliance.
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation or reduction control system followed by incineration.	Each 12-hour rolling average concentration of SO_2 emissions measured by the continuous emission monitoring system during the initial performance test is less than or equal to 250 ppmv (dry basis) at zero percent excess air, or the concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i); and your performance evaluation shows the monitoring system meets the applicable requirements in § 63.1572.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.	Each 12-hour rolling average concentration of reduced sulfur compounds measured by the continuous emission monitoring system during the initial performance test is less than or equal to 300 ppmv, calculated as ppmv SO_2 (dry basis) at zero percent excess air, or the concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i); and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in § 63.1572.

TABLE 33 TO SUBPART UUU OF PART 63—INITIAL COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS—Continued

For . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	300 ppmv of TRS compounds expressed as an equivalent SO_2 concentration (dry basis) at zero percent oxygen.	If you use continuous parameter monitoring systems, the average concentration of TRS emissions measured using Method 15 during the initial performance test is less than or equal to 300 ppmv expressed as equivalent SO_2 concentration (dry basis) at zero percent oxygen. If you use a continuous emission monitoring system, each 12-hour rolling average concentration of TRS emissions measured by the continuous emission monitoring system during the initial performance test is less than or equal to 300 ppmv expressed as an equivalent SO_2 (dry basis) at zero percent oxygen; and your performance evaluation shows the continuous emission monitoring system meets the applicable requirements in § 63.1572.

■ 82. Table 34 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 34 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS

For . . .	For this emission limit . . .	You shall demonstrate continuous compliance by . . .
1. Subject to NSPS. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 LTD and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation or reduction control system followed by incineration.	Collecting the hourly average SO_2 monitoring data (dry basis, percent excess air) and, if using Equation 1 of 40 CFR 60.102a(f)(1)(i), collecting the hourly O_2 concentration or flow monitoring data according to § 63.1572; determining and recording each 12-hour rolling average concentration of SO_2; maintaining each 12-hour rolling average concentration of SO_2 at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of SO_2 greater than the applicable emission limitation in the semiannual compliance report required by § 63.1575.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.	Collecting the hourly average reduced sulfur (and air or O_2 dilution and oxidation) monitoring data and, if using Equation 1 of 40 CFR 60.102a(f)(1)(i), collecting the hourly O_2 concentration or flow monitoring data according to § 63.1572; determining and recording each 12-hour rolling average concentration of reduced sulfur; maintaining each 12-hour rolling average concentration of reduced sulfur at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of reduced sulfur greater than the applicable emission limitation in the semiannual compliance report required by § 63.1575.

TABLE 34 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH HAP EMISSION LIMITS FOR SULFUR RECOVERY UNITS—Continued

For . . .	For this emission limit . . .	You shall demonstrate continuous compliance by . . .
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. 250 ppmv (dry basis) of SO_2 at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use an oxidation or reduction control system followed by incineration.	Collecting the hourly average SO_2 data (dry basis, percent excess air) and, if using Equation 1 of 40 CFR 60.102a(f)(1)(i), collecting the hourly O_2 concentration or flow monitoring data according to § 63.1572; determining and recording each 12-hour rolling average concentration of SO_2; maintaining each 12-hour rolling average concentration of SO_2 at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of SO_2 greater than the applicable emission limitation in the semiannual compliance report required by § 63.1575.
	b. 300 ppmv of reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air, or concentration determined using Equation 1 of 40 CFR 60.102a(f)(1)(i), if you use a reduction control system without incineration.	Collecting the hourly average reduced sulfur (and air or O_2 dilution and oxidation) monitoring data and, if using Equation 1 of 40 CFR 60.102a(f)(1)(i), collecting the hourly O_2 concentration or flow monitoring data according to § 63.1572; determining and recording each 12-hour rolling average concentration of reduced sulfur; maintaining each 12-hour rolling average concentration of reduced sulfur at or below the applicable emission limitation; and reporting any 12-hour rolling average concentration of reduced sulfur greater than the applicable emission limitation in the semiannual compliance report required by § 63.1575.
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	300 ppmv of TRS compounds, expressed as an SO_2 concentration (dry basis) at zero percent oxygen or reduced sulfur compounds calculated as ppmv SO_2 (dry basis) at zero percent excess air.	i. If you use continuous parameter monitoring systems, collecting the hourly average TRS monitoring data according to § 63.1572 and maintaining each 12-hour average concentration of TRS at or below the applicable emission limitation; or ii. If you use a continuous emission monitoring system, collecting the hourly average TRS monitoring data according to § 63.1572, determining and recording each 12-hour rolling average concentration of TRS; maintaining each 12-hour rolling average concentration of TRS at or below the applicable emission limitation; and reporting any 12-hour rolling average TRS concentration greater than the applicable emission limitation in the semiannual compliance report required by § 63.1575.

■ 83. Table 35 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1568(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 35 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS

For . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
1. Subject to NSPS. Each new or existing Claus sulfur recovery unit part of a sulfur recovery plant with design capacity greater than 20 LTD and subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Not applicable	Meeting the requirements of Table 34 of this subpart.

TABLE 35 TO SUBPART UUU OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR HAP EMISSIONS FROM SULFUR RECOVERY UNITS—Continued

For . . .	For this operating limit . . .	You shall demonstrate continuous compliance by . . .
2. Option 1: Elect NSPS. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	Not applicable	Meeting the requirements of Table 34 of this subpart.
3. Option 2: TRS limit. Each new or existing sulfur recovery unit (Claus or other type, regardless of size) not subject to the NSPS for sulfur oxides in 40 CFR 60.104(a)(2) or 60.102a(f)(1).	a. Maintain the daily average combustion zone temperature above the level established during the performance test.	Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature at or above the limit established during the performance test
	b. The daily average oxygen concentration in the vent stream (percent, dry basis) must not fall below the level established during the performance test..	Collecting the hourly and daily average O_2 monitoring data according to § 63.1572; and maintaining the average O_2 concentration above the level established during the performance test.
4. Startup or shutdown option 1: Electing to comply with § 63.1568(a)(4)(ii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during periods of startup or shutdown.	Using a flare meeting the requirements in § 63.11(b) or § 63.670.	On and after January 30, 2019, complying with the applicable requirements of § 63.670. Prior to January 30, 2019, complying with the applicable requirements of either § 63.11(b) or § 63.670.
5. Startup or shutdown option 2: Electing to comply with § 63.1568(a)(4)(iii). Each new or existing sulfur recovery unit (Claus or other type, regardless of size) during periods of startup or shutdown.	a. Minimum hourly average temperature of 1,200 degrees Fahrenheit.	Collecting continuous (at least once every 15 minutes) and hourly average temperature monitoring data according to § 63.1572; and maintaining the daily average firebox temperature at or above 1,200 degrees Fahrenheit.
	b. Minimum hourly average outlet oxygen concentration of 2 volume percent (dry basis).	Collecting continuous (at least once every 15 minutes) and hourly average O_2 monitoring data according to § 63.1572; and maintaining the average O_2 concentration at or above 2 volume percent (dry basis).

■ 84. Table 40 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1572(a)(1) and (b)(1), you shall meet each requirement in the following table that applies to you.

TABLE 40 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS OPACITY MONITORING SYSTEMS AND CONTINUOUS EMISSION MONITORING SYSTEMS

This type of continuous opacity or emission monitoring system . . .	Must meet these requirements . . .
1. Continuous opacity monitoring system	Performance specification 1 (40 CFR part 60, appendix B).
2. PM CEMS; this monitor must include an O_2 monitor for correcting the data for excess air.	The requirements in 40 CFR 60.105a(d).
3. CO continuous emission monitoring system	Performance specification 4 (40 CFR part 60, appendix B); span value of 1,000 ppm; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.
4. CO continuous emission monitoring system used to demonstrate emissions average under 50 ppm (dry basis).	Performance specification 4 (40 CFR part 60, appendix B); and span value of 100 ppm.
5. SO_2 continuous emission monitoring system for sulfur recovery unit with oxidation control system or reduction control system; this monitor must include an O_2 monitor for correcting the data for excess air.	Performance specification 2 (40 CFR part 60, appendix B); span value of 500 ppm SO_2, or if using Equation 1 of 40 CFR 60.102a(f)(1)(i), span value of two times the limit at the highest O_2 concentration; use Methods 6 or 6C (40 CFR part 60, appendix A–4) for certifying the SO_2 monitor and Methods 3A or 3B (40 CFR part 60, appendix A–2) for certifying the O_2 monitor; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly.

TABLE 40 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS OPACITY MONITORING SYSTEMS AND CONTINUOUS EMISSION MONITORING SYSTEMS—Continued

This type of continuous opacity or emission monitoring system . . .	Must meet these requirements . . .
6. Reduced sulfur and O_2 continuous emission monitoring system for sulfur recovery unit with reduction control system not followed by incineration; this monitor must include an O_2 monitor for correcting the data for excess air unless exempted.	Performance specification 5 (40 CFR part 60, appendix B), except calibration drift specification is 2.5 percent of the span value instead of 5 percent; span value is 450 ppm reduced sulfur, or if using Equation 1 of 40 CFR 60.102a(f)(1)(i), span value of two times the limit at the highest O_2 concentration; use Methods 15 or 15A (40 CFR part 60, appendix A–5) for certifying the reduced sulfur monitor and Methods 3A or 3B (40 CFR part 60, appendix A–2) for certifying the O_2 monitor; if Method 3A or 3B yields O_2 concentrations below 0.25 percent during the performance evaluation, the O_2 concentration can be assumed to be zero and the O_2 monitor is not required; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.
7. Instrument with an air or O_2 dilution and oxidation system to convert reduced sulfur to SO_2 for continuously monitoring the concentration of SO_2 instead of reduced sulfur monitor and O_2 monitor.	Performance specification 5 (40 CFR part 60, appendix B); span value of 375 ppm SO_2 or if using Equation 1 of 40 CFR 60.102a(f)(1)(i), span value of two times the limit at the highest O_2 concentration; use Methods 15 or 15A (40 CFR part 60, appendix A–5) for certifying the reduced sulfur monitor and 3A or 3B (40 CFR part 60, appendix A–2) for certifying the O_2 monitor; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.
8. TRS continuous emission monitoring system for sulfur recovery unit; this monitor must include an O_2 monitor for correcting the data for excess air.	Performance specification 5 (40 CFR part 60, appendix B).
9. O_2 monitor for oxygen concentration	If necessary due to interferences, locate the oxygen sensor prior to the introduction of any outside gas stream; performance specification 3 (40 CFR part 60, appendix B; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly.

■ 85. Table 41 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1572(c)(1), you shall meet each requirement in the following table that applies to you.

TABLE 41 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS PARAMETER MONITORING SYSTEMS

If you use . . .	You shall . . .
1. pH strips	Use pH strips with an accuracy of ±10 percent.
2. pH meter	Locate the pH sensor in a position that provides a representative measurement of pH; ensure the sample is properly mixed and representative of the fluid to be measured. Use a pH sensor with an accuracy of at least ±0.2 pH units. Check the pH meter's calibration on at least one point at least once daily; check the pH meter's calibration on at least two points at least once quarterly; at least monthly, inspect all components for integrity and all electrical components for continuity; record the results of each calibration check and inspection.
3. Colormetric tube sampling system.	Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than ±15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range.
4. CO_2, O_2, and CO monitors for coke burn-off rate.	a. Locate the concentration sensor so that it provides a representative measurement of the content of the exit gas stream; ensure the sample is properly mixed and representative of the gas to be measured. Use a sensor with an accuracy of at least ±1 percent of the range of the sensor or to a nominal gas concentration of ±0.5 percent, whichever is greater. Use a monitor that is able to measure concentration on a dry basis or is able to correct for moisture content and record on a dry basis. Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the sensor reading exceeds the manufacturer's specified maximum operating range or install a new sensor; at least quarterly, inspect all components for integrity and all electrical connections for continuity; record the results of each calibration and inspection. b. As an alternative, the requirements in 40 CFR 60.105a(b)(2) may be used.
5. BLD	Follow the requirements in 40 CFR 60.105a(c).
6. Voltage, secondary current, or total power input sensors.	Use meters with an accuracy of at least ±5 percent over the operating range.

TABLE 41 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS PARAMETER MONITORING SYSTEMS—Continued

If you use . . .	You shall . . .
	Each time that the unit is not operating, confirm that the meters read zero. Conduct a calibration check at least annually; conduct calibration checks following any period of more than 24 hours throughout which the meter reading exceeds the manufacturer's specified maximum operating range; at least monthly, inspect all components of the continuous parameter monitoring system for integrity and all electrical connections for continuity; record the results of each calibration check and inspection.
7. Pressure/Pressure drop[1] sensors.	Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure and minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
	Use a gauge with an accuracy of at least ±5 percent over the normal operating range or 0.12 kilopascals (0.5 inches of water column), whichever is greater.
	Review pressure sensor readings at least once a week for straightline (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated; using an instrument recommended by the sensor's manufacturer, check gauge calibration and transducer calibration annually; conduct calibration checks following any period of more than 24 hours throughout which the pressure exceeded the manufacturer's specified maximum rated pressure or install a new pressure sensor; at least quarterly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage, unless the CPMS has a redundant pressure sensor; record the results of each calibration check and inspection.
8. Air flow rate, gas flow rate, or total water (or scrubbing liquid) flow rate sensors.	Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances. If you elect to comply with Option 3 (Ni lb/hr) or Option 4 (Ni lb/1,000 lb of coke burn-off) for the HAP metal emission limitations in § 63.1564, install the continuous parameter monitoring system for gas flow rate as close as practical to the continuous opacity monitoring system; and if you don't use a continuous opacity monitoring system, install the continuous parameter monitoring system for gas flow rate as close as practical to the control device.
	Use a flow rate sensor with an accuracy of at least ±5 percent over the normal range of flow measured, or 1.9 liter per minute (0.5 gallons per minute), whichever is greater, for liquid flow.
	Use a flow rate sensor with an accuracy of at least ±5 percent over the normal range of flow measured, or 280 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow.
	Conduct a flow sensor calibration check at least biennially (every two years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor; at least quarterly, inspect all components for leakage, unless the CPMS has a redundant flow sensor; record the results of each calibration check and inspection.
9. Temperature sensors.	Locate the temperature sensor in the combustion zone, or in the ductwork immediately downstream of the combustion zone before any substantial heat exchange occurs or in the ductwork immediately downstream of the regenerator; locate the temperature sensor in a position that provides a representative temperature; shield the temperature sensor system from electromagnetic interference and chemical contaminants.
	Use a temperature sensor with an accuracy of at least ±1 percent over the normal range of temperature measured, expressed in degrees Celsius (C), or 2.8 degrees C, whichever is greater.
	Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the temperature exceeded the manufacturer's specified maximum rated temperature or install a new temperature sensor; at least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion, unless the CPMS has a redundant temperature sensor; record the results of each calibration check and inspection.
10. Oxygen content sensors[2].	Locate the oxygen sensor so that it provides a representative measurement of the oxygen content of the exit gas stream; ensure the sample is properly mixed and representative of the gas to be measured.
	Use an oxygen sensor with an accuracy of at least ±1 percent of the range of the sensor or to a nominal gas concentration of ±0.5 percent, whichever is greater.
	Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the sensor reading exceeds the manufacturer's specified maximum operating range or install a new oxygen sensor; at least quarterly, inspect all components for integrity and all electrical connections for continuity; record the results of each calibration and inspection.

[1] Not applicable to non-venturi wet scrubbers of the jet-ejector design.

[2] This does not replace the requirements for oxygen monitors that are required to use continuous emissions monitoring systems. The requirements in this table apply to oxygen sensors that are continuous parameter monitors, such as those that monitor combustion zone oxygen concentration and regenerator exit oxygen concentration.

■ 86. Table 43 to subpart UUU is revised to read as follows:

As stated in § 63.1575(a), you shall meet each requirement in the following table that applies to you.

TABLE 43 TO SUBPART UUU OF PART 63—REQUIREMENTS FOR REPORTS

You must submit . . .	The report must contain . . .	You shall submit the report . . .
1. A compliance report	If there are no deviations from any emission limitation or work practice standard that applies to you, a statement that there were no deviations from the standards during the reporting period and that no continuous opacity monitoring system or continuous emission monitoring system was inoperative, inactive, out-of-control, repaired, or adjusted; if you have a deviation from any emission limitation or work practice standard during the reporting period, the report must contain the information in § 63.1575(c) through (e).	Semiannually according to the requirements in § 63.1575(b).
2. Performance test and CEMS performance evaluation data.	On and after January 30, 2019, the information specified in § 63.1575(k)(1).	Within 60 days after the date of completing each test according to the requirements in § 63.1575(k).

■ 87. Table 44 to subpart UUU of part 63 is revised to read as follows:

As stated in § 63.1577, you shall meet each requirement in the following table that applies to you.

TABLE 44 TO SUBPART UUU OF PART 63—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.1(a)(1)–(4)	General Applicability	Yes	
§ 63.1(a)(5)	[Reserved]	Not applicable	
§ 63.1(a)(6)		Yes	Except the correct mail drop (MD) number is C404–04.
§ 63.1(a)(7)–(9)	[Reserved]	Not applicable	
§ 63.1(a)(10)–(12)		Yes	Except that this subpart specifies calendar or operating day.
§ 63.1(b)(1)	Initial Applicability Determination for this part.	Yes	
§ 63.1(b)(2)	[Reserved]	Not applicable	
§ 63.1(b)(3)		Yes	
§ 63.1(c)(1)	Applicability of this part after a Relevant Standard has been set under this part.	Yes	
§ 63.1(c)(2)		No	Area sources are not subject to this subpart.
§ 63.1(c)(3)–(4)	[Reserved]	Not applicable	
§ 63.1(c)(5)		Yes	
§ 63.1(d)	[Reserved]	Not applicable	
§ 63.1(e)	Applicability of Permit Program	Yes	
§ 63.2	Definitions	Yes	§ 63.1579 specifies that if the same term is defined in subparts A and UUU of this part, it shall have the meaning given in this subpart.
§ 63.3	Units and Abbreviations	Yes	
§ 63.4(a)(1)–(2)	Prohibited Activities	Yes	
§ 63.4(a)(3)–(5)	[Reserved]	Not applicable	
§ 63.4(b)–(c)	Circumvention and Fragmentation	Yes	
§ 63.5(a)	Construction and Reconstruction	Yes	
§ 63.5(b)(1)		Yes	
§ 63.5(b)(2)	[Reserved]	Not applicable	
§ 63.5(b)(3)–(4)		Yes	In § 63.5(b)(4), replace the reference to § 63.9(b) with § 63.9(b)(4) and (5).
§ 63.5(b)(5)	[Reserved]	Not applicable	
§ 63.5(b)(6)		Yes	
§ 63.5(c)	[Reserved]	Not applicable	
§ 63.5(d)(1)(i)	Application for Approval of Construction or Reconstruction—General Application Requirements.	Yes	Except this subpart specifies the application is submitted as soon as practicable before startup but not later than 90 days after the promulgation date if construction or reconstruction had commenced and initial startup had not occurred before promulgation.

TABLE 44 TO SUBPART UUU OF PART 63—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.5(d)(1)(ii)		Yes	Except that emission estimates specified in § 63.5(d)(1)(ii)(H) are not required, and § 63.5(d)(1)(ii)(G) and (I) are Reserved and do not apply.
§ 63.5(d)(1)(iii)		No	This subpart specifies submission of notification of compliance status.
§ 63.5(d)(2)		Yes	
§ 63.5(d)(3)		Yes	
§ 63.5(d)(4)		Yes	
§ 63.5(e)	Approval of Construction or Reconstruction.	Yes	
§ 63.5(f)(1)	Approval of Construction or Reconstruction Based on State Review.	Yes	
§ 63.5(f)(2)		Yes	Except that the cross-reference to § 63.9(b)(2) does not apply.
§ 63.6(a)	Compliance with Standards and Maintenance—Applicability.	Yes	
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources.	Yes	
§ 63.6(b)(5)		Yes	Except that this subpart specifies different compliance dates for sources.
§ 63.6(b)(6)	[Reserved]	Not applicable	
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Yes	
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources.	Yes	Except that this subpart specifies different compliance dates for sources subject to Tier II gasoline sulfur control requirements.
§ 63.6(c)(3)–(4)	[Reserved]	Not applicable	
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Yes	
§ 63.6(d)	[Reserved]	Not applicable	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.1570(c) for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions as Soon as Possible.	No	
§ 63.6(e)(1)(iii)	Compliance with Standards and Maintenance Requirements.	Yes	
§ 63.6(e)(2)	[Reserved]	Not Applicable	
§ 63.6(e)(3)(i)	Startup, Shutdown, and Malfunction Plan Requirements.	No	
§ 63.6(e)(3)(ii)	[Reserved]	Not applicable	
§ 63.6(e)(3)(iii)–(ix)		No	
§ 63.6(f)(1)	SSM Exemption	No	
§ 63.6(f)(2)(i)–(iii)(C)	Compliance with Standards and Maintenance Requirements.	Yes	
§ 63.6(f)(2)(iii)(D)		Yes	
§ 63.6(f)(2)(iv)–(v)		Yes	
§ 63.6(f)(3)		Yes	Except the cross-references to § 63.6(f)(1) and (e)(1)(i) are changed to § 63.1570(c).
§ 63.6(g)	Alternative Standard	Yes	
§ 63.6(h)(1)	SSM Exemption for Opacity/VE Standards.	No	
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards.	No	This subpart specifies methods.
§ 63.6(h)(2)(ii)	[Reserved]	Not applicable	
§ 63.6(h)(2)(iii)		Yes	
§ 63.6(h)(3)	[Reserved]	Not applicable	
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date.	Yes	Applies to Method 22 (40 CFR part 60, appendix A–7) tests.
§ 63.6(h)(5)	Conducting Opacity/VE Observations	No	
§ 63.6(h)(6)	Records of Conditions During Opacity/VE Observations.	Yes	Applies to Method 22 (40 CFR part 60, appendix A–7) observations.
§ 63.6(h)(7)(i)	Report COM Monitoring Data from Performance Test.	Yes	
§ 63.6(h)(7)(ii)	Using COM Instead of Method 9	No	

TABLE 44 TO SUBPART UUU OF PART 63—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.6(h)(7)(iii)	Averaging Time for COM during Performance Test.	Yes	
§ 63.6(h)(7)(iv)	COM Requirements	Yes	
§ 63.6(h)(7)(v)	COMS Results and Visual Observations.	Yes	
§ 63.6(h)(8)	Determining Compliance with Opacity/VE Standards.	Yes	
§ 63.6(h)(9)	Adjusted Opacity Standard	Yes	
§ 63.6(i)(1)–(14)	Extension of Compliance	Yes	Extension of compliance under § 63.6(i)(4) not applicable to a facility that installs catalytic cracking feed hydrotreating and receives an extended compliance date under § 63.1563(c).
§ 63.6(i)(15)	[Reserved]	Not applicable	
§ 63.6(i)(16)		Yes	
§ 63.6(j)	Presidential Compliance Exemption	Yes	
§ 63.7(a)(1)	Performance Test Requirements Applicability.	Yes	Except that this subpart specifies the applicable test and demonstration procedures.
§ 63.7(a)(2)	Performance Test Dates	Yes	Except test results must be submitted in the Notification of Compliance Status report due 150 days after the compliance date.
§ 63.7(a)(3)	Section 114 Authority	Yes	
§ 63.7(a)(4)	Force Majeure	Yes	
§ 63.7(b)	Notifications	Yes	Except that this subpart specifies notification at least 30 days prior to the scheduled test date rather than 60 days.
§ 63.7(c)	Quality Assurance Program/Site-Specific Test Plan.	Yes	Except that when this subpart specifies to use 40 CFR part 60, appendix F, out of control periods are to be defined as specified in part 60, appendix F.
§ 63.7(d)	Performance Test Facilities	Yes	
§ 63.7(e)(1)	Performance Testing	No	See § 63.1571(b)(1).
§ 63.7(e)(2)–(4)	Conduct of Tests	Yes	
§ 63.7(f)	Alternative Test Method	Yes	
§ 63.7(g)	Data Analysis, Recordkeeping, Reporting.	Yes	Except performance test reports must be submitted with notification of compliance status due 150 days after the compliance date, and § 63.7(g)(2) is reserved and does not apply.
§ 63.7(h)	Waiver of Tests	Yes	
§ 63.8(a)(1)	Monitoring Requirements-Applicability	Yes	
§ 63.8(a)(2)	Performance Specifications	Yes	
§ 63.8(a)(3)	[Reserved]	Not applicable	
§ 63.8(a)(4)	Monitoring with Flares	Yes	Except that for a flare complying with § 63.670, the cross-reference to § 63.11 in this paragraph does not include § 63.11(b).
§ 63.8(b)(1)	Conduct of Monitoring	Yes	
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	Yes	This subpart specifies the required monitoring locations.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Yes	
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No	See § 63.1570(c).
§ 63.8(c)(1)(ii)	Keep Necessary Parts for CMS	Yes	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS.	No	

TABLE 44 TO SUBPART UUU OF PART 63—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.8(c)(2)–(3)	Monitoring System Installation	Yes	Except that this subpart specifies that for continuous parameter monitoring systems, operational status verification includes completion of manufacturer written specifications or installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment will monitor accurately.
§ 63.8(c)(4)	Continuous Monitoring System Requirements.	Yes	
§ 63.8(c)(5)	COMS Minimum Procedures	Yes	
§ 63.8(c)(6)	CMS Requirements	Yes	
§ 63.8(c)(7)–(8)	CMS Requirements	Yes	
§ 63.8(d)(1)–(2)	Quality Control Program for CMS	Yes	
§ 63.8(d)(3)	Written Procedures for CMS	No	
§ 63.8(e)	CMS Performance Evaluation	Yes	Except that results are to be submitted as part of the Notification Compliance Status due 150 days after the compliance date.
§ 63.8(f)(1)–(5)	Alternative Monitoring Methods	Yes	Except that this subpart specifies procedures for requesting alternative monitoring systems and alternative parameters.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Yes	Applicable to continuous emission monitoring systems if performance specification requires a relative accuracy test audit.
§ 63.8(g)(1)–(4)	Reduction of Monitoring Data	Yes	Applies to continuous opacity monitoring system or continuous emission monitoring system.
§ 63.8(g)(5)	Data Reduction	No	This subpart specifies requirements.
§ 63.9(a)	Notification Requirements—Applicability.	Yes	Duplicate Notification of Compliance Status report to the Regional Administrator may be required.
§ 63.9(b)(1)–(2)	Initial Notifications	Yes	Except that notification of construction or reconstruction is to be submitted as soon as practicable before startup but no later than 30 days after the effective date if construction or reconstruction had commenced but startup had not occurred before the effective date.
§ 63.9(b)(3)	[Reserved]	Not applicable	
§ 63.9(b)(4)–(5)	Initial Notification Information	Yes	Except § 63.9(b)(4)(ii)–(iv), which are reserved and do not apply.
§ 63.9(c)	Request for Extension of Compliance	Yes	
§ 63.9(d)	New Source Notification for Special Compliance Requirements.	Yes	
§ 63.9(e)	Notification of Performance Test	Yes	Except that notification is required at least 30 days before test.
§ 63.9(f)	Notification of VE/Opacity Test	Yes	
§ 63.9(g)	Additional Notification Requirements for Sources with Continuous Monitoring Systems.	Yes	
§ 63.9(h)	Notification of Compliance Status	Yes	Except that this subpart specifies the notification is due no later than 150 days after compliance date, and except that the reference to § 63.5(d)(1)(ii)(H) in § 63.9(h)(5) does not apply.
§ 63.9(i)	Adjustment of Deadlines	Yes	
§ 63.9(j)	Change in Previous Information	Yes	
63.10(a)	Recordkeeping and Reporting Applicability.	Yes	
§ 63.10(b)(1)	General Recordkeeping Requirements.	Yes	

TABLE 44 TO SUBPART UUU OF PART 63—APPLICABILITY OF NESHAP GENERAL PROVISIONS TO SUBPART UUU—Continued

Citation	Subject	Applies to subpart UUU	Explanation
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No	
§ 63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.1576(a)(2) for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions taken to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Maintenance Records	Yes	
§ 63.10(b)(2)(iv)–(v)	Actions Taken to Minimize Emissions During SSM.	No	
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions	Yes	
§ 63.10(b)(2)(vii)–(xiv)	Other CMS Requirements	Yes	
§ 63.10(b)(3)	Recordkeeping for Applicability Determinations..	Yes	
§ 63.10(c)(1)–(6)	Additional Records for Continuous Monitoring Systems.	Yes	Except § 63.10(c)(2)–(4), which are Reserved and do not apply.
§ 63.10(c)(7)–(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions.	Yes	
§ 63.10(c)(9)	[Reserved]	Not applicable	
§ 63.10(c)(10)	Recording Nature and Cause of Malfunctions.	No	See § 63.1576(a)(2) for malfunctions recordkeeping requirements.
§ 63.10(c)(11)	Recording Corrective Actions	No	See § 63.1576(a)(2) for malfunctions recordkeeping requirements.
§ 63.10(c)(12)–(14)	Additional CMS Recordkeeping Requirements.	Yes	
§ 63.10(c)(15)	Use of SSM Plan	No	
§ 63.10(d)(1)	General Reporting Requirements	Yes	
§ 63.10(d)(2)	Performance Test Results	No	This subpart requires performance test results to be reported as part of the Notification of Compliance Status due 150 days after the compliance date.
§ 63.10(d)(3)	Opacity or VE Observations	Yes	
§ 63.10(d)(4)	Progress Reports	Yes	
§ 63.10(d)(5)	SSM Reports	No	See § 63.1575(d) for CPMS malfunction reporting and § 63.1575(e) for COMS and CEMS malfunction reporting.
§ 63.10(e)(1)–(2)	Additional CMS Reports	Yes	Except that reports of performance evaluations must be submitted in Notification of Compliance Status.
§ 63.10(e)(3)	Excess Emissions/CMS Performance Reports.	No	This subpart specifies the applicable requirements.
§ 63.10(e)(4)	COMS Data Reports	Yes	
§ 63.10(f)	Recordkeeping/Reporting Waiver	Yes	
§ 63.11(a)	Control Device and Work Practice Requirements Applicability.	Yes	
§ 63.11(b)	Flares	Yes	Except that flares complying with § 63.670 are not subject to the requirements of § 63.11(b).
§ 63.11(c)–(e)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes	
§ 63.12	State Authority and Delegations	Yes	
§ 63.13	Addresses	Yes	
§ 63.14	Incorporation by Reference	Yes	
§ 63.15	Availability of Information and Confidentiality.	Yes	
§ 63.16	Performance Track Provisions	Yes	

■ 88. Appendix A to subpart UUU of part 63 is amended by revising the first sentence of section 2.1 and section 7.1.3 to read as follows:

Appendix A to Subpart UUU of Part 63—Determination of Metal Concentration on Catalyst Particles (Instrumental Analyzer Procedure)

* * * * *

2.1 A representative sample of catalyst particles is collected, prepared, and analyzed for analyte concentration using either energy or wavelength dispersive X-ray fluorescent (XRF) spectrometry instrumental analyzers. * * *

* * * * *

7.1.3 Low-Range Calibration Standard. Concentration equivalent to 1 to 20 percent of the span. The concentration of the low-range calibration standard should be selected so that it is less than either one-fourth of the applicable concentration limit or of the lowest concentration anticipated in the catalyst samples.

* * * * *

■ 89. Appendix A to part 63 is amended by adding Method 325A and Method 325B in numerical order to read as follows:

Appendix A to Part 63—Test Methods Pollutant Measurement Methods From Various Waste Media

* * * * *

Method 325A—Volatile Organic Compounds from Fugitive and Area Sources:

Sampler Deployment and VOC Sample Collection

1.0 Scope and Application

1.1 This method describes collection of volatile organic compounds (VOCs) at or inside a facility property boundary or from fugitive and area emission sources using passive (diffusive) tube samplers (PS). The concentration of airborne VOCs at or near these potential fugitive- or area-emission sources may be determined using this method in combination with Method 325B. Companion Method 325B (Sampler Preparation and Analysis) describes preparation of sampling tubes, shipment and storage of exposed sampling tubes, and analysis of sampling tubes collected using either this passive sampling procedure or alternative active (pumped) sampling methods.

1.2 This method may be used to determine the average concentration of the select VOCs using the corresponding uptake rates listed in Method 325B, Table 12.1. Additional compounds or alternative sorbents must be evaluated as described in Addendum A of Method 325B or by one of the following national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14), or reported in the peer-reviewed open literature.

1.3 Methods 325A and 325B are valid for the measurement of benzene. Supporting literature (References 1–8) indicates that benzene can be measured by flame ionization detection or mass spectrometry over a concentration range of approximately 0.5 micrograms per cubic meter (μg/m^3) to at least 500 μg/m^3 when industry standard (3.5 inch long × 0.25 inch outside diameter (o.d.) × 5 mm inner diameter (i.d.)) inert-coated stainless steel sorbent tubes packed with Carbograph™ 1 TD, Carbopack™ B, or Carbopack™ X or equivalent are used and when samples are accumulated over a period of 14 days.

1.4 This method may be applied to screening average airborne VOC concentrations at facility property boundaries or monitoring perimeters over an extended period of time using multiple sampling periods (*e.g.*, 26 × 14-day sampling periods). The duration of each sampling period is normally 14 days.

1.5 This method requires the collection of local meteorological data (wind speed and direction, temperature, and barometric pressure). Although local meteorology is a component of this method, non-regulatory applications of this method may use regional meteorological data. Such applications risk that the results may not identify the precise source of the emissions.

2.0 Summary of the Method

2.1 Principle of the Method

The diffusive passive sampler collects VOC from air for a measured time period at a rate that is proportional to the concentration of vapor in the air at that location.

2.1.1 This method describes the deployment of prepared passive samplers, including determination of the number of passive samplers needed for each survey and placement of samplers along or inside the facility property boundary depending on the size and shape of the site or linear length of the boundary.

2.1.2 The rate of sampling is specific to each compound and depends on the diffusion constants of that VOC and the sampler dimensions/characteristics as determined by prior calibration in a standard atmosphere (Reference 1).

2.1.3 The gaseous VOC target compounds migrate through a constant diffusion barrier (*e.g.*, an air gap of fixed dimensions) at the sampling end of the diffusion sampling tube and adsorb onto the sorbent.

2.1.4 Heat and a flow of inert carrier gas are then used to extract (desorb) the retained VOCs back from the sampling end of the tube and transport/transfer them to a gas chromatograph (GC) equipped with a chromatographic column to separate the VOCs and a detector to determine the quantity of target VOCs.

2.1.5 Gaseous or liquid calibration standards loaded onto the sampling ends of clean sorbent tubes must be used to calibrate the analytical equipment.

2.1.6 This method requires the use of field blanks to ensure sample integrity associated with shipment, collection, and storage of the passive samples. It also requires the use of field duplicates to validate the sampling process.

2.1.7 At the end of each sampling period, the passive samples are collected, sealed, and shipped to a laboratory for analysis of target VOCs by thermal desorption gas chromatography, as described in Method 325B.

2.2 Application of Diffusive Sampling

2.2.1 This method requires deployment of passive sampling tubes on a monitoring perimeter encompassing all known emission sources at a facility and collection of local meteorological data. It may be used to determine average concentration of VOC at a facility's ''fenceline'' using time integrated passive sampling (Reference 2).

2.2.2 Collecting samples and meteorological data at progressively higher frequencies may be employed to resolve shorter term concentration fluctuations and wind conditions that could introduce interfering emissions from other sources.

2.2.3 This passive sampling method provides a low cost approach to screening of fugitive or area emissions compared to active sampling methods that are based on pumped sorbent tubes or time weighted average canister sampling.

2.2.3.1 Additional passive sampling tubes may be deployed at different distances from the facility property boundary or from the geometric center of the fugitive emission source.

2.2.3.2 Additional meteorological measurements may also be collected as needed to perform preliminary gradient-based assessment of the extent of the pollution plume at ground level and the effect of ''background'' sources contributing to airborne VOC concentrations at the location.

2.2.4 Time-resolved concentration measurements coupled with time-resolved meteorological monitoring may be used to generate data needed for source apportionment procedures and mass flux calculations.

3.0 Definitions

(See also Section 3.0 of Method 325B.)

3.1 *Fenceline* means the property boundary of a facility or internal monitoring perimeter established in accordance with the requirements in Section 8.2 of this method.

3.2 *Passive sampler (PS)* means a specific type of sorbent tube (defined in this method) that has a fixed dimension air (diffusion) gap at the sampling end and is sealed at the other end.

3.3 *Passive sampling* refers to the activity of quantitatively collecting VOC on sorbent tubes using the process of diffusion.

3.4 PS_i is the annual average for all PS concentration results from location *i*.

3.5 PS_{i3} is the set of annual average concentration results for PS_i and two sorbent tubes nearest to the PS location *i*.

3.6 PS_{ip} is the concentration from the sorbent tube at location *i* for the test period or episode p.

3.7 *Sampling period* is the length of time each passive sampler is exposed during field monitoring. The sampling period for this method is 14 days.

3.8 *Sorbent tube* (Also referred to as tube, PS tube, adsorbent tube, and sampling tube) is an inert coated stainless steel tube. Standard PS tube dimensions for this method are 3.5-inch (89 mm) long × 0.25-inch (6.4 mm) o.d. with an i.d. of 5 mm, a cross-sectional area of 19.6 mm^2 and an air gap of 15 mm. The central portion of the tube is packed with solid adsorbent material contained between 2 × 100-mesh stainless steel gauzes and terminated with a diffusion cap at the sampling end of the tube. These axial passive samplers are installed under a protective hood during field deployment.

Note: Glass and glass- (or fused silica-) lined stainless steel sorbent tubes (typically 4 mm i.d.) are also available in various lengths to suit different makes of thermal desorption equipment, but these are rarely used for passive sampling because it is more difficult to adequately define the diffusive air gap in glass or glass-line tubing. Such tubes are not recommended for this method.

4.0 Sampling Interferences

4.1 General Interferences

Passive tube samplers should be sited at a distance beyond the influence of possible obstructions such as trees, walls, or buildings at the monitoring site. Complex topography and physical site obstructions, such as bodies of water, hills, buildings, and other structures that may prevent access to a planned PS location must be taken into consideration. You must document and report siting interference with the results of this method.

4.2 Background Interference

Nearby or upwind sources of target emissions outside the facility being tested can contribute to background concentrations. Moreover, because passive samplers measure continuously, changes in wind direction can cause variation in the level of background concentrations from interfering sources during the monitoring period. This is why local meteorological information, particularly wind direction and speed, is required to be collected throughout the monitoring period. Interfering sources can include neighboring industrial facilities, transportation facilities, fueling operations, combustion sources, short-term transient sources, residential sources, and nearby highways or roads. As PS data are evaluated, the location of potential interferences with respect to PS locations and local wind conditions should be considered, especially when high PS concentration values are observed.

4.3 Tube Handling

You must protect the PS tubes from gross external contamination during field sampling. Analytical thermal desorption equipment used to analyze PS tubes must desorb organic compounds from the interior of PS tubes and exclude contamination from external sampler surfaces in the analytical/sample flow path. If the analytical equipment does not comply with this requirement, you must wear clean, white, cotton or powder-free nitrile gloves to handle sampling tubes to prevent contamination of the external sampler surfaces. Sampling tubes must be capped with two-piece, brass, 0.25 inch, long-term storage caps fitted with combined polytetrafluoroethylene ferrules (see Section 6.1 and Method 325B) to prevent ingress of airborne contaminants outside the sampling period. When not being used for field monitoring, the capped tubes must be stored in a clean, air-tight, shipping container to prevent the collection of VOCs (see Section 6.4.2 of Method 325B).

4.4 Local Weather Conditions and Airborne Particulates

Although air speeds are a constraint for many forms of passive samplers, axial tube PS devices have such a slow inherent uptake rate that they are largely immune to these effects (References 4,5). Passive samplers must nevertheless be deployed under non-emitting weatherproof hoods to moderate the effect of local weather conditions such as solar heating and rain. The cover must not impede the ingress of ambient air. Sampling tubes should also be orientated vertically and pointing downwards, to minimize accumulation of particulates.

4.5 Temperature

The normal working range for field sampling for sorbent packing is 0–40 °C (References 6,7). Note that most published passive uptake rate data for sorbent tubes is quoted at 20 °C. Note also that, as a rough guide, an increase in temperature of 10 °C will reduce the collection capacity for a given analyte on a given sorbent packing by a factor of 2, but the uptake rate will not change significantly (Reference 4).

5.0 Safety

This method does not purport to include all safety issues or procedures needed when deploying or collecting passive sampling tubes. Precautions typical of field air sampling projects are required. Tripping, falling, electrical, and weather safety considerations must all be included in plans to deploy and collect passive sampling tubes.

6.0 Sampling Equipment and Supplies, and Pre-Deployment Planning

This section describes the equipment and supplies needed to deploy passive sampling monitoring equipment at a facility property boundary. Details of the passive sampling tubes themselves and equipment required for subsequent analysis are described in Method 325B.

6.1 Passive Sampling Tubes

The industry standard PS tubes used in this method must meet the specific configuration and preparation requirements described in Section 3.0 of this method and Section 6.1 of Method 325B.

Note: The use of PS tubes packed with various sorbent materials for monitoring a wide variety of organic compounds in ambient air has been documented in the literature (References 4–10). Other sorbents may be used in standard passive sampling tubes for monitoring additional target compound(s) once their uptake rate and performance has been demonstrated following procedures in Addendum A to Method 325B. Guidance on sorbent selection can also be obtained from relevant national and international standard methods such as ASTM D6196–03 (Reapproved 2009) (Reference 14) and ISO 16017–2:2003(E) (Reference 13) (both incorporated by reference—see § 63.14).

6.2 Passive or Diffusive Sampling Cap

One diffusive sampling cap is required per PS tube. The cap fits onto the sampling end of the tube during air monitoring. The other end of the tube remains sealed with the long-term storage cap. Each diffusive sampling cap is fitted with a stainless steel gauze, which defines the outer limit of the diffusion air gap.

6.3 Sorbent Tube Protection Cover

A simple weatherproof hood, suitable for protecting passive sampling tubes from the worst of the weather (see Section 4.4) consists of an inverted cone/funnel constructed of an inert, non-outgassing material that fits over the diffusive tube, with the open (sampling) end of the tube projecting just below the cone opening. An example is shown in Figure 6.1 (Adapted from Reference 13).

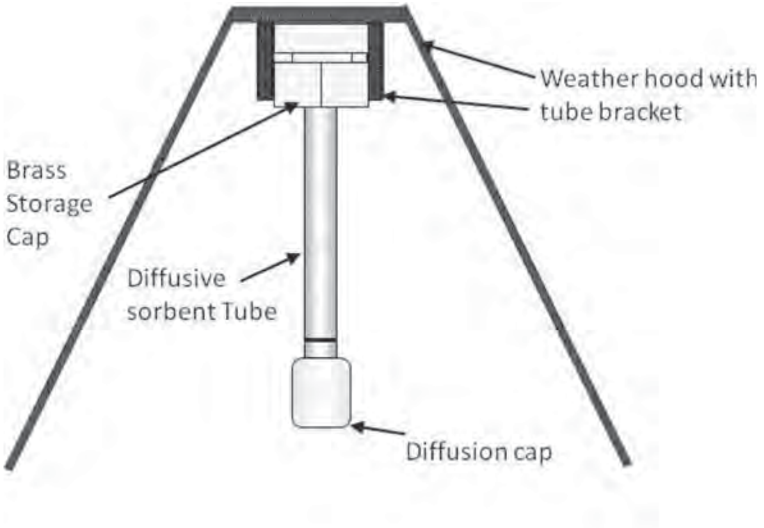

Figure 6.1. PS Tube with Weather Protector

6.4 Thermal Desorption Apparatus

If the analytical thermal desorber that will subsequently be used to analyze the passive sampling tubes does not meet the requirement to exclude outer surface contaminants from the sample flow path (see Section 6.6 of Method 325B), then clean, white, cotton or powder-free nitrile gloves must be used for handling the passive sampling tubes during field deployment.

6.5 Sorbent Selection

Sorbent tube configurations, sorbents or other VOC not listed in this method must be evaluated according to Method 325B, Addendum A or ISO 16017–2:2003(E) (Reference 13) (incorporated by reference—see § 63.14). The supporting evaluation and verification data described in Method 325B, Addendum A for configurations or compounds different from the ones described in this method must meet the performance requirements of Method 325A/B and must be submitted with the test plan for your measurement program.

7.0 Reagents and Standards

No reagents or standards are needed for the field deployment and collection of passive sampling tubes. Specifications for sorbents, gas and liquid phase standards, preloaded standard tubes, and carrier gases are covered in Section 7 of Method 325B.

8.0 Sample Deployment, Recovery, and Storage

Pre-deployment and planning steps are required before field deployment of passive sampling tubes. These activities include but are not limited to conducting a site visit, determining suitable and required monitoring locations, and determining the monitoring frequency to be used.

8.1 Conducting the Site Visit

8.1.1 Determine the size and shape of the facility footprint in order to determine the required number of monitoring locations.

8.1.2 Identify obstacles or obstructions (buildings, roads, fences), hills and other terrain issues (*e.g.,* bodies of water or swamp land) that could interfere with air parcel flow to the sampler or that prevent reasonable access to the location. You may use the general guidance in Section 4.1 of this method during the site visit to identify sampling locations. You must evaluate the placement of each passive sampler to determine if the conditions in this section are met.

8.1.3 Identify to the extent possible and record potential off-site source interferences (*e.g.,* neighboring industrial facilities, transportation facilities, fueling operations, combustion sources, short-term transient sources, residential sources, nearby highways).

8.1.4 Identify the closest available meteorological station. Identify potential locations for one or more on-site or near-site meteorological station(s) following the guidance in EPA–454/B–08–002 (Reference 11) (incorporated by reference—see § 63.14).

8.2 Determining Sampling Locations (References 2, 3)

8.2.1 The number and placement of the passive samplers depends on the size, the shape of the facility footprint or the linear distance around the facility, and the proximity of emission sources near the property boundaries. Aerial photographs or site maps may be used to determine the size (acreage) and shape of the facility or the length of the monitoring perimeter. Place passive samplers on an internal monitoring perimeter on or inside the facility boundary encompassing all emission sources at the facility at different angles circling the geometric center of the facility or at different distances based on the monitoring perimeter length of the facility.

Note: In some instances, permanent air monitoring stations may already be located in close proximity to the facility. These stations may be operated and maintained by the site, or local or state regulatory agencies. If access to the station is possible, a PS may be deployed adjacent to other air monitoring instrumentation. A comparison of the pollutant concentrations measured with the PS to concentrations measured by site instrumentation may be used as an optional data quality indicator to assess the accuracy of PS results.

8.2.1.1 The monitoring perimeter may be located between the property boundary and any potential emission source near the property boundary, as long as the distance from the source to the monitoring perimeter is at least 50 meters (162 feet). If a potential emissions source is within 50 meters (162 feet) of the property boundary, the property boundary shall be used as the monitoring perimeter near that source.

8.2.1.2 Samplers need only be placed around the monitoring perimeter and not along internal roads or other right of ways that may bisect the facility.

8.2.1.3 Extra samplers must be placed near known sources of VOCs if the potential emission source is within 50 meters (162 feet) of the boundary and the source location is between two monitors. Measure the distance (x) between the two monitors and place another monitor halfway between (x/2) the two monitors. For example, in Figure 8.1, the facility added three additional monitors (*i.e.,* light shaded sampler locations) and in Figure 8.2, the facility added two additional monitors to provide sufficient coverage of all area sources.

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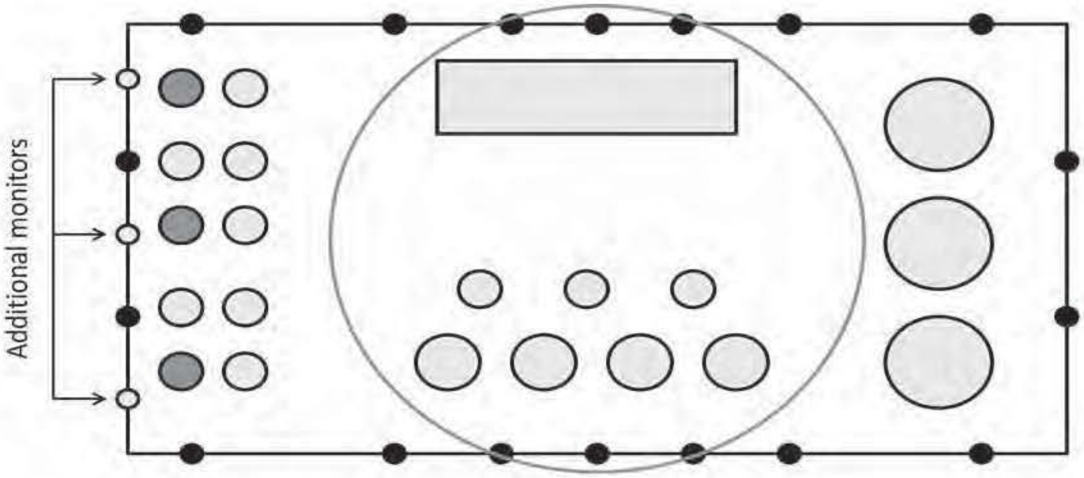
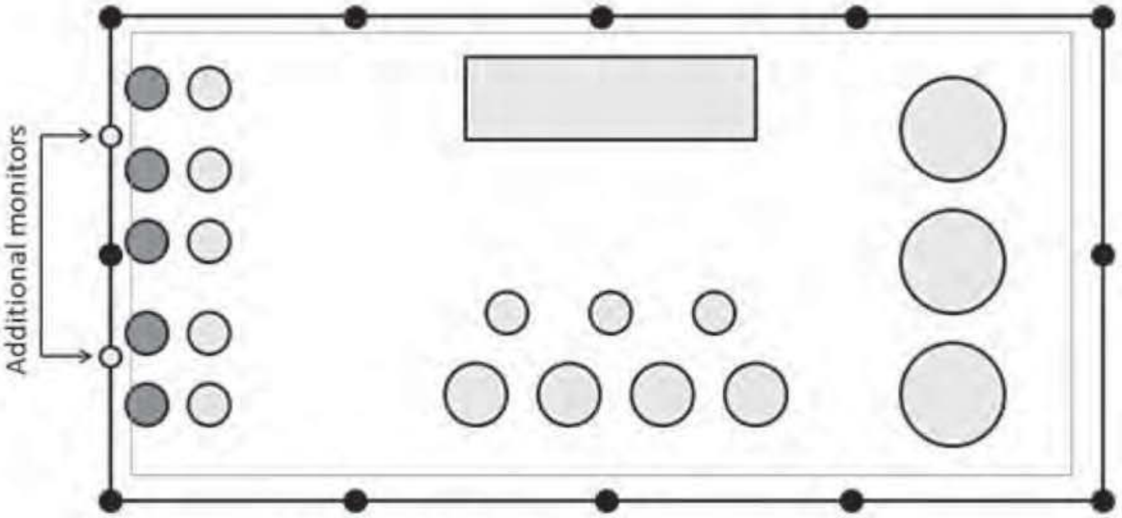


Refinery (20% Angle)

Note: Shaded sources are within 50 meters of the property boundary and are located between two monitors. Additional coverage required by this method was accomplished by placing the monitors halfway between two existing monitors.

Figure 8.1. Facility with a Regular Shape Between 750 and 1,500 Acres in Area



Refinery (24,000 Feet Perimeter)

Note: Shaded sources are within 50 meters of the property boundary and are located between two monitors. Additional coverage required by this method was accomplished by placing the monitors halfway between two existing monitors.

Figure 8.2. Facility with a Boundary Length of 24,000 feet

8.2.2 Option 1 for Determining Sampling Locations.

8.2.2.1 For facilities with a regular (circular, triangular, rectangular, or square) shape, determine the geographic center of the facility.

8.2.2.1.1 For facilities with an area of less than or equal to 750 acres, measure angles of 30 degrees from the center point for a total of twelve 30 degree measurements evenly spaced (±1 degree).

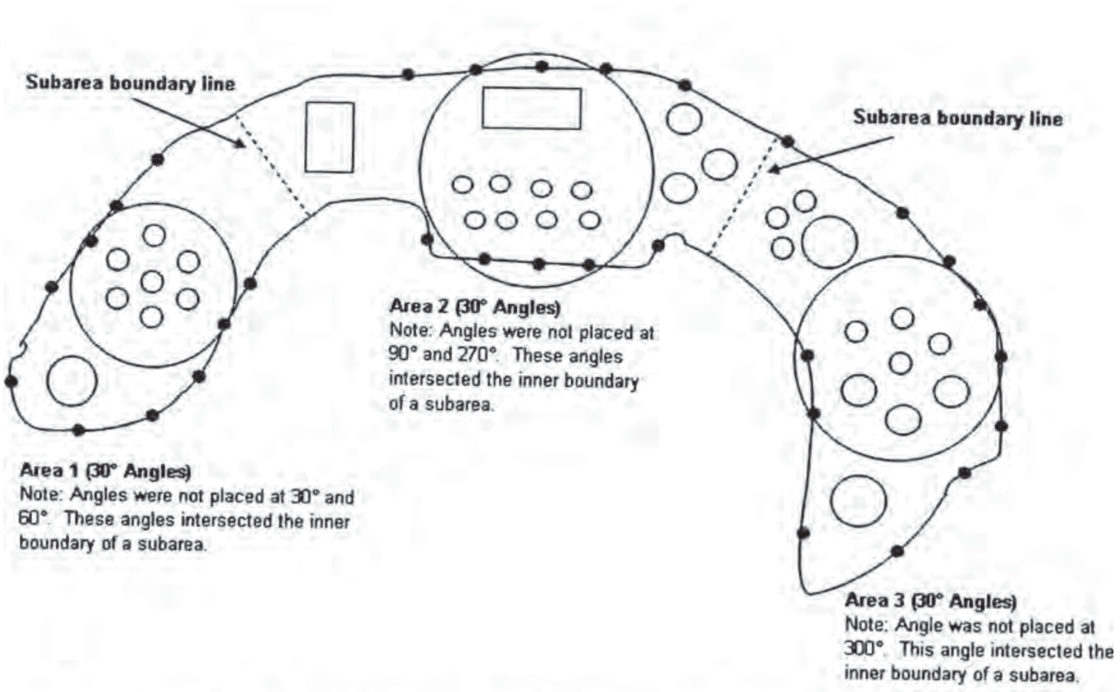
8.2.2.1.2 For facilities covering an area greater than 750 acres but less than or equal to 1,500 acres, measure angles of 20 degrees from the center point for a total of eighteen 20 degree measurements evenly spaced (±1 degree). Figure 8.1 shows the monitor placement around the property boundary of a facility with an area between 750 and 1,500 acres. Monitor placements are represented with black dots along the property boundary.

8.2.2.1.3 For facilities covering an area greater than 1,500 acres, measure angles of 15 degrees from the center point for a total of twenty-four 15 degree measurements evenly spaced (±1 degree).

8.2.2.1.4 Locate each sampling point where the measured angle intersects the outer monitoring perimeter.

8.2.2.2 For irregularly shaped facilities, divide the area into a set of connecting subarea circles, triangles or rectangles to determine sampling locations. The subareas must be defined such that a circle can reasonably encompass the subarea. Then determine the geometric center point of each of the subareas.

8.2.2.2.1 If a subarea is less than or equal to 750 acres (*e.g.,* Figure 8.3), measure angles of 30 degrees from the center point for a total of twelve 30 degree measurements (±1 degree).



Area 1 (30° Angles)
Note: Angles were not placed at 30° and 60°. These angles intersected the inner boundary of a subarea.

Area 2 (30° Angles)
Note: Angles were not placed at 90° and 270°. These angles intersected the inner boundary of a subarea.

Area 3 (30° Angles)
Note: Angle was not placed at 300°. This angle intersected the inner boundary of a subarea.

Figure 8.3. Facility Divided into Three Subareas

8.2.2.2.2 If a subarea is greater than 750 acres but less than or equal to 1,500 acres (*e.g.,* Figure 8.4), measure angles of 20 degrees from the center point for a total of eighteen 20 degree measurements (±1 degree).

8.2.2.2.3 If a subarea is greater than 1,500 acres, measure angles of 15 degrees from the center for a total of twenty-four 15 degree measurements (±1 degree).

8.2.2.2.4 Locate each sampling point where the measured angle intersects the outer monitoring perimeter. Sampling points need not be placed closer than 152 meters (500 feet) apart (or 76 meters (250 feet) if known sources are within 50 meters (162 feet) of the monitoring perimeter), as long as a minimum of 3 monitoring locations are used for each subarea.

8.2.2.2.5 Sampling sites are not needed at the intersection of an inner boundary with an adjacent subarea. The sampling location must be sited where the measured angle intersects the subarea's outer monitoring perimeter.

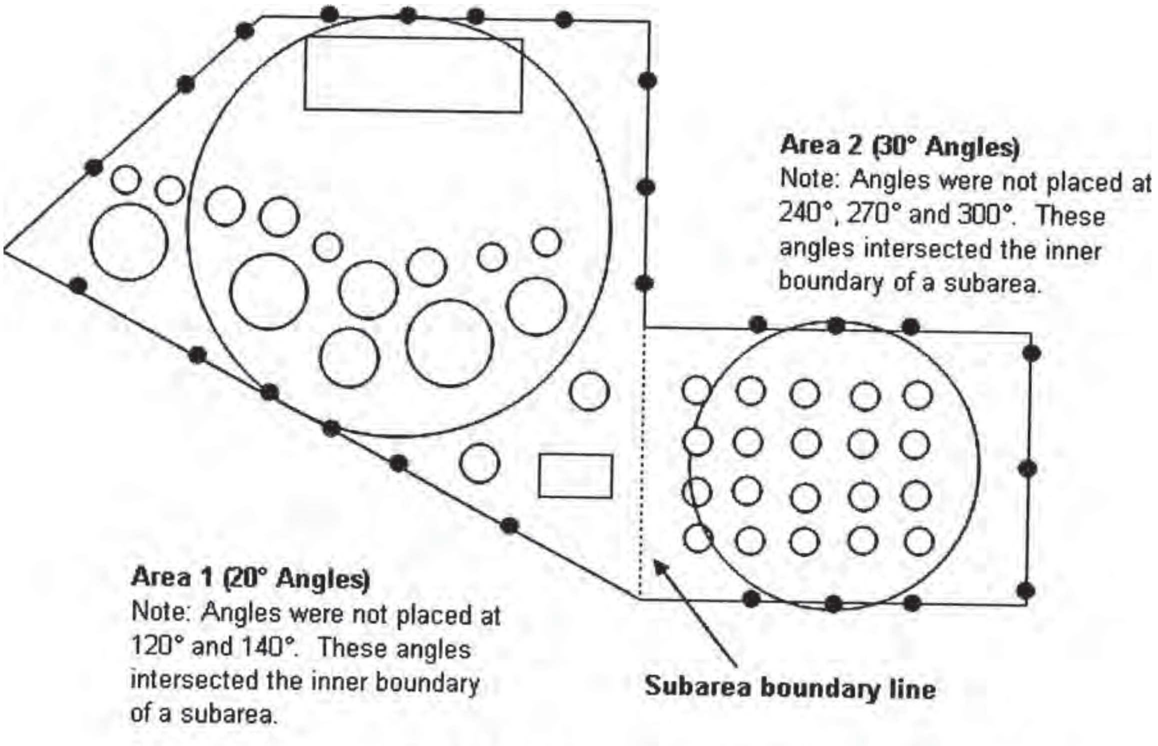


Figure 8.4. Facility Divided into Two Subareas

8.2.3 Option 2 for Determining Sampling Locations.

8.2.3.1 For facilities with a monitoring perimeter length of less than 7,315 meters (24,000 feet), a minimum of twelve sampling locations evenly spaced ±10 percent of the location interval is required.

8.2.3.2 For facilities with a monitoring perimeter length greater than 7,315 meters (24,000 feet), sampling locations are spaced 610 ±76 meters (2,000 ± 250 feet) apart.

8.3 Siting a Meteorological Station

A meteorological station is required at or near the facility you are monitoring. A number of commercially available meteorological stations can be used. Information on meteorological instruments can be found in EPA–454/R–99–005 (Reference 11) (incorporated by reference—see § 63.14). Some important considerations for siting of meteorological stations are detailed below.

8.3.1 Place meteorological stations in locations that represent conditions affecting the transport and dispersion of pollutants in the area of interest. Complex terrain may require the use of more than one meteorological station.

8.3.2 Deploy wind instruments over level, open terrain at a height of 10 meters (33 feet). If possible, locate wind instruments at a distance away from nearby structures that is equal to at least 10 times the height of the structure.

8.3.3 Protect meteorological instruments from thermal radiation and adequately ventilate them using aspirated shields. The temperature sensor must be located at a distance away from any nearby structures that is equal to at least four times the height of the structure. Temperature sensors must be located at least 30 meters (98 feet) from large paved areas.

8.3.4 Collect and record meteorological data, including wind speed, wind direction, temperature and barometric pressure on an hourly basis. Calculate average unit vector wind direction, sigma theta, temperature and barometric pressure per sampling period to enable calculation of concentrations at standard conditions. Supply this information to the laboratory.

8.3.5 Identify and record the location of the meteorological station by its GPS coordinate.

8.4 Monitoring Frequency

8.4.1 Sample collection may be performed for periods up to 14 days.

8.4.2 A site screening protocol that meets method requirements may be performed by collecting samples for a year where each PS accumulates VOC for a 14-day sampling period. Study results are accumulated for the sampling periods (typically 26) over the course of one calendar year. To the extent practical, sampling tubes should be changed at approximately the same time of day at each of the monitoring sites.

8.5 Passive Sampler Deployment

8.5.1 Clean (conditioned) sorbent tubes must be prepared and packaged by the laboratory as described in Method 325B and must be deployed for sampling within 30 days of conditioning.

8.5.2 Allow the tubes to equilibrate with ambient temperature (approximately 30 minutes to 1 hour) at the monitoring location before removing them from their storage/shipping container for sample collection.

8.5.3 If there is any risk that the analytical equipment will not meet the requirement to exclude contamination on outer tube surfaces from the sample flow path (see Section 6.6 of Method 325B), sample handlers must wear clean, white, cotton or powder-free nitrile gloves during PS deployment and collection and throughout any other tube handling operations.

8.5.4 Inspect the sampling tubes immediately prior to deployment. Ensure that they are intact, securely capped, and in good condition. Any suspect tubes (*e.g.*, tubes that appear to have leaked sorbent) should be removed from the sampling set.

8.5.5 Secure passive samplers so the bottom of the diffusive sampling cap is 1.5 to 3 meters (4.9 to 9.8 feet) above ground using a pole or other secure structure at each sampling location. Orient the PS vertically and with the sampling end pointing downward to avoid ingress of particulates.

Note: Duplicate sampling assemblies must be deployed in at least one monitoring location for every 10 monitoring locations during each field monitoring period.

8.5.6 Protect the PS from rain and excessive wind velocity by placing them under the type of protective hood described in Section 6.1.3 or equivalent.

8.5.7 Remove the storage cap on the sampling end of the tube and replace it with a diffusive sampling cap at the start of the sampling period. Make sure the diffusion cap is properly seated and store the removed storage caps in the empty tube shipping container.

8.5.8 Record the start time and location details for each sampler on the field sample data sheet (see example in Section 17.0.).

8.5.9 Expose the sampling tubes for the required sampling period-normally 14-days.

8.5.10 Field blank tubes (see Section 9.3 of Method 325B) are stored outside the shipping container at representative sampling locations around the site, but with both long-term storage caps kept in place throughout the monitoring exercise. Collect at least two field blanks sorbent samples per sampling period to ensure sample integrity associated with shipment, collection, and storage.

8.6 Sorbent Tube Recovery and Meteorological Data Collection

Recover deployed sampling tubes and field blanks as follows:

8.6.1 After the sampling period is complete, immediately replace the diffusion end cap on each sampled tube with a long-term storage end cap. Tighten the seal securely by hand and then tighten an additional quarter turn with an appropriate tool. Record the stop date and time and any additional relevant information on the sample data sheet.

8.6.2 Place the sampled tubes, together with the field blanks, in the storage/shipping container. Label the storage container, but do not use paints, markers, or adhesive labels to identify the tubes. TD-compatible electronic (radio frequency identification (RFID)) tube labels are available commercially and are compatible with some brands of thermal desorber. If used, these may be programmed with relevant tube and sample information, which can be read and automatically transcribed into the sequence report by the TD system.

Note: Sampled tubes must not be placed in the same shipping container as clean conditioned sampling tubes.

8.6.3 Sampled tubes may be shipped at ambient temperature to a laboratory for sample analysis.

8.6.4 Specify whether the tubes are field blanks or were used for sampling and document relevant information for each tube using a Chain of Custody form (see example in Section 17.0) that accompanies the samples from preparation of the tubes through receipt for analysis, including the following information: Unique tube identification numbers for each sampled tube; the date, time, and location code for each PS placement; the date, time, and location code for each PS recovery; the GPS reference for each sampling location; the unique identification number of the duplicate sample (if applicable); and problems or anomalies encountered.

8.6.5 If the sorbent tubes are supplied with electronic (*e.g.,* RFID) tags, it is also possible to allocate a sample identifier to each PS tube. In this case, the recommended format for the identification number of each sampled tube is AA–BB–CC–DD–VOC, where:

AA = Sequence number of placement on route (01, 02, 03 . . .)
BB = Sampling location code (01, 02, 03 . . .)
CC = 14-day sample period number (01 to 26)
DD = Sample code (SA = sample, DU = duplicate, FB = field blank)
VOC = 3-letter code for target compound(s) (*e.g.,* BNZ for benzene or BTX for benzene, toluene, and xylenes)

Note: Sampling start and end times/dates can also be logged using RFID tube tags.

9.0 Quality Control

9.1 Most quality control checks are carried out by the laboratory and associated requirements are in Section 9.0 of Method 325B, including requirements for laboratory blanks, field blanks, and duplicate samples.

9.2 Evaluate for potential outliers the laboratory results for neighboring sampling tubes collected over the same time period. A potential outlier is a result for which one or more PS tube does not agree with the trend in results shown by neighboring PS tubes—particularly when data from those locations have been more consistent during previous sampling periods. Accidental contamination by the sample handler must be documented before any result can be eliminated as an outlier. Rare but possible examples of contamination include loose or missing storage caps or contaminated storage/shipping containers. Review data from the same and neighboring monitoring locations for the subsequent sampling periods. If the anomalous result is not repeated for that monitoring location, the episode can be ascribed to transient contamination and the data in question must be flagged for potential elimination from the dataset.

9.3 Duplicates and Field Blanks

9.3.1 Collect at least one co-located/duplicate sample for every 10 field samples to determine precision of the measurements.

9.3.2 Collect at least two field blanks sorbent samples per sampling period to ensure sample integrity associated with shipment, collection, and storage. You must use the entire sampling apparatus for field blanks including unopened sorbent tubes mounted in protective sampling hoods. The tube closures must not be removed. Field blanks must be placed in two different quadrants (*e.g.,* 90° and 270°) and remain at the sampling location for the sampling period.

10.0 Calibration and Standardization

Follow the calibration and standardization procedures for meteorological measurements in EPA–454/B–08–002 March 2008 (Reference 11) (incorporated by reference—see § 63.14). Refer to Method 325B for calibration and standardization procedures for analysis of the passive sampling tubes.

11.0 Analytical Procedures

Refer to Method 325B, which provides details for the preparation and analysis of sampled passive monitoring tubes (preparation of sampling tubes, shipment and storage of exposed sampling tubes, and analysis of sampling tubes).

12.0 Data Analysis, Calculations and Documentation

12.1 Calculate Annual Average Fenceline Concentration.

After a year's worth of sampling at the facility fenceline (for example, 26 14-day samples), the average (PS_i) may be calculated for any specified period at each PS location using Equation 12.1.

$$PS_i = \frac{\sum PS_{ip}}{N} \qquad \text{Eq. 12.1}$$

Where:
PS_i = Annual average for location *i.*
PS_{ip} = Sampling period specific concentration from Method 325B.
i = Location of passive sampler (0 to 360°).
p = The sampling period.
N = The number of sampling periods in the year (*e.g.,* for 14-day sampling periods, from 1 to 26).

Note: PS_{ip} is a function of sampling location-specific factors such as the contribution from facility sources, unusual localized meteorological conditions, contribution from nearby interfering sources, the background caused by integrated far-field sources and measurement error due to deployment, handling, siting, or analytical errors.

12.2 Identify Sampling Locations of Interest

If data from neighboring sampling locations are significantly different, then you may add extra sampling points to isolate background contributions or identify facility-specific ''hot spots.''

12.3 Evaluate Trends

You may evaluate trends and patterns in the PS data over multiple sampling periods to determine if elevated concentrations of target compounds are due to operations on the facility or if contributions from background sources are significant.

12.3.1 Obtain meteorological data including wind speed and wind direction or unit vector wind data from the on-site meteorological station. Use this meteorological data to determine the prevailing wind direction and speed during the periods of elevated concentrations.

12.3.2 As an option you may perform preliminary back trajectory calculations (*http://ready.arl.noaa.gov/HYSPLIT.php*) to aid in identifying the source of the background contribution to elevated target compound concentrations.

12.3.3 Information on published or documented events on- and off-site may also be included in the associated sampling period report to explain elevated concentrations if relevant. For example, you would describe if there was a chemical spill on site, or an accident on an adjacent road.

12.3.4 Additional monitoring for shorter periods (See section 8.4) may be necessary to allow better discrimination/resolution of contributing emission sources if the measured trends and associated meteorology do not provide a clear assessment of facility contribution to the measured fenceline concentration.

12.3.5 Additional records necessary to calculate sampling period average target compound concentration can be found in Section 12.1 of Method 325B.

13.0 Method Performance

Method performance requirements are described in Method 325B.

14.0 Pollution Prevention

[Reserved]

15.0 Waste Management

[Reserved]

16.0 References

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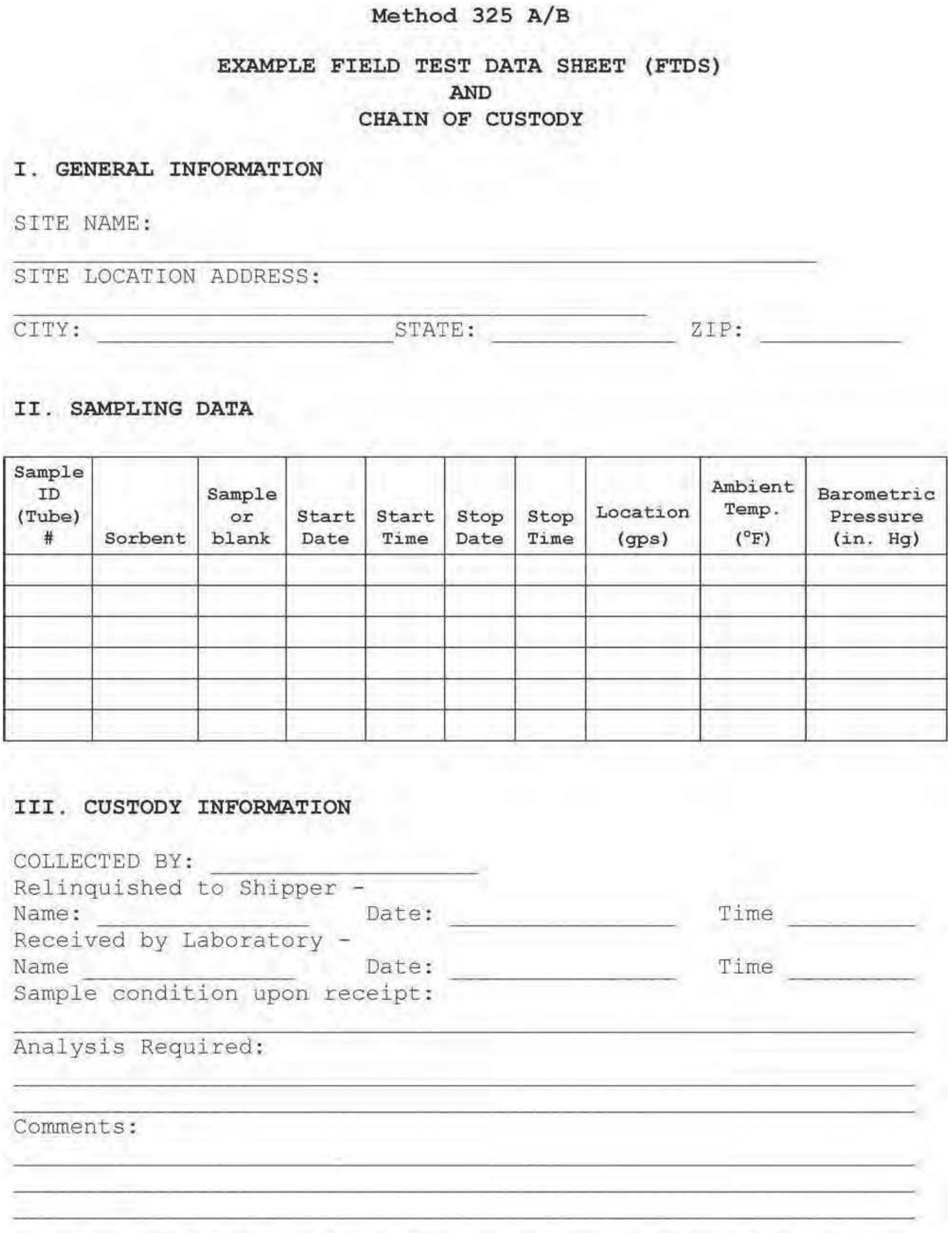
14. ASTM D6196–03 (Reapproved 2009): Standard practice for selection of sorbents, sampling, and thermal desorption analysis procedures for volatile organic compounds in air.

17.0 Tables, Diagrams, Flowcharts and Validation Data



Method 325 A/B

EXAMPLE FIELD TEST DATA SHEET (FTDS) AND CHAIN OF CUSTODY

I. GENERAL INFORMATION

SITE NAME:

SITE LOCATION ADDRESS:

CITY: ______________________ STATE: ______________ ZIP: ___________

II. SAMPLING DATA

Sample ID (Tube) #	Sorbent	Sample or blank	Start Date	Start Time	Stop Date	Stop Time	Location (gps)	Ambient Temp. (°F)	Barometric Pressure (in. Hg)

III. CUSTODY INFORMATION

COLLECTED BY: ____________________

Relinquished to Shipper -

Name: ________________ Date: _________________ Time __________

Received by Laboratory -

Name ________________ Date: _________________ Time __________

Sample condition upon receipt:

Analysis Required:

Comments:

Figure 17.1. Example Field Data Form and Chain of Custody

Method 325B—Volatile Organic Compounds from Fugitive and Area Sources:

Sampler Preparation and Analysis

1.0 Scope and Application

1.1 This method describes thermal desorption/gas chromatography (TD/GC) analysis of volatile organic compounds (VOCs) from fugitive and area emission sources collected onto sorbent tubes using passive sampling. It could also be applied to the TD/GC analysis of VOCs collected using active (pumped) sampling onto sorbent tubes. The concentration of airborne VOCs at or near potential fugitive- or area-emission sources may be determined using this method in combination with Method 325A. Companion Method 325A (Sampler Deployment and VOC Sample Collection) describes procedures for deploying the sorbent tubes and passively collecting VOCs.

1.2 The preferred GC detector for this method is a mass spectrometer (MS), but flame ionization detectors (FID) may also be used. Other conventional GC detectors such as electron capture (ECD), photoionization (PID), or flame photometric (FPD) may also be used if they are selective and sensitive to the target compound(s) and if they meet the method performance criteria provided in this method.

1.3 There are 97 VOCs listed as hazardous air pollutants in Title III of the Clean Air Act Amendments of 1990. Many of these VOC are candidate compounds for this method. Compounds with known uptake rates for Carbograph™ 1 TD, Carbopack™ B, or Carbopack™ X are listed in Table 12.1. This method provides performance criteria to demonstrate acceptable performance of the method (or modifications of the method) for monitoring one or more of the compounds listed Table 12.1. If standard passive sampling tubes are packed with other sorbents or used for other analytes than those listed in Table 12.1, then method performance and relevant uptake rates should be verified according to Addendum A to this method or by one of the following national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14), or reported in the peer-reviewed open literature.

1.4 The analytical approach using TD/GC/MS is based on previously published EPA guidance in Compendium Method TO–17 (*http://www.epa.gov/ttnamti1/airtox.html#compendium*) (Reference 1), which describes active (pumped) sampling of VOCs from ambient air onto tubes packed with thermally stable adsorbents.

1.5 Inorganic gases not suitable for analysis by this method include oxides of carbon, nitrogen and sulfur, ozone (O_3), and other diatomic permanent gases. Other pollutants not suitable for this analysis method include particulate pollutants, (*i.e.*, fumes, aerosols, and dusts), compounds too labile (reactive) for conventional GC analysis, and VOCs that are more volatile than propane.

2.0 Summary of Method

2.1 This method provides procedures for the preparation, conditioning, blanking, and shipping of sorbent tubes prior to sample collection.

2.2 Laboratory and field personnel must have experience of sampling trace-level VOCs using sorbent tubes (References 2,5) and must have experience operating thermal desorption/GC/multi-detector instrumentation.

2.3 Key steps of this method as implemented for each sample tube include: Stringent leak testing under stop flow, recording ambient temperature conditions, adding internal standards, purging the tube, thermally desorbing the sampling tube, refocusing on a focusing trap, desorbing and transferring/injecting the VOCs from the secondary trap into the capillary GC column for separation and analysis.

2.4 Water management steps incorporated into this method include: (a) Selection of hydrophobic sorbents in the sampling tube; (b) optional dry purging of sample tubes prior to analysis; and (c) additional selective elimination of water during primary (tube) desorption (if required) by selecting trapping sorbents and temperatures such that target compounds are quantitatively retained while water is purged to vent.

3.0 Definitions

(See also Section 3.0 of Method 325A).

3.1 Blanking is the desorption and confirmatory analysis of conditioned sorbent tubes before they are sent for field sampling.

3.2 *Breakthrough volume and associated relation to passive sampling.* Breakthrough volumes, as applied to active sorbent tube sampling, equate to the volume of air containing a constant concentration of analyte that may be passed through a sorbent tube at a given temperature before a detectable level (5 percent) of the input analyte concentration elutes from the tube. Although breakthrough volumes are directly related to active rather than passive sampling, they provide a measure of the strength of the sorbent-sorbate interaction and therefore also relate to the efficiency of the passive sampling process. The best direct measure of passive sampling efficiency is the stability of the uptake rate. Quantitative passive sampling is compromised when the sorbent no longer acts as a perfect sink—*i.e.*, when the concentration of a target analyte immediately above the sorbent sampling surface no longer approximates to zero. This causes a reduction in the uptake rate over time. If the uptake rate for a given analyte on a given sorbent tube remains relatively constant —*i.e.*, if the uptake rate determined for 48 hours is similar to that determined for 7 or 14 days—the user can be confident that passive sampling is occurring at a constant rate. As a general rule of thumb, such ideal passive sampling conditions typically exist for analyte:sorbent combinations where the breakthrough volume exceeds 100 L (Reference 4).

3.3 *Continuing calibration verification sample (CCV).* Single level calibration samples run periodically to confirm that the analytical system continues to generate sample results within acceptable agreement to the current calibration curve.

3.4 *Focusing trap* is a cooled, secondary sorbent trap integrated into the analytical thermal desorber. It typically has a smaller i.d. and lower thermal mass than the original sample tube allowing it to effectively refocus desorbed analytes and then heat rapidly to ensure efficient transfer/injection into the capillary GC analytical column.

3.5 *High Resolution Capillary Column Chromatography* uses fused silica capillary columns with an inner diameter of 320 µm or less and with a stationary phase film thickness of 5 µm or less.

3.6 *h* is time in hours.

3.7 *i.d.* is inner diameter.

3.8 *min* is time in minutes.

3.9 *Method Detection Limit* is the lowest level of analyte that can be detected in the sample matrix with 99% confidence.

3.10 *MS–SCAN* is the mode of operation of a GC quadrupole mass spectrometer detector that measures all ions over a given mass range over a given period of time.

3.11 *MS–SIM* is the mode of operation of a GC quadrupole mass spectrometer detector that measures only a single ion or a selected number of discrete ions for each analyte.

3.12 *o.d.* is outer diameter.

3.13 *ppbv* is parts per billion by volume.

3.14 *Thermal desorption* is the use of heat and a flow of inert (carrier) gas to extract volatiles from a solid matrix. No solvent is required.

3.15 *Total ion chromatogram* is the chromatogram produced from a mass spectrometer detector collecting full spectral information.

3.16 *Two-stage thermal desorption* is the process of thermally desorbing analytes from a sorbent tube, reconcentrating them on a focusing trap (see Section 3.4), which is then itself rapidly heated to ‘‘inject’’ the concentrated compounds into the GC analyzer.

3.17 *VOC* is volatile organic compound.

4.0 Analytical Interferences

4.1 *Interference from Sorbent Artifacts.* Artifacts may include target analytes as well as other VOC that co-elute chromatographically with the compounds of interest or otherwise interfere with the identification or quantitation of target analytes.

4.1.1 Sorbent decomposition artifacts are VOCs that form when sorbents degenerate, *e.g.,* when exposed to reactive species during sampling. For example, benzaldehyde, phenol, and acetophenone artifacts are reported to be formed via oxidation of the polymeric sorbent Tenax® when sampling high concentration (100–500 ppb) ozone atmospheres (Reference 5).

4.1.2 Preparation and storage artifacts are VOCs that were not completely cleaned from the sorbent tube during conditioning or that are an inherent feature of that sorbent at a given temperature.

4.2 *Humidity.* Moisture captured during sampling can interfere with VOC analysis. Passive sampling using tubes packed with hydrophobic sorbents, like those described in this method, minimizes water retention. However, if water interference is found to be an issue under extreme conditions, one or more of the water management steps described in Section 2.4 can be applied.

4.3 *Contamination from Sample Handling.* The type of analytical thermal desorption equipment selected should exclude the possibility of outer tube surface contamination entering the sample flow path (see Section 6.6). If the available system does not meet this requirement, sampling tubes and caps must be handled only while wearing clean, white cotton or powder free nitrile gloves to prevent contamination with body oils, hand lotions, perfumes, etc.

5.0 Safety

5.1 This method does not address all of the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate field and laboratory safety and health practices prior to use.

5.2 Laboratory analysts must exercise extreme care in working with high-pressure gas cylinders.

5.3 Due to the high temperatures involved, operators must use caution when conditioning and analyzing tubes.

6.0 Equipment and Supplies

6.1 *Tube Dimensions and Materials.* The sampling tubes for this method are 3.5-inches (89 mm) long, ¼ inch (6.4 mm) o.d., and 5 mm i.d. passive sampling tubes (see Figure 6.1). The tubes are made of inert-coated stainless steel with the central section (up to 60 mm) packed with sorbent, typically supported between two 100 mesh stainless steel gauze. The tubes have a cross sectional area of 19.6 square mm (5 mm i.d.). When used for passive sampling, these tubes have an internal diffusion (air) gap (DG) of 1.5 cm between the sorbent retaining gauze at the sampling end of the tube, and the gauze in the diffusion cap.

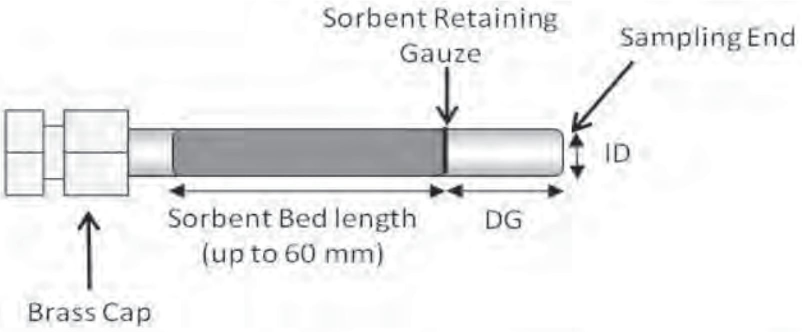


Figure 6.1. Cross Section View of Passive Sorbent Tube

6.2 Tube Conditioning Apparatus

6.2.1 Freshly packed or newly purchased tubes must be conditioned as described in Section 9 using an appropriate dedicated tube conditioning unit or the thermal desorber. Note that the analytical TD system should be used for tube conditioning if it supports a dedicated tube conditioning mode in which effluent from contaminated tubes is directed to vent without passing through key parts of the sample flow path such as the focusing trap.

6.2.2 Dedicated tube conditioning units must be leak-tight to prevent air ingress, allow precise and reproducible temperature selection (±5 °C), offer a temperature range at least as great as that of the thermal desorber, and support inert gas flows in the range up to 100 mL/min.

Note: For safety and to avoid laboratory contamination, effluent gases from freshly packed or highly contaminated tubes should be passed through a charcoal filter during the conditioning process to prevent desorbed VOCs from polluting the laboratory atmosphere.

6.3 Tube Labeling

6.3.1 Label the sample tubes with a unique permanent identification number and an indication of the sampling end of the tube. Labeling options include etching and TD-compatible electronic (radio frequency identification (RFID)) tube labels.

6.3.2 To avoid contamination, do not make ink markings of any kind on clean sorbent tubes or apply adhesive labels.

Note: TD-compatible electronic (RFID) tube labels are available commercially and are compatible with some brands of thermal desorber. If used, these may be programmed with relevant tube and sample information, which can be read and automatically transcribed into the sequence report by the TD system (see Section 8.6 of Method 325A).

6.4 Blank and Sampled Tube Storage Apparatus

6.4.1 Long-term storage caps. Seal clean, blank and sampled sorbent tubes using inert, long-term tube storage caps comprising non-greased, 2-piece, 0.25-inch, metal SwageLok®-type screw caps fitted with combined polytetrafluoroethylene ferrules.

6.4.2 Storage and transportation containers. Use clean glass jars, metal cans or rigid, non-emitting polymer boxes.

Note: You may add a small packet of new activated charcoal or charcoal/silica gel to the shipping container for storage and transportation of batches of conditioned sorbent tubes prior to use. Coolers without ice packs make suitable shipping boxes for containers of tubes because the coolers help to insulate the samples from extreme temperatures (*e.g.,* if left in a parked vehicle).

6.5 Unheated GC Injection Unit for Loading Standards Onto Blank Tubes

A suitable device has a simple push fit or finger-tightening connector for attaching the sampling end of blank sorbent tubes without damaging the tube. It also has a means of controlling carrier gas flow through the injector and attached sorbent tube at 50–100 mL/min and includes a low emission septum cap that allows the introduction of gas or liquid standards via appropriate syringes. Reproducible and quantitative transfer of higher boiling compounds in liquid standards is facilitated if the injection unit allows the tip of the syringe to just touch the sorbent retaining gauze inside the tube.

6.6 Thermal Desorption Apparatus

The manual or automated thermal desorption system must heat sorbent tubes while a controlled flow of inert (carrier) gas passes through the tube and out of the sampling end. The apparatus must also incorporate a focusing trap to quantitatively refocus compounds desorbed from the tube. Secondary desorption of the focusing trap should be fast/efficient enough to transfer the compounds into the high resolution capillary GC column without band broadening and without any need for further pre- or on-column focusing. Typical TD focusing traps comprise small sorbent traps (Reference 16) that are electrically-cooled using multistage Peltier cells (References 17, 18). The direction of gas flow during trap desorption should be the reverse of that used for focusing to extend the compatible analyte volatility range. Closed cycle coolers offer another cryogen-free trap cooling option. Other TD system requirements and operational stages are described in Section 11 and in Figures 17–2 through 17–4.

6.7 Thermal Desorber—GC Interface

6.7.1 The interface between the thermal desorber and the GC must be heated uniformly and the connection between the transfer line insert and the capillary GC analytical column itself must be leak tight.

6.7.2 A portion of capillary column can alternatively be threaded through the heated transfer line/TD interface and connected directly to the thermal desorber.

Note: Use of a metal syringe-type needle or unheated length of fused silica pushed through the septum of a conventional GC injector is not permitted as a means of interfacing the thermal desorber to the chromatograph. Such connections result in cold spots, cause band broadening and are prone to leaks.

6.8 GC/MS Analytical Components

6.8.1 The GC system must be capable of temperature programming and operation of a high resolution capillary column. Depending on the choice of column (*e.g.*, film thickness) and the volatility of the target compounds, it may be necessary to cool the GC oven to subambient temperatures (*e.g.*, −50 °C) at the start of the run to allow resolution of very volatile organic compounds.

6.8.2 All carrier gas lines supplying the GC must be constructed from clean stainless steel or copper tubing. Non-polytetrafluoroethylene thread sealants. Flow controllers, cylinder regulators, or other pneumatic components fitted with rubber components are not suitable.

6.9 Chromatographic Columns

High-resolution, fused silica or equivalent capillary columns that provide adequate separation of sample components to permit identification and quantitation of target compounds must be used.

Note: 100-percent methyl silicone or 5-percent phenyl, 95-percent methyl silicone fused silica capillary columns of 0.25- to 0.32-mm i.d. of varying lengths and with varying thicknesses of stationary phase have been used successfully for non-polar and moderately polar compounds. However, given the diversity of potential target lists, GC column choice is left to the operator, subject to the performance criteria of this method.

6.10 Mass Spectrometer

Linear quadrupole, magnetic sector, ion trap or time-of-flight mass spectrometers may be used provided they meet specified performance criteria. The mass detector must be capable of collecting data from 35 to 300 atomic mass units (amu) every 1 second or less, utilizing 70 volts (nominal) electron energy in the electron ionization mode, and producing a mass spectrum that meets all the instrument performance acceptance criteria in Section 9 when 50 ηg or less of p-bromofluorobenzene is analyzed.

7.0 Reagents and Standards

7.1 Sorbent Selection

7.1.1 Use commercially packed tubes meeting the requirements of this method or prepare tubes in the laboratory using sieved sorbents of particle size in the range 20 to 80 mesh that meet the retention and quality control requirements of this method.

7.1.2 This passive air monitoring method can be used without the evaluation specified in Addendum A if the type of tubes described in Section 6.1 are packed with 4–6 cm (typically 400–650 mg) of the sorbents listed in Table 12.1 and used for the respective target analytes.

Note: Although Carbopack™ X is the optimum sorbent choice for passive sampling of 1,3-butadiene, recovery of compounds with vapor pressure lower than benzene may be difficult to achieve without exceeding sorbent maximum temperature limitations (see Table 8.1). See ISO 16017–2:2003(E) or ASTM D6196–03 (Reapproved 2009) (both incorporated by reference—see § 63.14) for more details on sorbent choice for air monitoring using passive sampling tubes.

7.1.3 If standard passive sampling tubes are packed with other sorbents or used for analytes other than those tabulated in Section 12.0, method performance and relevant uptake rates should be verified according to Addendum A to this method or by following the techniques described in one of the following national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14)—or reported in the peer-reviewed open literature. A summary table and the supporting evaluation data demonstrating the selected sorbent meets the requirements in Addendum A to this method must be submitted to the regulatory authority as part of a request to use an alternative sorbent.

7.1.4 Passive (diffusive) sampling and thermal desorption methods that have been evaluated at relatively high atmospheric concentrations (*i.e.,* mid-ppb to ppm) and published for use in workplace air and industrial/mobile source emissions testing (References 9–20) may be applied to this procedure. However, the validity of any shorter term uptake rates must be verified and adjusted if necessary for the longer monitoring periods required by this method by following procedures described in Addendum A to this method or those presented in national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference-see § 63.14).

7.1.5 Suitable sorbents for passive sampling must have breakthrough volumes of at least 20 L (preferably >100 L) for the compounds of interest and must quantitatively release the analytes during desorption without exceeding maximum temperatures for the sorbent or instrumentation.

7.1.6 Repack/replace the sorbent tubes or demonstrate tube performance following the requirements in Addendum A to this method at least every 2 years or every 50 uses, whichever occurs first.

7.2 Gas Phase Standards

7.2.1 Static or dynamic standard atmospheres may be used to prepare calibration tubes and/or to validate passive sampling uptake rates and can be generated from pure chemicals or by diluting concentrated gas standards. The standard atmosphere must be stable at ambient pressure and accurate to ±10 percent of the target gas concentration. It must be possible to maintain standard atmosphere concentrations at the same or lower levels than the target compound concentration objectives of the test. Test atmospheres used for validation of uptake rates must also contain at least 35 percent relative humidity.

Note: Accurate, low-(ppb-) level gas-phase VOC standards are difficult to generate from pure materials and may be unstable depending on analyte polarity and volatility. Parallel monitoring of vapor concentrations with alternative methods, such as pumped sorbent tubes or sensitive/selective on-line detectors, may be necessary to minimize uncertainty. For these reasons, standard atmospheres are rarely used for routine calibration.

7.2.2 Concentrated, pressurized gas phase standards. Accurate (±5 percent or better), concentrated gas phase standards supplied in pressurized cylinders may also be used for calibration. The concentration of the standard should be such that a 0.5–5.0 mL volume contains approximately the same mass of analytes as will be collected from a typical air sample.

7.2.3 Follow manufacturer's guidelines concerning storage conditions and recertification of the concentrated gas phase standard. Gas standards must be recertified a minimum of once every 12 months.

7.3 Liquid Standards

Target analytes can also be introduced to the sampling end of sorbent tubes in the form of liquid calibration standards.

7.3.1 The concentration of liquid standards must be such that an injection of 0.5–2 µl of the solution introduces the same mass of target analyte that is expected to be collected during the passive air sampling period.

7.3.2 Solvent Selection. The solvent selected for the liquid standard must be pure (contaminants <10 percent of minimum analyte levels) and must not interfere chromatographically with the compounds of interest.

7.3.3 If liquid standards are sourced commercially, follow manufacturer's guidelines concerning storage conditions and shelf life of unopened and opened liquid stock standards.

Note: Commercial VOC standards are typically supplied in volatile or non-interfering solvents such as methanol.

7.3.4 Working standards must be stored at 6 °C or less and used or discarded within two weeks of preparation.

7.4 Gas Phase Internal Standards

7.4.1 Gas-phase deuterated or fluorinated organic compounds may be used as internal standards for MS-based systems.

7.4.2 Typical compounds include deuterated toluene, perfluorobenzene and perfluorotoluene.

7.4.3 Use multiple internal standards to cover the volatility range of the target analytes.

7.4.4 Gas-phase standards must be obtained in pressurized cylinders and containing vendor certified gas concentrations accurate to ±5 percent. The concentration should be such that the mass of internal standard components introduced is similar to those of the target analytes collected during field monitoring.

7.5 Preloaded Standard Tubes

Certified, preloaded standard tubes, accurate within ±5 percent for each analyte at the microgram level and ±10 percent at the nanogram level, are available commercially and may be used for auditing and quality control purposes. (See Section 9.5 for audit accuracy evaluation criteria.) Certified preloaded tubes may also be used for routine calibration.

Note: Proficiency testing schemes are also available for TD/GC/MS analysis of sorbent tubes preloaded with common analytes such as benzene, toluene, and xylene.

7.6 Carrier Gases

Use inert, 99.999-percent or higher purity helium as carrier gas. Oxygen and organic filters must be installed in the carrier gas lines supplying the analytical system according to the manufacturer's instructions. Keep records of filter and oxygen scrubber replacement.

8.0 Sorbent Tube Handling (Before and After Sampling)

8.1 Sample Tube Conditioning

8.1.1 Sampling tubes must be conditioned using the apparatus described in Section 6.2.

8.1.2 New tubes should be conditioned for 2 hours to supplement the vendor's conditioning procedure. Recommended temperatures for tube conditioning are given in Table 8.1.

8.1.3 After conditioning, the blank must be verified on each new sorbent tube and on 10 percent of each batch of reconditioned tubes. See Section 9.0 for acceptance criteria.

TABLE 8.1—EXAMPLE SORBENT TUBE CONDITIONING PARAMETERS

Sampling sorbent	Maximum temperature (°C)	Conditioning temperature (°C)	Carrier gas flow rate
Carbotrap® C	>400	350	100 mL/min
Carbopack™ C			
Anasorb® GCB2			
Carbograph™ 1 TD			
Carbotrap®			
Carbopack™ B			
Anasorb® GCB1			
Tenax® TA			
Carbopack™ X	350	330	100 mL/min

8.2 Capping, Storage and Shipment of Conditioned Tubes

8.2.1 Conditioned tubes must be sealed using long-term storage caps (see Section 6.4) pushed fully down onto both ends of the PS sorbent tube, tightened by hand and then tighten an additional quarter turn using an appropriate tool.

8.2.2 The capped tubes must be kept in appropriate containers for storage and transportation (see Section 6.4.2). Containers of sorbent tubes may be stored and shipped at ambient temperature and must be kept in a clean environment.

8.2.3 You must keep batches of capped tubes in their shipping boxes or wrap them in uncoated aluminum foil before placing them in their storage container, especially before air freight, because the packaging helps hold caps in position if the tubes get very cold.

8.3 Calculating the Number of Tubes Required for a Monitoring Exercise

8.3.1 Follow guidance given in Method 325A to determine the number of tubes required for site monitoring.

8.3.2 The following additional samples will also be required: Laboratory blanks as specified in Section 9.1.2 (one per analytical sequence minimum), field blanks as specified in Section 9.3.2 (two per sampling period minimum), CCV tubes as specified in Section 10.9.4. (at least one per analysis sequence or every 24 hours), and duplicate samples as specified in Section 9.4 (at least one duplicate sample is required for every 10 sampling locations during each monitoring period).

8.4 Sample Collection

8.4.1 Allow the tubes to equilibrate with ambient temperature (approximately 30 minutes to 1 hour) at the monitoring location before removing them from their storage/shipping container for sample collection.

8.4.2 Tubes must be used for sampling within 30 days of conditioning (Reference 4).

8.4.3 During field monitoring, the long-term storage cap at the sampling end of the tube is replaced with a diffusion cap and the whole assembly is arranged vertically, with the sampling end pointing downward, under a protective hood or shield—See Section 6.1 of Method 325A for more details.

8.5 Sample Storage

8.5.1 After sampling, tubes must be immediately resealed with long-term storage caps and placed back inside the type of storage container described in Section 6.4.2.

8.5.2 Exposed tubes may not be placed in the same container as clean tubes. They should not be taken back out of the container until ready for analysis and after they have had time to equilibrate with ambient temperature in the laboratory.

8.5.3 Sampled tubes must be inspected before analysis to identify problems such as loose or missing caps, damaged tubes, tubes that appear to be leaking sorbent or container contamination. Any and all such problems must be documented together with the unique identification number of the tube or tubes concerned. Affected tubes must not be analyzed but must be set aside.

8.5.4 Intact tubes must be analyzed within 30 days of the end of sample collection (within one week for limonene, carene, bis-chloromethyl ether, labile sulfur or nitrogen-containing compounds, and other reactive VOCs).

Note: Ensure ambient temperatures stay below 23 °C during transportation and storage. Refrigeration is not normally required unless the samples contain reactive compounds or cannot be analyzed within 30 days. If refrigeration is used, the atmosphere inside the refrigerator must be clean and free of organic solvents.

9.0 Quality Control

9.1 Laboratory Blank

The analytical system must be demonstrated to be contaminant free by performing a blank analysis at the beginning of each analytical sequence to demonstrate that the secondary trap and TD/GC/MS analytical equipment are free of any significant interferents.

9.1.1 Laboratory blank tubes must be prepared from tubes that are identical to those used for field sampling.

9.1.2 Analysis of at least one laboratory blank is required per analytical sequence. The laboratory blank must be stored in the laboratory under clean, controlled ambient temperature conditions.

9.1.3 Laboratory blank/artifact levels must meet the requirements of Section 9.2.2 (see also Table 17.1). If the laboratory blank does not meet requirements, stop and perform corrective actions and then re-analyze laboratory blank to ensure it meets requirements.

9.2 Tube Conditioning

9.2.1 Conditioned tubes must be demonstrated to be free of contaminants and interference by running 10 percent of the blank tubes selected at random from each conditioned batch under standard sample analysis conditions (see Section 8.1).

9.2.2 Confirm that artifacts and background contamination are ≤ 0.2 ppbv or less than three times the detection limit of the procedure or less than 10 percent of the target compound(s) mass that would be collected if airborne concentrations were at the regulated limit value, whichever is larger. Only tubes that meet these criteria can be used for field monitoring, field or laboratory blanks, or for system calibration.

9.2.3 If unacceptable levels of VOCs are observed in the tube blanks, then the processes of tube conditioning and checking the blanks must be repeated.

9.3 Field Blanks

9.3.1 Field blank tubes must be prepared from tubes that are identical to those used for field sampling—*i.e.,* they should be from the same batch, have a similar history, and be conditioned at the same time.

9.3.2 Field blanks must be shipped to the monitoring site with the sampling tubes and must be stored at the sampling location throughout the monitoring exercise. The field blanks must be installed under a protective hood/cover at the sampling location, but the long-term storage caps must remain in place throughout the monitoring period (see Method 325A). The field blanks are then shipped back to the laboratory in the same container as the sampled tubes. One field blank tube is required for every 10 sampled tubes on a monitoring exercise and no less than two field blanks should be collected, regardless of the size of the monitoring study.

9.3.3 Field blanks must contain no greater than one-third of the measured target analyte or compliance limit for field samples (see Table 17.1). If either field blank fails, flag all data that do not meet this criterion with a note that the associated results are estimated and likely to be biased high due to field blank background.

9.4 Duplicate Samples

Duplicate (co-located) samples collected must be analyzed and reported as part of method quality control. They are used to evaluate sampling and analysis precision. Relevant performance criteria are given in Section 9.9.

9.5 Method Performance Criteria

Unless otherwise noted, monitoring method performance specifications must be demonstrated for the target compounds using the procedures described in Addendum A to this method and the statistical approach presented in Method 301.

9.6 Method Detection Limit

Determine the method detection limit under the analytical conditions selected (see Section 11.3) using the procedure in Section 15 of Method 301. The method detection limit is defined for each system by making seven replicate measurements of a concentration of the compound of interest within a factor of five of the detection limit. Compute the standard deviation for the seven replicate concentrations, and multiply this value by three. The results should demonstrate that the method is able to detect analytes such as benzene at concentrations as low as 50 ppt or 1/3rd (preferably 1/10th) of the lowest concentration of interest, whichever is larger.

Note: Determining the detection limit may be an iterative process as described in 40 CFR part 136, Appendix B.

9.7 Analytical Bias

Analytical bias must be demonstrated to be within ±30 percent using Equation 9.1. Analytical bias must be demonstrated during initial setup of this method and as part of the CCV carried out with every sequence of 10 samples or less (see Section 9.14). Calibration standard tubes (see Section 10.0) may be used for this purpose.

$$Analytical\ Bias = \frac{(Spiked\ Value - Measured\ Value)}{Spiked\ Value} \times 100 \qquad \text{Eq. 9.1}$$

Where:

Spiked Value = A known mass of VOCs added to the tube.
Measured Value = Mass determined from analysis of the tube.

9.8 Analytical Precision

Demonstrate an analytical precision within ±20 percent using Equation 9.2. Analytical precision must be demonstrated during initial setup of this method and at least once per year. Calibration standard tubes may be used (see Section 10.0) and data from CCV may also be applied for this purpose.

$$Analytical\ Precision = \frac{(|A1 - A2|)}{\overline{A}} \times 100 \qquad \text{Eq. 9.2}$$

Where:

A1 = A measurement value taken from one spiked tube.
A2 = A measurement value taken from a second spiked tube.
$\overline{A}$ = The average of A1 and A2.

9.9 Field Replicate Precision

Use Equation 9.3 to determine and report replicate precision for duplicate field samples (see Section 9.4). The level of agreement between duplicate field samples is a measure of the precision achievable for the entire sampling and analysis procedure. Flag data sets for which the duplicate samples do not agree within 30 percent.

$$Field\ Precision = \frac{(|F1 - F2|)}{\overline{F}} \times 100 \qquad \text{Eq. 9.3}$$

Where:

F1 = A measurement value (mass) taken from one of the two field replicate tubes used in sampling.
F2 = A measurement value (mass) taken from the second of two field replicate tubes used in sampling.
$\overline{F}$ = The average of F1 and F2.

9.10 Desorption Efficiency and Compound Recovery

The efficiency of the thermal desorption method must be determined.

9.10.1 Quantitative (>95 percent) compound recovery must be demonstrated by repeat analyses on a same standard tube.

9.10.2 Compound recovery through the TD system can also be demonstrated by comparing the calibration check sample response factor obtained from direct GC injection of liquid standards with that obtained from thermal desorption analysis response factor using the same column under identical conditions.

9.10.3 If the relative response factors obtained for one or more target compounds introduced to the column via thermal desorption fail to meet the criteria in Section 9.10.1, you must adjust the TD parameters to meet the criteria and repeat the experiment. Once the thermal desorption conditions have been optimized, you must repeat this test each time the analytical system is recalibrated to demonstrate continued method performance.

9.11 Audit Samples

Certified reference standard samples must be used to audit this procedure (if available). Accuracy within 30 percent must be demonstrated for relevant ambient air concentrations (0.5 to 25 ppb).

9.12 Mass Spectrometer Tuning Criteria

Tune the mass spectrometer (if used) according to manufacturer's specifications. Verify the instrument performance by analyzing a 50 ηg injection of bromofluorobenzene. Prior to the beginning of each analytical sequence or every 24 hours during continuous GC/MS operation for this method demonstrate that the bromofluorobenzene tuning performance criteria in Table 9.1 have been met.

TABLE 9.1—GC/MS TUNING CRITERIA [1]

Target mass	Rel. to mass	Lower limit %	Upper limit %
50	95	8	40
75	95	30	66
95	95	100	100
96	95	5	9
173	174	0	2
174	95	50	120
175	174	4	9
176	174	93	101
177	176	5	9

[1] All ion abundances must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120 percent that of m/z 95.

9.13 Routine CCV at the Start of a Sequence

Run CCV before each sequence of analyses and after every tenth sample to ensure that the previous multi-level calibration (see Section 10.6.3) is still valid.

9.13.1 The sample concentration used for the CCV should be near the mid-point of the multi-level calibration range.

9.13.2 Quantitation software must be updated with response factors determined from the CCV standard. The percent deviation between the initial calibration and the CCV for all compounds must be within 30 percent.

9.14 CCV at the End of a Sequence

Run another CCV after running each sequence of samples. The initial CCV for a subsequent set of samples may be used as the final CCV for a previous analytical sequence, provided the same analytical method is used and the subsequent set of samples is analyzed immediately (within 4 hours) after the last CCV.

9.15 Additional Verification

Use a calibration check standard from a second, separate source to verify the original calibration at least once every three months.

9.16 Integration Method

Document the procedure used for integration of analytical data including field samples, calibration standards and blanks.

9.17 QC Records

Maintain all QC reports/records for each TD/GC/MS analytical system used for application of this method. Routine quality control requirements for this method are listed below and summarized in Table 17.1.

10.0 Calibration and Standardization

10.1 Calibrate the analytical system using standards covering the range of analyte masses expected from field samples.

10.2 Analytical results for field samples must fall within the calibrated range of the analytical system to be valid.

10.3 Calibration standard preparation must be fully traceable to primary standards of mass and/or volume, and/or be confirmed using an independent certified reference method.

10.3.1 Preparation of calibration standard tubes from standard atmospheres.

10.3.1.1 Subject to the requirements in Section 7.2.1, low-level standard atmospheres may be introduced to clean, conditioned sorbent tubes in order to produce calibration standards.

10.3.1.2 The standard atmosphere generator or system must be capable of producing sufficient flow at a constant rate to allow the required analyte mass to be introduced within a reasonable time frame and without affecting the concentration of the standard atmosphere itself.

10.3.1.3 The sampling manifold may be heated to minimize risk of condensation but the temperature of the gas delivered to the sorbent tubes may not exceed 100 °F.

10.3.1.4 The flow rates passed through the tube should be in the order of 50–100 mL/min and the volume of standard atmosphere sampled from the manifold or chamber must not exceed the breakthrough volume of the sorbent at the given temperature.

10.4 Preparation of calibration standard tubes from concentrated gas standards.

10.4.1 If a suitable concentrated gas standard (see Section 7.2.2) can be obtained, follow the manufacturer's recommendations relating to suitable storage conditions and product lifetime.

10.4.2 Introduce precise 0.5 to 500.0 mL aliquots of the standard to the sampling end of conditioned sorbent tubes in a 50–100 mL/min flow of pure carrier gas.

Note: This can be achieved by connecting the sampling end of the tube to an unheated GC injector (see Section 6.6) and introducing the aliquot of gas using a suitable gas syringe. Gas sample valves could alternatively be used to meter the standard gas volume.

10.4.3 Each sorbent tube should be left connected to the flow of gas for 2 minutes after standard introduction. As soon as each spiked tube is removed from the injection unit, seal it with long-term storage caps and place it in an appropriate tube storage/transportation container if it is not to be analyzed within 24 hours.

10.5 Preparation of calibration standard tubes from liquid standards.

10.5.1 Suitable standards are described in Section 7.3.

10.5.2 Introduce precise 0.5 to 2 µl aliquots of liquid standards to the sampling end of sorbent tubes in a flow (50–100 mL/min) of carrier gas using a precision syringe and an unheated injector (Section 6.5). The flow of gas should be sufficient to completely vaporize the liquid standard.

Note: If the analytes of interest are higher boiling than n-decane, reproducible analyte transfer to the sorbent bed is optimized by allowing the tip of the syringe to gently touch the sorbent retaining gauze at the sampling end of the tube.

10.5.3 Each sorbent tube is left connected to the flow of gas for 5 minutes after liquid standard introduction.

10.5.3.1 As soon as each spiked tube is removed from the injection unit, seal it with long-term storage caps and place it in an appropriate tube storage container if it is not to be analyzed within 24 hours.

Note: In cases where it is possible to selectively purge the solvent from the tube while all target analytes are quantitatively retained, a larger 2 µL injection may be made for optimum accuracy. However, if the solvent cannot be selectively purged and will be present during analysis, the injection volume should be as small as possible (*e.g.*, 0.5 µL) to minimize solvent interference.

Note: This standard preparation technique requires the entire liquid plug including the tip volume be brought into the syringe barrel. The volume in the barrel is recorded, the syringe is inserted into the septum of the spiking apparatus. The liquid is then quickly injected. Any remaining liquid in the syringe tip is brought back into the syringe barrel. The volume in the barrel is recorded and the amount spiked onto the tube is the difference between the before spiking volume and the after spiking volume. A bias occurs with this method when sample is drawn continuously up into the syringe to the specified volume and the calibration solution in the syringe tip is ignored.

10.6 Preparation of calibration standard tubes from multiple standards.

10.6.1 If it is not possible to prepare one standard containing all the compounds of interest (*e.g.*, because of chemical reactivity or the breadth of the volatility range), standard tubes can be prepared from multiple gas or liquid standards.

10.6.2 Follow the procedures described in Sections 10.4 and 10.5, respectively, for introducing each gas and/or liquid standard to the tube and load those containing the highest boiling compounds of interest first and the lightest species last.

10.7 Additional requirements for preparation of calibration tubes.

10.7.1 Storage of Calibration Standard Tubes

10.7.1.1 Seal tubes with long-term storage caps immediately after they have been disconnected from the standard loading manifold or injection apparatus.

10.7.1.2 Calibration standard tubes may be stored for no longer than 30 days and should be refrigerated if there is any risk of chemical interaction or degradation. Audit standards (see section 9.11) are exempt from this criteria and may be stored for the shelf-life specified on their certificates.

10.8 Keep records for calibration standard tubes to include the following:

10.8.1 The stock number of any commercial liquid or gas standards used.

10.8.2 A chromatogram of the most recent blank for each tube used as a calibration standard together with the associated analytical conditions and date of cleaning.

10.8.3 Date of standard loading.

10.8.4 List of standard components, approximate masses and associated confidence levels.

10.8.5 Example analysis of an identical standard with associated analytical conditions.

10.8.6 A brief description of the method used for standard preparation.

10.8.7 The standard's expiration date.

10.9 TD/GC/MS using standard tubes to calibrate system response.

10.9.1 Verify that the TD/GC/MS analytical system meets the instrument performance criteria given in Section 9.1.

10.9.2 The prepared calibration standard tubes must be analyzed using the analytical conditions applied to field samples (see Section 11.0) and must be selected to ensure quantitative transfer and adequate chromatographic resolution of target compounds, surrogates, and internal standards in order to enable reliable identification and quantitation of compounds of interest. The analytical conditions should also be sufficiently stringent to prevent buildup of higher boiling, non-target contaminants that may be collected on the tubes during field monitoring.

10.9.3 Calibration range. Each TD/GC/MS system must be calibrated at five concentrations that span the monitoring range of interest before being used for sample analysis. This initial multi-level calibration determines instrument sensitivity under the analytical conditions selected and the linearity of GC/MS response for the target compounds. One of the calibration points must be within a factor of five of the detection limit for the compounds of interest.

10.9.4 One of the calibration points from the initial calibration curve must be at the same concentration as the daily CCV standard (*e.g.*, the mass collected when sampling air at typical concentrations).

10.9.5 Calibration frequency. Each GC/MS system must be recalibrated with a full 5-point calibration curve following corrective action (*e.g.*, ion source cleaning or repair, column replacement) or if the instrument fails the daily calibration acceptance criteria.

10.9.5.1 CCV checks must be carried out on a regular routine basis as described in Section 9.14.

10.9.5.2 Quantitation ions for the target compounds are shown in Table 10.1. Use the primary ion unless interferences are present, in which case you should use a secondary ion.

TABLE 10.1—CLEAN AIR ACT VOLATILE ORGANIC COMPOUNDS FOR PASSIVE SORBENT SAMPLING

Compound	CAS No.	BP (°C)	Vapor pressure (mmHg) [a]	MW [b]	Characteristic ion(s)	
					Primary	Secondary
1,1-Dichloroethene	75–35–4	32	500	96.9	61	96
3-Chloropropene	107–05–1	44.5	340	76.5	76	41, 39, 78
1,1,2-Trichloro-1,2,2-trifluoroethane-1,1-Dichloroethane	75–34–3	57.0	230	99	63	65, 83, 85, 98, 100
1,2-Dichloroethane	107–06–2	83.5	61.5	99	62	98
1,1,1-Trichloroethane	71–55–6	74.1	100	133.4	97	99, 61
Benzene	71–43–2	80.1	76.0	78	78	....
Carbon tetrachloride	56–23–5	76.7	90.0	153.8	117	119
1,2-Dichloropropane	78–87–5	97.0	42.0	113	63	112
Trichloroethene	79–01–6	87.0	20.0	131.4	95	97, 130, 132
1,1,2-Trichloroethane	79–00–5	114	19.0	133.4	83	97, 85
Toluene	108–88–3	111	22.0	92	92	91
Tetrachloroethene	127–18–4	121	14.0	165.8	164	129, 131, 166
Chlorobenzene	108–90–7	132	8.8	112.6	112	77, 114
Ethylbenzene	100–41–4	136	7.0	106	91	106
m,p-Xylene	108–38–3, 106–42–3	138	6.5	106.2	106	91
Styrene	100–42–5	145	6.6	104	104	78
o-Xylene	95–47–6	144	5.0	106.2	106	91
p-Dichlorobenzene	106–46–7	173	0.60	147	146	111, 148

[a] Pressure in millimeters of mercury.

[b] Molecular weight.

11.0 Analytical Procedure

11.1 Preparation for Sample Analysis

11.1.1 Each sequence of analyses must be ordered as follows:

11.1.1.1 CCV.

11.1.1.2 A laboratory blank.

11.1.1.3 Field blank.

11.1.1.4 Sample(s).

11.1.1.5 Field blank.

11.1.1.6 CCV after 10 field samples.

11.1.1.7 CCV at the end of the sample batch.

11.2 Pre-desorption System Checks and Procedures

11.2.1 Ensure all sample tubes and field blanks are at ambient temperature before removing them from the storage container.

11.2.2 If using an automated TD/GC/MS analyzer, remove the long-term storage caps from the tubes, replace them with appropriate analytical caps, and load them into the system in the sequence described in Section 11.1. Alternatively, if using a manual system, uncap and analyze each tube, one at a time, in the sequence described in Section 11.1.

11.2.3 The following thermal desorption system integrity checks and procedures are required before each tube is analyzed.

Note: Commercial thermal desorbers should implement these steps automatically.

11.2.3.1 Tube leak test: Each tube must be leak tested as soon as it is loaded into the carrier gas flow path before analysis to ensure data integrity.

11.2.3.2 Conduct the leak test at the GC carrier gas pressure, without heat or gas flow applied. Tubes that fail the leak test should not be analyzed, but should be resealed and stored intact. On automated systems, the instrument should continue to leak test and analyze subsequent tubes after a given tube has failed. Automated systems must also store and record which tubes in a sequence have failed the leak test. Information on failed tubes should be downloaded with the batch of sequence information from the analytical system.

11.2.3.3 Leak test the sample flow path. Leak check the sample flow path of the thermal desorber before each analysis without heat or gas flow applied to the sample tube. Stop the automatic sequence of tube desorption and GC analysis if any leak is detected in the main sample flow path. This process may be carried out as a separate step or as part of Section 11.2.3.2.

11.2.4 Optional Dry Purge

11.2.4.1 Tubes may be dry purged with a flow of pure dry gas passing into the tube from the sampling end, to remove water vapor and other very volatile interferents if required.

11.2.5 Internal Standard (IS) Addition

11.2.5.1 Use the internal standard addition function of the automated thermal desorber (if available) to introduce a precise aliquot of the internal standard to the sampling end of each tube after the leak test and shortly before primary (tube) desorption).

Note: This step can be combined with dry purging the tube (Section 11.2.4) if required.

11.2.5.2 If the analyzer does not have a facility for automatic IS addition, gas or liquid internal standard can be manually introduced to the sampling end of tubes in a flow of carrier gas using the types of procedure described in Sections 10.3 and 10.4, respectively.

11.2.6 Pre-purge. Each tube should be purged to vent with carrier gas flowing in the desorption direction (*i.e.,* flowing into the tube from the non-sampling end) to remove oxygen before heat is applied. This is to prevent analyte and sorbent oxidation and to prevent deterioration of key analyzer components such as the GC column and mass spectrometer (if applicable). A series of schematics illustrating these steps is presented in Figures 17.2 and 17.3.

11.3 Analytical Procedure

11.3.1 Steps Required for Thermal Desorption

11.3.1.1 Ensure that the pressure and purity of purge and carrier gases supplying the TD/GC/MS system, meet manufacturer specifications and the requirements of this method.

11.3.1.2 Ensure also that the analytical method selected meets the QC requirements of this method (Section 9) and that all the analytical parameters are at set point.

11.3.1.3 Conduct predesorption system checks (see Section 11.2).

11.3.1.4 Desorb the sorbent tube under conditions demonstrated to achieve >95 percent recovery of target compounds (see Section 9.5.2).

Note: Typical tube desorption conditions range from 280–350 °C for 5–15 minutes with a carrier gas flow of 30–100 mL/min passing through the tube from the non-sampling end such that analytes are flushed out of the tube from the sampling end. Desorbed VOCs are concentrated (refocused) on a secondary, cooled sorbent trap integrated into the analytical equipment (see Figure 17.4). The focusing trap is typically maintained at a temperature between −30 and +30 °C during focusing. Selection of hydrophobic sorbents for focusing and setting a trapping temperature of +25 to 27 °C aid analysis of humid samples because these settings allow selective elimination of any residual water from the system, prior to GC/MS analysis.

Note: The transfer of analytes from the tube to the focusing trap during primary (tube) desorption can be carried out splitless or under controlled split conditions (see Figure 17.4) depending on the masses of target compounds sampled and the requirements of the system—sensitivity, required calibration range, column overload limitations, etc. Instrument controlled sample splits must be demonstrated by showing the reproducibility using calibration standards. Field and laboratory blank samples must be analyzed at the same split as the lowest calibration standard. During secondary (trap) desorption the focusing trap is heated rapidly (typically at rates >40 °C/s) with inert (carrier) gas flowing through the trap (3–100 mL/min) in the reverse direction to that used during focusing.

11.3.1.5 The split conditions selected for optimum field sample analysis must also be demonstrated on representative standards.

Note: Typical trap desorption temperatures are in the range 250–360 °C, with a ''hold'' time of 1–3 minutes at the highest temperature. Trap desorption automatically triggers the start of GC analysis. The trap desorption can also be carried out under splitless conditions (*i.e.,* with everything desorbed from the trap being transferred to the analytical column and GC detector) or, more commonly, under controlled split conditions (see Figure 17.4). The selected split ratio depends on the masses of target compounds sampled and the requirements of the system—sensitivity, required calibration range, column overload limitations, etc. If a split is selected during both primary (trap) desorption and secondary (trap) desorption, the overall split ratio is the product of the two. Such 'double' split capability gives optimum flexibility for accommodating concentrated samples as well as trace-level samples on the TD/GC/MS analytical system. High resolution capillary columns and most GC/MS detectors tend to work best with approximately 20–200 ng per compound per tube to avoid saturation. The overall split ratio must be adjusted such that, when it is applied to the sample mass that is expected to be collected during field monitoring, the amount reaching the column will be attenuated to fall within this range. As a rule of thumb this means that ~20 ng samples will require splitless or very low split analysis, ~2 μg samples will require a split ratio in the order of ~50:1 and 200 μg samples will require a double split method with an overall split ratio in the order of 2,000:1.

11.3.1.6 Analyzed tubes must be resealed with long-term storage caps immediately after analysis (manual systems) or after completion of a sequence (automated systems). This prevents contamination, minimizing the extent of tube reconditioning required before subsequent reuse.

11.3.2 GC/MS Analytical Procedure

11.3.2.1 Heat/cool the GC oven to its starting set point.

11.3.2.2 If using a GC/MS system, it can be operated in either MS-Scan or MS–SIM mode (depending on required sensitivity levels and the type of mass spectrometer selected). As soon as trap desorption and transfer of analytes into the GC column triggers the start of the GC/MS analysis, collect mass spectral data over a range of masses from 35 to 300 amu. Collect at least 10 data points per eluting chromatographic peak in order to adequately integrate and quantify target compounds.

11.3.2.3 Use secondary ion quantitation only when there are sample matrix interferences with the primary ion. If secondary ion quantitation is performed, flag the data and document the reasons for the alternative quantitation procedure.

11.3.2.4 Data reduction is performed by the instruments post processing program that is automatically accessed after data acquisition is completed at the end of the GC run. The concentration of each target compound is calculated using the previously established response factors for the CCV analyzed in Section 11.1.1.6.

11.3.2.5 Whenever the thermal desorption—GC/MS analytical method is changed or major equipment maintenance is performed, you must conduct a new five-level calibration (see Section 10.6.3). System calibration remains valid as long as results from subsequent CCV are within 30 percent of the most recent 5-point calibration (see Section 10.9.5). Include relevant CCV data in the supporting information in the data report for each set of samples.

11.3.2.6 Document, flag and explain all sample results that exceed the calibration range. Report flags and provide documentation in the analytical results for the affected sample(s).

12.0 Data Analysis, Calculations, and Reporting

12.1 Recordkeeping Procedures for Sorbent Tubes

12.1.1 Label sample tubes with a unique identification number as described in Section 6.3.

12.1.2 Keep records of the tube numbers and sorbent lots used for each sampling period.

12.1.3 Keep records of sorbent tube packing if tubes are manually prepared in the laboratory and not supplied commercially. These records must include the masses and/or bed lengths of sorbent(s) contained in each tube, the maximum allowable temperature for that tube and the date each tube was packed. If a tube is repacked at any stage, record the date of tube repacking and any other relevant information required in Section 12.1.

12.1.4 Keep records of the conditioning and blanking of tubes. These records must include, but are not limited to, the unique identification number and measured background resulting from the tube conditioning.

12.1.5 Record the location, dates, tube identification and times associated with each sample collection. Record this information on a Chain of Custody form that is sent to the analytical laboratory.

12.1.6 Field sampling personnel must complete and send a Chain of Custody to the analysis laboratory (see Section 8.6.4 of Method 325A for what information to include and Section 17.0 of this method for an example form). Duplicate copies of the Chain of Custody must be included with the sample report and stored with the field test data archive.

12.1.7 Field sampling personnel must also keep records of the unit vector wind direction, sigma theta, temperature and barometric pressure averages for the sampling period. See Section 8.3.4 of Method 325A.

12.1.8 Laboratory personnel must record the sample receipt date, and analysis date.

12.1.9 Laboratory personnel must maintain records of the analytical method and sample results in electronic or hardcopy in sufficient detail to reconstruct the calibration, sample, and quality control results from each sampling period.

12.2 Calculations

12.2.1 Complete the calculations in this section to determine compliance with calibration quality control criteria (see also Table 17.1).

12.2.1.1 Response factor (RF). Calculate the RF using Equation 12.1:

$$RF = \frac{\left[A_s \times M_{is}\right]}{\left[A_{is} \times M_s\right]} \qquad \text{Eq. 12.1}$$

Where:

A_s = Peak area for the characteristic ion of the analyte.

A_{is} = Peak area for the characteristic ion of the internal standard.

M_s = Mass of the analyte.

M_{is} = Mass of the internal standard.

12.2.1.2 Standard deviation of the response factors (SD_{RF}). Calculate the SDRF using Equation 12.2:

$$SD_{RF} = \sqrt{\frac{\sum_{i=1}^{n}\left(RF_i - \overline{RF}\right)^2}{(n-1)}} \qquad \text{Eq. 12.2}$$

Where:

RF_i = RF for each of the calibration compounds.

$\overline{RF}$ = Mean RF for each compound from the initial calibration.

n = Number of calibration standards.

12.2.1.3 Percent deviation (%DEV). Calculate the %DEV using Equation 12.3:

$$\%DEV = SD_{RF} \div \overline{RF} \times 100 \qquad \text{Eq. 12.3}$$

Where:

SD_{RF} = Standard deviation.

$\overline{RF}$ = Mean RF for each compound from the initial calibration.

12.2.1.4 Relative percent difference (RPD). Calculate the RPD using Equation 12.4:

$$RPD = \frac{R1 - R2}{\left[(R1 + R2)/2\right]} \times 100 \qquad \text{Eq. 12.4}$$

Where:

R1, R2 = Values that are being compared (*i.e.,* response factors in CCV).

12.2.2 Determine the equivalent concentration of compounds in atmospheres as follows.

12.2.3 Correct target concentrations determined at the sampling site temperature and atmospheric pressure to standard conditions (25 °C and 760 mm mercury) using Equation 12.5 (Reference 21).

$$U_{NTP} = U \times \left(\frac{298.2}{t_{ss}}\right)^{\frac{3}{2}} \times \left(\frac{P_{ss}}{760}\right) \qquad \text{Eq. 12.5}$$

Where:

t_{ss} = The average temperature during the collection period at the sampling site (K).

P_{ss} = The average pressure at the sampling site during the collection period (mm Hg).

U = The diffusive uptake rate (sampling rate) (mL/min).

12.2.4 For passive sorbent tube samples, calculate the concentration of the target compound(s) in the sampled air, in µg/m³ by using Equation 12.6 (Reference 22).

$$C_m = \frac{m_{meas}}{U_{NTP} \times t} \times 10^6 \qquad \text{Eq. 12.6}$$

Where:

C_m = The concentration of target compound in the air sampled (µg/m³).

m_{meas} = The mass of the compound as measured in the sorbent tube (µg).

U_{NTP} = The diffusive uptake rate corrected for local conditions (sampling rate) (mL/min).

t = The exposure time (minutes).

Note: Diffusive uptake rates for common VOCs, using carbon sorbents packed into sorbent tubes of the dimensions specified in Section 6.1, are listed in Table 12.1. Adjust analytical conditions to keep expected sampled masses within range (see Sections 11.3.1.3 to 11.3.1.5). Best possible method detection limits are typically in the order of 0.1 ppb for 1,3-butadiene and 0.05 ppb for volatile aromatics such as benzene for 14-day monitoring. However, actual detection limits will depend upon the analytical conditions selected.

TABLE 12.1—VALIDATED SORBENTS AND UPTAKE RATES (ML/MIN) FOR SELECTED CLEAN AIR ACT COMPOUNDS

Compound	Carbopack™ X[a]	Carbograph™1 TD	Carbopack™ B
1,1-Dichloroethene	0.57 ± 0.14	not available	not available.
3-Chloropropene	0.51 ± 0.3	not available	not available.
1,1-Dichloroethane	0.57 ± 0.1	not available	not available.
1,2-Dichloroethane	0.57 ± 0.08	not available	not available.
1,1,1-Trichloroethane	0.51 ± 0.1	not available	not available.
Benzene	0.67 ± 0.06	0.63 ± 0.07[b]	0.63 ± 0.07[b].
Carbon tetrachloride	0.51 ± 0.06	not available	not available.
1,2-Dichloropropane	0.52 ± 0.1	not available	not available.
Trichloroethene	0.5 ± 0.05	not available	not available.
1,1,2-Trichloroethane	0.49 ± 0.13	not available	not available.
Toluene	0.52 ± 0.14	0.56 ± 0.06[c]	0.56 ± 0.06[c].
Tetrachloroethene	0.48 ± 0.05	not available	not available.
Chlorobenzene	0.51 ± 0.06	not available	not available.
Ethylbenzene	0.46 ± 0.07	not available	0.50[c].
m,p-Xylene	0.46 ± 0.09	0.47 ± 0.04[c]	0.47 ± 0.04[c].
Styrene	0.5 ± 0.14	not available	not available.
o-Xylene	0.46 ± 0.12	0.47 ± 0.04[c]	0.47 ± 0.04[c].
p-Dichlorobenzene	0.45 ± 0.05	not available	not available.

[a] Reference 3, McClenny, J. Environ. Monit. 7:248–256. Based on 24-hour duration.

[b] Reference 24, BS EN 14662–4:2005 (incorporated by reference—see § 63.14). Based on 14-day duration.

[c] Reference 25, ISO 16017–2:2003(E) (incorporated by reference—see § 63.14). Based on 14-day duration.

13.0 Method Performance

The performance of this procedure for VOC not listed in Table 12.1 is determined using the procedure in Addendum A of this Method or by one of the following national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14).

13.1 The valid range for measurement of VOC is approximately 0.5 µg/m³ to 5 mg/m³ in air, collected over a 14-day sampling period. The upper limit of the useful range depends on the split ratio selected (Section 11.3.1) and the dynamic range of the analytical system. The lower limit of the useful range depends on the noise from the analytical instrument detector and on the blank level of target compounds or interfering compounds on the sorbent tube (see Section 13.3).

13.2 Diffusive sorbent tubes compatible with passive sampling and thermal desorption methods have been evaluated at relatively high atmospheric concentrations (*i.e.*, mid-ppb to ppm) and published for use in workplace air and industrial/mobile source emissions (References 15–16, 21–22).

13.3 Best possible detection limits and maximum quantifiable concentrations of air pollutants range from sub-part-per-trillion (sub-ppt) for halogenated species such as CCl4 and the freons using an electron capture detector (ECD), SIM Mode GC/MS, triple quad MS or GC/TOF MS to sub-ppb for volatile hydrocarbons collected over 72 hours followed by analysis using GC with quadrupole MS operated in the full SCAN mode.

13.3.1 Actual detection limits for atmospheric monitoring vary depending on several key factors. These factors are:

- Minimum artifact levels.
- GC detector selection.
- Time of exposure for passive sorbent tubes.
- Selected analytical conditions, particularly column resolution and split ratio.

14.0 Pollution Prevention

This method involves the use of ambient concentrations of gaseous compounds that post little or no danger of pollution to the environment.

15.0 Waste Management

Dispose of expired calibration solutions as hazardous materials. Exercise standard laboratory environmental practices to minimize the use and disposal of laboratory solvents.

16.0 References

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13. MDHS 40 (Toluene in air), ''Laboratory Method Using Pumped Porous Polymer Adsorbent Tubes, Thermal Desorption and Gas Chromatography,'' Method for the Determination of Hazardous Substances (MDHS), UK Health and Safety Executive, Sheffield, UK.
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17.0 Tables, Diagrams, Flowcharts and Validation Data

TABLE 17.1—SUMMARY OF GC/MS ANALYSIS QUALITY CONTROL PROCEDURES

Parameter	Frequency	Acceptance criteria	Corrective action
Bromofluorobenzene Instrument Tune Performance Check.	Daily[a] prior to sample analysis	Evaluation criteria presented in Section 9.5 and Table 9.2.	(1) Retune and or (2) Perform Maintenance.
Five point calibration bracketing the expected sample concentration.	Following any major change, repair or maintenance or if daily CCV does not meet method requirements. Recalibration not to exceed three months.	(1) Percent Deviation (%DEV) of response factors ±30%. (2) Relative Retention Times (RRTs) for target peaks ±0.06 units from mean RRT.	(1) Repeat calibration sample analysis. (2) Repeat linearity check. (3) Prepare new calibration standards as necessary and repeat analysis.
Calibration Verification (CCV Second source calibration verification check).	Following the calibration curve	The response factor ±30% DEV from calibration curve average response factor.	(1) Repeat calibration check. (2) Repeat calibration curve.
Laboratory Blank Analysis	Daily[a] following bromofluoro- benzene and calibration check; prior to sample analysis.	(1) ≤0.2 ppbv per analyte or ≤3 times the LOD, whichever is greater. (2) Internal Standard (IS) area response ±40% and IS Retention Time (RT) ±0.33 min. of most recent calibration check.	(1) Repeat analysis with new blank tube. (2) Check system for leaks, contamination. 3) Analyze additional blank.
Blank Sorbent Tube Certification	One tube analyzed for each batch of tubes cleaned or 10 percent of tubes whichever is greater.	<0.2 ppbv per VOC targeted compound or 3 times the LOD, whichever is greater.	Reclean all tubes in batch and reanalyze.
Samples—Internal Standards	All samples	IS area response ±40% and IS RT ±0.33 min. of most recent calibration validation.	Flag Data for possible invalidation.

[a] Every 24 hours.

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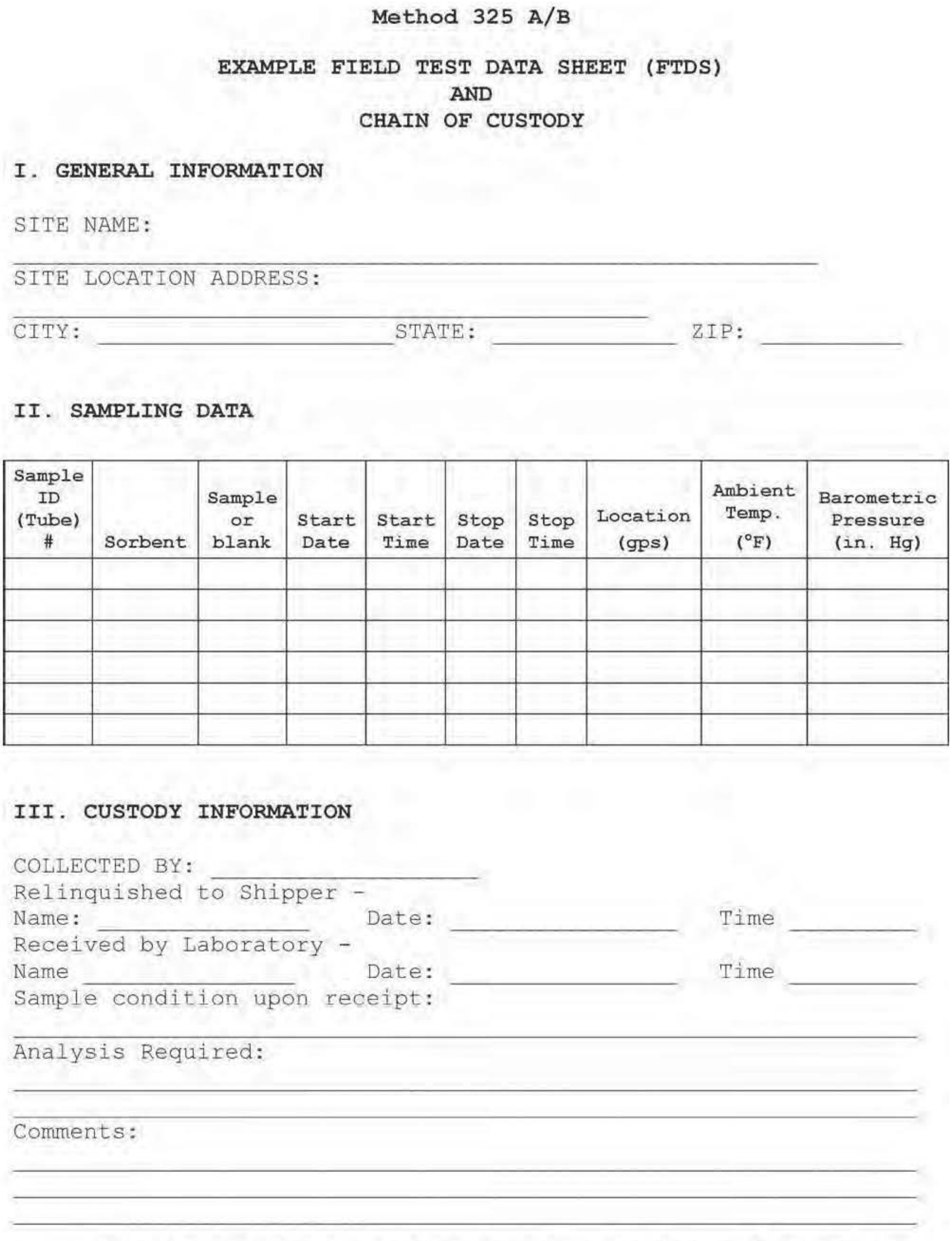

Method 325 A/B

EXAMPLE FIELD TEST DATA SHEET (FTDS)
AND
CHAIN OF CUSTODY

I. GENERAL INFORMATION

SITE NAME: ____________________

SITE LOCATION ADDRESS: ____________________

CITY: ____________ STATE: ____________ ZIP: ____________

II. SAMPLING DATA

Sample ID (Tube) #	Sorbent	Sample or blank	Start Date	Start Time	Stop Date	Stop Time	Location (gps)	Ambient Temp. (°F)	Barometric Pressure (in. Hg)

III. CUSTODY INFORMATION

COLLECTED BY: ____________

Relinquished to Shipper -

Name: ____________ Date: ____________ Time ____________

Received by Laboratory -

Name ____________ Date: ____________ Time ____________

Sample condition upon receipt:

____

Analysis Required:

____

____

Comments:

____

____

____

Figure 17.1. Example Field Data From and Chain of Custody

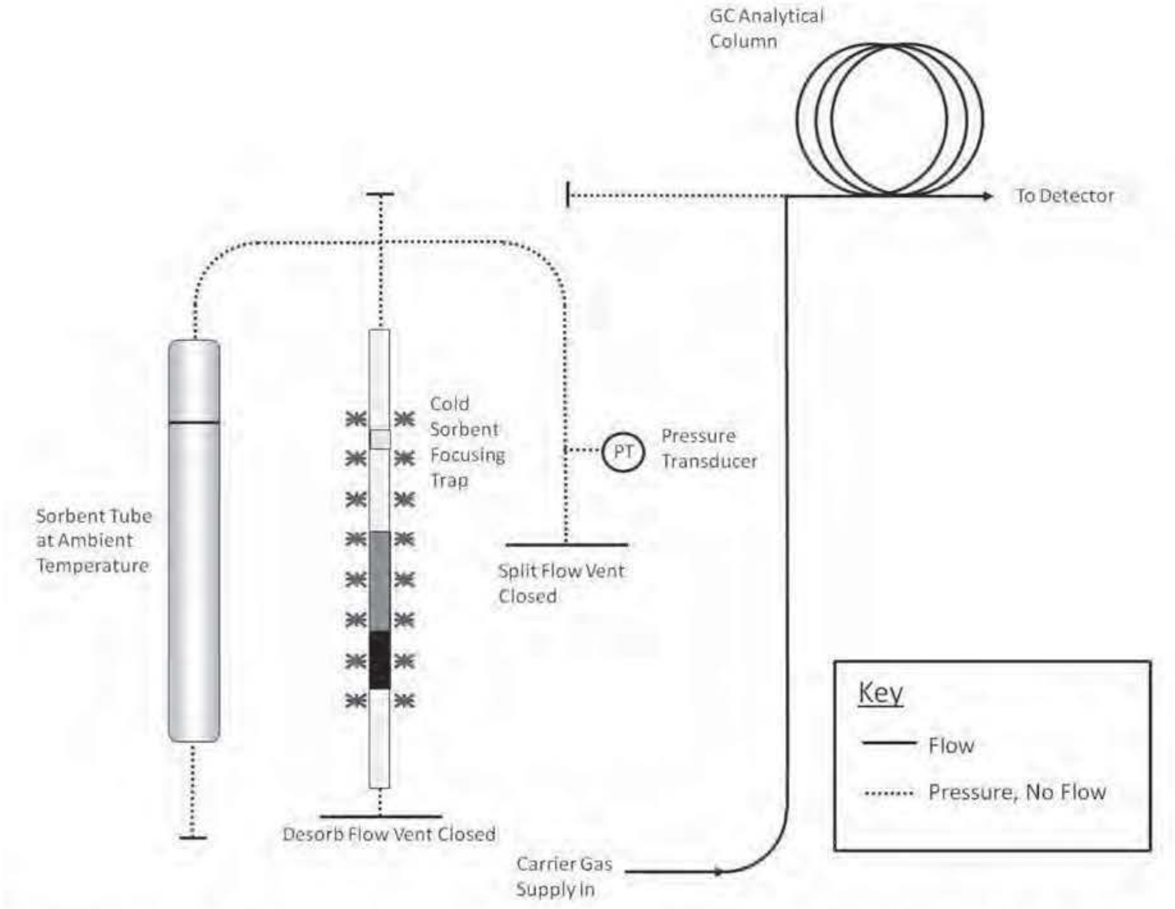

Figure 17.2. Schematic of Thermal Desorption Flow Path During Leak Testing

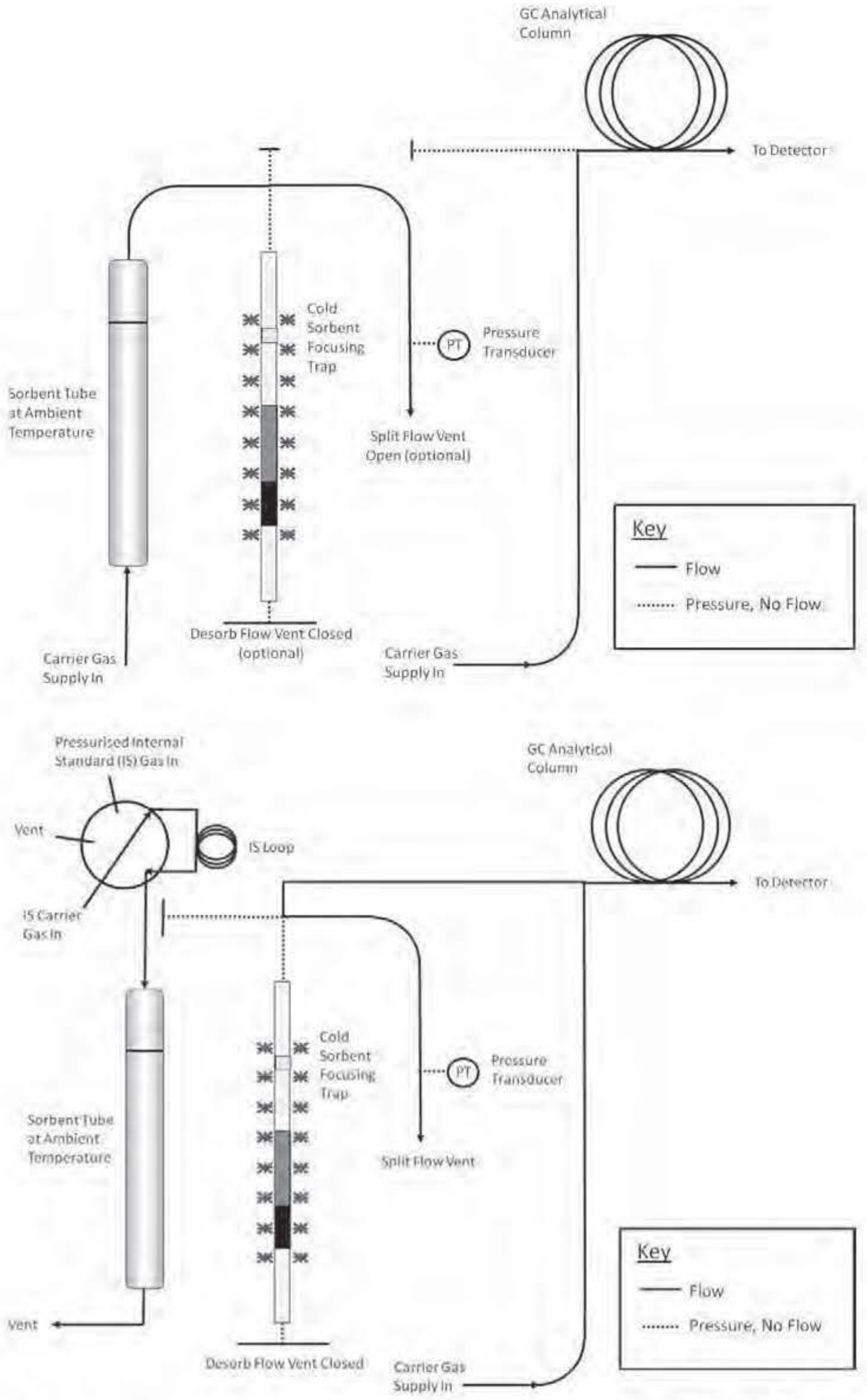

Figure 17.3. Schematic of Thermal Desorption Flow During Purge of Air (Top) and Addition of IS Gas to the Sorbent Tube (Bottom)

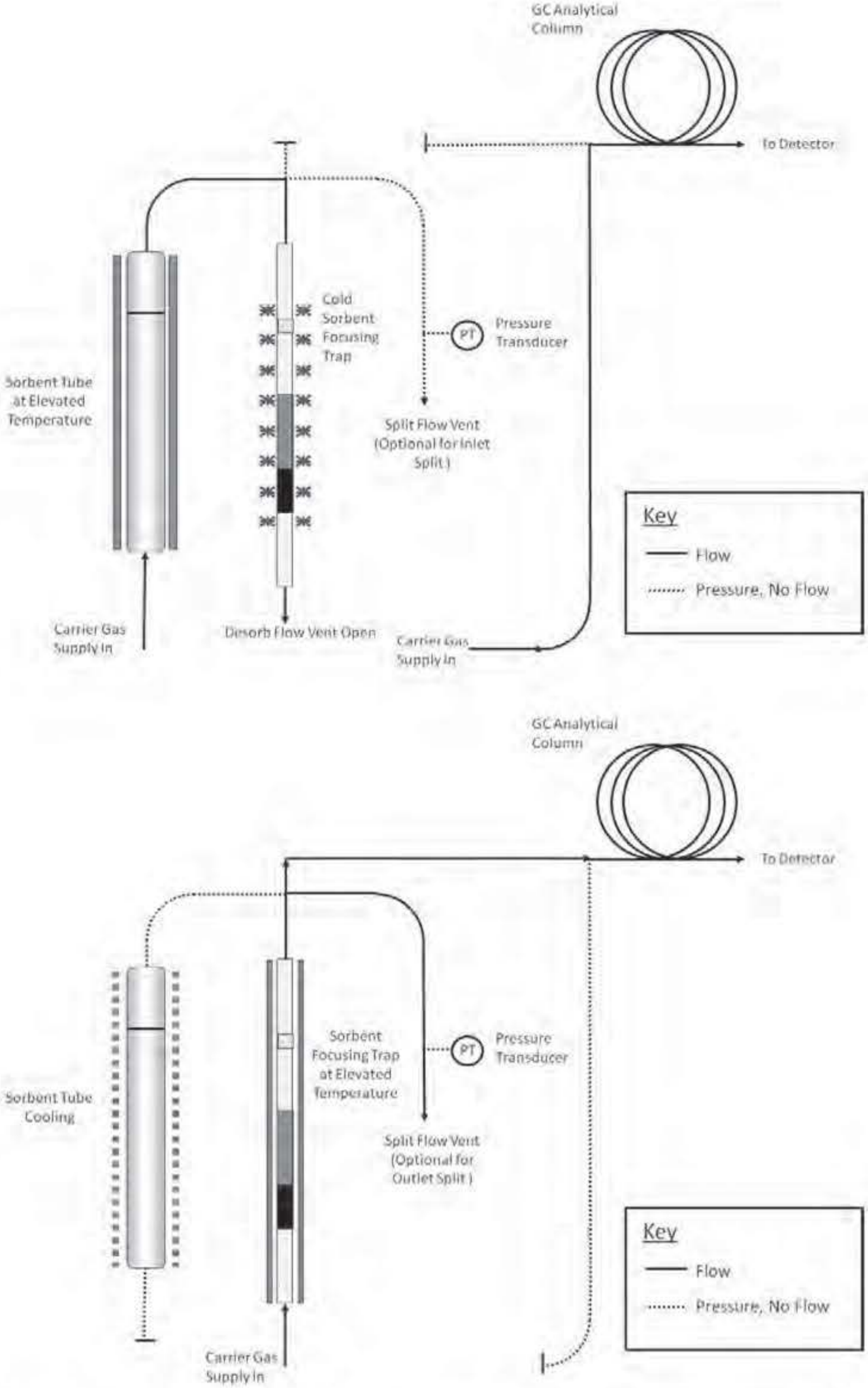

Figure 17.4. Schematic of Thermal Desorption Flow Path During Primary (Tube) Desorption (Top) and Secondary (Trap) Desorption and Transfer to the GC (Bottom)

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ADDENDUM A to Method 325B—Method 325 Performance Evaluation

A.1 Scope and Application

A.1.1 To be measured by Methods 325A and 325B, each new target volatile organic compound (VOC) or sorbent that is not listed in Table 12.1 must be evaluated by exposing the selected sorbent tube to a known concentration of the target compound(s) in an exposure chamber following the procedure in this Addendum or by following the procedures in the national/international standard methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14), or reported in peer-reviewed open literature.

A.1.2 You must determine the uptake rate and the relative standard deviation compared to the theoretical concentration of volatile material in the exposure chamber for each of the tests required in this method. If data that meet the requirement of this Addendum are available in the peer reviewed open literature for VOCs of interest collected on your passive sorbent tube configuration, then such data may be submitted in lieu of the testing required in this Addendum.

A.1.3 You must expose sorbent tubes in a test chamber to parts per trillion by volume (pptv) and low parts per billion by volume (ppbv) concentrations of VOCs in humid atmospheres to determine the sorbent tube uptake rate and to confirm compound capture and recovery.

A.2 Summary of Method

Note: The technique described here is one approach for determining uptake rates for new sorbent/sorbate pairs. It is equally valid to follow the techniques described in any one of the following national/international standards methods: ISO 16017–2:2003(E), ASTM D6196–03 (Reapproved 2009), or BS EN 14662–4:2005 (all incorporated by reference—see § 63.14).

A.2.1 Known concentrations of VOC are metered into an exposure chamber containing sorbent tubes filled with media selected to capture the volatile organic compounds of interest (see Figure A.1 and A.2 for an example of the exposure chamber and sorbent tube retaining rack). VOC are diluted with humid air and the chamber is allowed to equilibrate for 6 hours. Clean passive sampling devices are placed into the chamber and exposed for a measured period of time. The passive uptake rate of the passive sampling devices is determined using the standard and dilution gas flow rates. Chamber concentrations are confirmed with whole gas sample collection and analysis or direct interface volatile organic compound measurement methods.

A.2.2 An exposure chamber and known gas concentrations must be used to challenge and evaluate the collection and recovery of target compounds from the sorbent and tube selected to perform passive measurements of VOC in atmospheres.

A.3 Definitions

A.3.1 *cc* is cubic centimeter.

A.3.2 *ECD* is electron capture detector.

A.3.3 *FID* is flame ionization detector.

A.3.4 *LED* is light-emitting diode.

A.3.5 *MFC* is mass flow controller.

A.3.6 *MFM* is mass flow meter.

A.3.7 *min* is minute.

A.3.8 *ppbv* is parts per billion by volume.

A.3.9 *ppmv* is parts per million by volume.

A.3.10 *PSD* is passive sampling device.

A.3.11 *psig* is pounds per square inch gauge.

A.3.12 *RH* is relative humidity.

A.3.13 *VOC* is volatile organic compound.

A.4 Interferences

A.4.1 VOC contaminants in water can contribute interference or bias results high. Use only distilled, organic-free water for dilution gas humidification.

A.4.2 Solvents and other VOC-containing liquids can contaminate the exposure chamber. Store and use solvents and other VOC-containing liquids in the exhaust hood when exposure experiments are in progress to prevent the possibility of contamination of VOCs into the chamber through the chamber's exhaust vent.

Note: Whenever possible, passive sorbent evaluation should be performed in a VOC free laboratory.

A.4.3 PSDs should be handled by personnel wearing only clean, white cotton or powder free nitrile gloves to prevent contamination of the PSDs with oils from the hands.

A.4.4 This performance evaluation procedure is applicable to only volatile materials that can be measured accurately with direct interface gas chromatography or whole gas sample collection, concentration and analysis. Alternative methods to confirm the concentration of volatile materials in exposure chambers are subject to Administrator approval.

A.5 Safety

A.5.1 This procedure does not address all of the safety concerns associated with its use. It is the responsibility of the user of this standard to establish appropriate field and laboratory safety and health practices and determine the applicability of regulatory limitations prior to use.

A.5.2 Laboratory analysts must exercise appropriate care in working with high-pressure gas cylinders.

A.6 Equipment and Supplies

A.6.1 You must use an exposure chamber of sufficient size to simultaneously expose a minimum of eight sorbent tubes.

A.6.2 Your exposure chamber must not contain VOC that interfere with the compound under evaluation. Chambers made of glass and/or stainless steel have been used successfully for measurement of known concentration of selected VOC compounds.

A.6.3 The following equipment and supplies are needed:

- Clean, white cotton or nitrile gloves;
- Conditioned passive sampling device tubes and diffusion caps; and
- NIST traceable high resolution digital gas mass flow meters (MFMs) or flow controllers (MFCs).

A.7 Reagents and Standards

A.7.1 You must generate an exposure gas that contains between 35 and 75 percent relative humidity and a concentration of target compound(s) within 2 to 5 times the concentration to be measured in the field.

A.7.2 Target gas concentrations must be generated with certified gas standards and diluted with humid clean air. Dilution to reach the desired concentration must be done with zero grade air or better.

A.7.3 The following reagents and standards are needed:

- Distilled water for the humidification;
- VOC standards mixtures in high-pressure cylinder certified by the supplier (**Note:** The accuracy of the certified standards has a direct bearing on the accuracy of the measurement results. Typical vendor accuracy is ±5 percent accuracy but some VOC may only be available at lower accuracy (*e.g.*, acrolein at 10 percent)); and
- Purified dilution air containing less than 0.2 ppbv of the target VOC.

A.8 Sample Collection, Preservation and Storage

A.8.1 You must use certified gas standards diluted with humid air. Generate humidified air by adding distilled organic free water to purified or zero grade air. Humidification may be accomplished by quantitative addition of water to the air dilution gas stream in a heated chamber or by passing purified air through a humidifying bubbler. You must control the relative humidity in the test gas throughout the period of passive sampler exposure.

Note: The RH in the exposure chamber is directly proportional to the fraction of the purified air that passes through the water in the bubbler before entering the exposure chamber. Achieving uniform humidification in the proper range is a trial-and-error process with a humidifying bubbler. You may need to heat the bubbler to achieve sufficient humidity. An equilibration period of approximately 15 minutes is required following each adjustment of the air flow through the humidifier. Several adjustments or equilibration cycles may be required to achieve the desired RH level.

Note: You will need to determine both the dilution rate and the humidification rate for your design of the exposure chamber by trial and error before performing method evaluation tests.

A.8.2 Prepare and condition sorbent tubes following the procedures in Method 325B Section 7.0.

A.8.3 You must verify that the exposure chamber does not leak.

A.8.4 You must complete two evaluation tests using a minimum of eight passive sampling tubes in each test with less than 5-percent depletion of test analyte by the samplers.

A.8.4.1 Perform at least one evaluation at two to five times the estimated analytical detection limit or less.

A.8.4.2 Perform second evaluation at a concentration equivalent to the middle of the analysis calibration range.

A.8.5 You must evaluate the samplers in the test chamber operating between 35 percent and 75 percent RH, and at 25 ± 5 °C. Allow the exposure chamber to equilibrate for 6 hours before starting an evaluation.

A.8.6 The flow rate through the chamber must be ≤0.5 meter per second face velocity across the sampler face.

A.8.7 Place clean, ready to use sorbent tubes into the exposure chamber for predetermined amounts of time to evaluate collection and recovery from the tubes. The exposure time depends on the concentration of volatile test material in the chamber and the detection limit required for the sorbent tube sampling application. Exposure time should match sample collection time. The sorbent tube exposure chamber time may not be less than 24 hours and should not be longer than 2 weeks.

A.8.7.1 To start the exposure, place the clean PSDs equipped with diffusion caps on the tube inlet into a retaining rack.

A.8.7.2 Place the entire retaining rack inside the exposure chamber with the diffusive sampling end of the tubes facing into the chamber flow. Seal the chamber and record the exposure start time, chamber RH, chamber temperature, PSD types and numbers, orientation of PSDs, and volatile material mixture composition (see Figure A.2).

A.8.7.3 Diluted, humidified target gas must be continuously fed into the exposure chamber during cartridge exposure. Measure the flow rate of target compound standard gas and dilution air to an accuracy of 5 percent.

A.8.7.4 Record the time, temperature, and RH at the beginning, middle, and end of the exposure time.

A.8.7.5 At the end of the exposure time, remove the PSDs from the exposure chamber. Record the exposure end time, chamber RH, and temperature.

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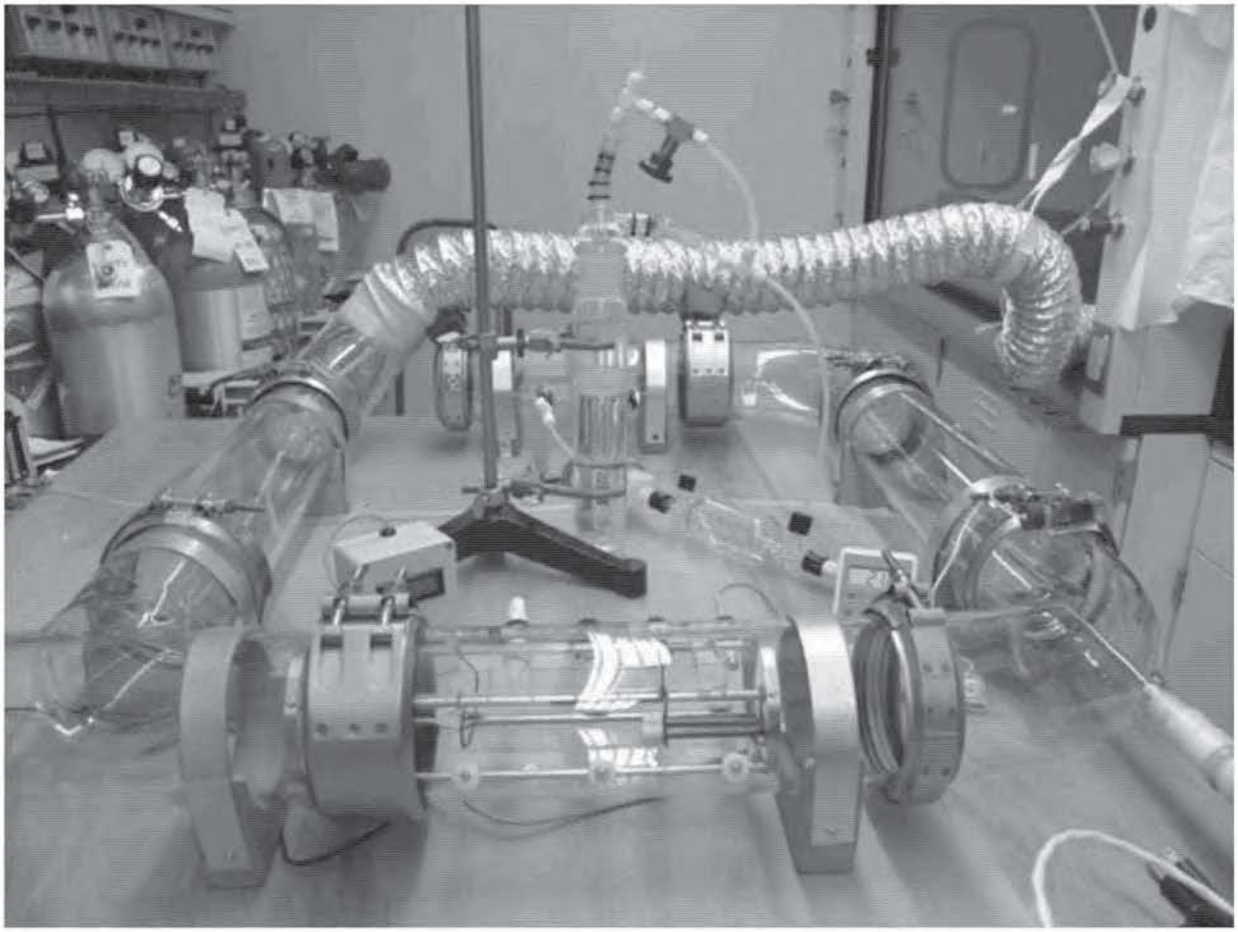
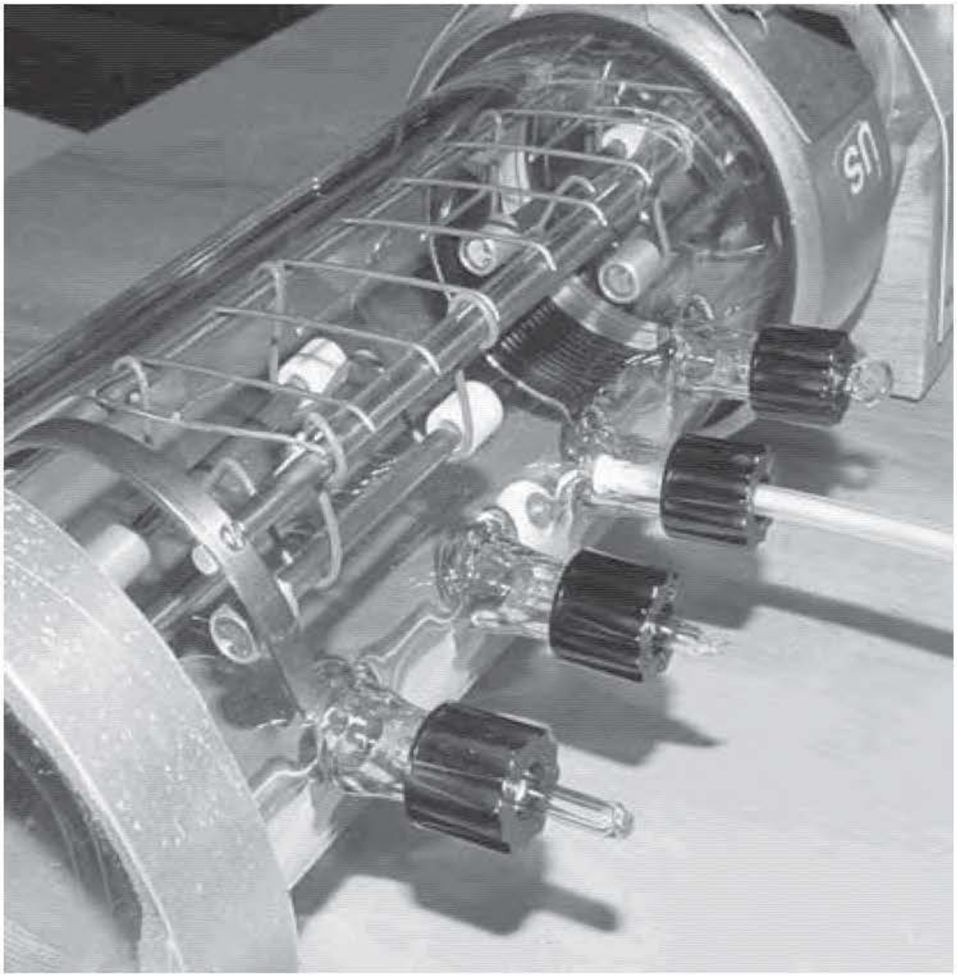


Figure A.1. Example Sorbent Tube Exposure Chamber



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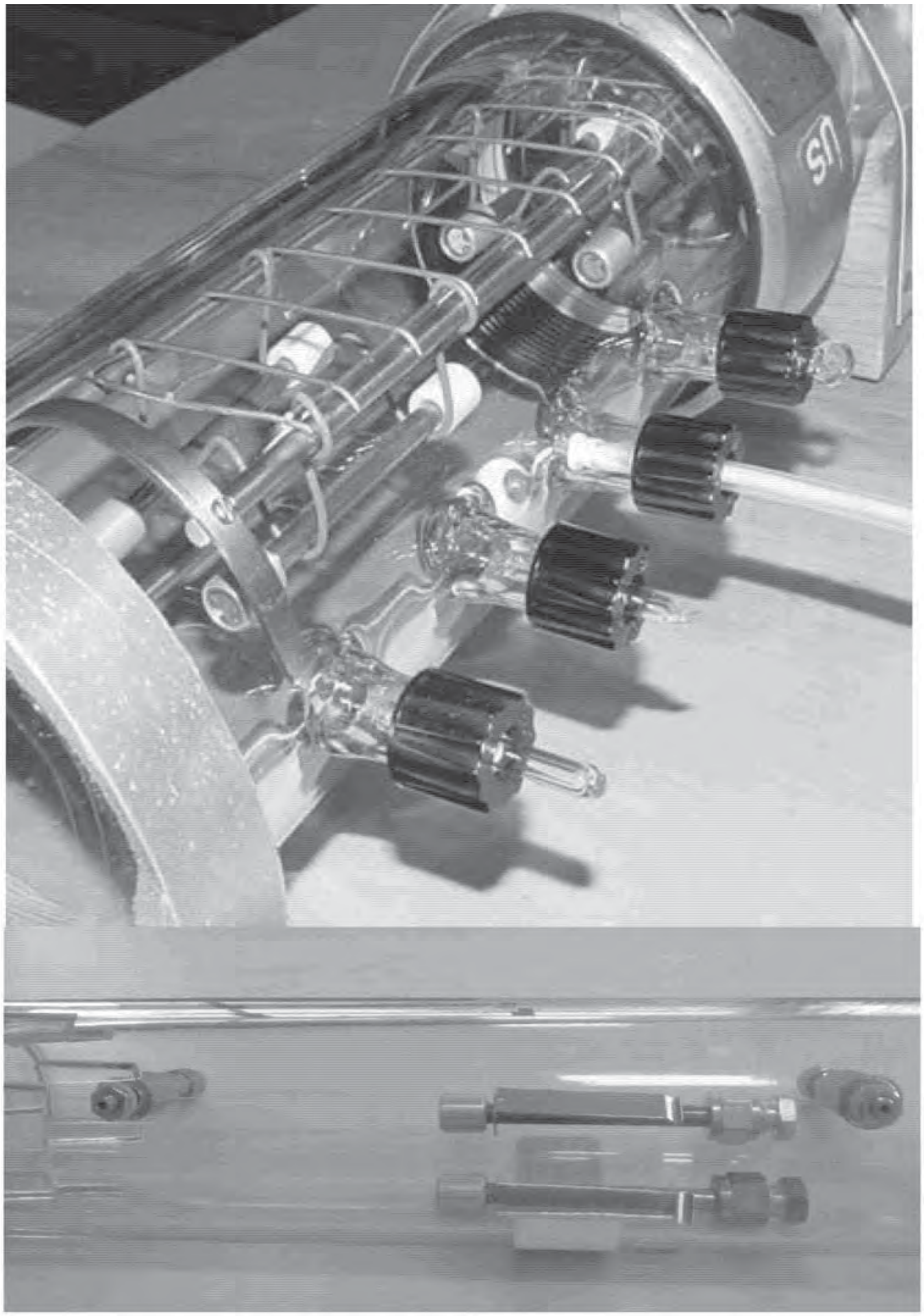

Figure A.2. Example Tube Retaining Rack in Exposure Chamber

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A.9 Quality Control

A.9.1 Monitor and record the exposure chamber temperature and RH during PSD exposures.

A.9.2 Measure the flow rates of standards and purified humified air immediately following PSD exposures.

A.10 Calibration and Standardization

A.10.1 Follow the procedures described in Method 325B Section 10.0 for calibration.

A.10.2 Verify chamber concentration by direct injection into a gas chromatograph calibrated for the target compound(s) or by collection of an integrated SUMMA canister followed by analysis using a preconcentration gas chromatographic method such as EPA Compendium Method TO–15, Determination of VOCs in Air Collected in Specially-Prepared Canisters and Analyzed By GC/MS.

A.10.2.1 To use direct injection gas chromatography to verify the exposure chamber concentration, follow the procedures in Method 18 of 40 CFR part 60, Appendix A–6. The method ASTM D6420–99 (Reapproved 2010) (incorporated by reference—see § 63.14) is an acceptable alternative to EPA Method 18 of 40 CFR part 60).

Note: Direct injection gas chromatography may not be sufficiently sensitive for all compounds. Therefore, the whole gas preconcentration sample and analysis method may be required to measure at low concentrations.

A.10.2.2 To verify exposure chamber concentrations using SUMMA canisters, prepare clean canister(s) and measure the concentration of VOC collected in an integrated SUMMA canister over the period used for the evaluation (minimum 24 hours). Analyze the TO–15 canister sample following EPA Compendium Method TO–15.

A.10.2.3 Compare the theoretical concentration of volatile material added to the test chamber to the measured concentration to confirm the chamber operation. Theoretical concentration must agree with the measured concentration within 30 percent.

A.11 Analysis Procedure

Analyze the sorbent tubes following the procedures described in Section 11.0 of Method 325B.

A.12 Recordkeeping Procedures for Sorbent Tube Evaluation

Keep records for the sorbent tube evaluation to include at a minimum the following information:

A.12.1 Sorbent tube description and specifications.

A.12.2 Sorbent material description and specifications.

A.12.3 Volatile analytes used in the sampler test.

A.12.4 Chamber conditions including flow rate, temperature, and relative humidity.

A.12.5 Relative standard deviation of the sampler results at the conditions tested.

A.12.6 95 percent confidence limit on the sampler overall accuracy.

A.12.7 The relative accuracy of the sorbent tube results compared to the direct chamber measurement by direct gas chromatography or SUMMA canister analysis.

A.13 Method Performance

A.13.1 Sorbent tube performance is acceptable if the relative accuracy of the passive sorbent sampler agrees with the active measurement method by ±10 percent at the 95 percent confidence limit and the uptake ratio is equal to greater than 0.5 mL/min (1 ng/ppm-min).

Note: For example, there is a maximum deviation comparing Perkin-Elmer passive type sorbent tubes packed with Carbopack™ X of 1.3 to 10 percent compared to active sampling using the following uptake rates.

	1,3-butadiene uptake rate mL/min	Estimated detection limit (2 week)	Benzene uptake rates mL/min	Estimated detection limit (2 week)
Carbopack™ X (2 week)	0.61 ± 0.11 [a]	0.1 ppbv	0.67 [a]	0.05 ppbv

[a] McClenny, W.A., K.D. Oliver, H.H. Jacumin, Jr., E.H. Daughtrey, Jr., D.A. Whitaker. 2005. 24 h diffusive sampling of toxic VOCs in air onto Carbopack™ X solid adsorbent followed by thermal desorption/GC/MS analysis—laboratory studies. J. Environ. Monit. 7:248–256.

A13.2 Data Analysis and Calculations for Method Evaluation

A.13.2.1 Calculate the theoretical concentration of VOC standards using Equation A.1.

$$C_f = \left[\frac{FR_i}{FR_t + FR_a}\right] \times C_s \qquad \text{Eq. A.1}$$

Where:

C_f = The final concentration of standard in the exposure chamber (ppbv).

FR_i = The flow rate of the target compound I (mL/min).

FR_t = The flow rate of all target compounds from separate if multiple cylinders are used (mL/min).

FR_a = The flow rate of dilution air plus moisture (mL/min).

C_s = The concentration of target compound in the standard cylinder (parts per million by volume).

A.13.2.3 Determine the uptake rate of the target gas being evaluated using Equation A.2.

$$U = \frac{M_x}{C_e \times T_t} \qquad \text{Eq. A.2}$$

Where:

M_x = The mass of analyte measured on the sampling tube (ηg).

C_e = The theoretical exposure chamber concentration (ηg/mL).

T_t = The exposure time (minutes).

A.13.2.4 Estimate the variance (relative standard deviation (RSD)) of the inter-sampler results at each condition tested using Equation A.3. RSD for the sampler is estimated by pooling the variance estimates from each test run.

$$S^2 = \sum_i^n \frac{\left(X_i - \overline{X}\right)^2}{n-1} \qquad \text{Eq. A.3}$$

Where:

X_i = The measured mass of analyte found on sorbent tube *i*.

$\overline{X}_i$ = The mean value of all X_i.

n = The number of measurements of the analyte.

A.13.2.4 Determine the percent relative standard deviation of the inter-sampler results using Equation A.4.

$$\%RSD_x = 100 \times \frac{\sqrt{S^2}}{\overline{X}}$$

Eq. A.4

A.13.2.5 Determine the 95 percent confidence interval for the sampler results using Equation A.5. The confidence interval is determined based on the number of test runs performed to evaluate the sorbent tube and sorbent combination. For the minimum test requirement of eight samplers tested at two concentrations, the number of tests is 16 and the degrees of freedom are 15.

$$\Delta_{95\%} = \frac{\%RSD \times t_{0.95} \times f}{\sqrt{n}}$$

Eq. A.5

Where:

$\Delta_{95\%}$ = 95 percent confidence interval.

%RSD = percent relative standard deviation.

$t_{0.95}$ = The Students t statistic for f degrees of freedom at 95 percent confidence.

f = The number of degrees of freedom.

n = Number of samples.

A.13.2.6 Determine the relative accuracy of the sorbent tube combination compared to the active sampling results using Equation A.6.

$$RA = \overline{X_i} - \overline{X_A} \pm \Delta_{95\%}$$

Eq. A.6

Where:

RA = Relative accuracy.

$\overline{X}_i$ = The mean value of all X_i.

$\overline{X}_i$ = The average concentration of analyte measured by the active measurement method.

$\Delta_{95\%}$ = 95 percent confidence interval.

A.14 Pollution Prevention

This method involves the use of ambient concentrations of gaseous compounds that post little or no pollution to the environment.

A.15 Waste Management

Expired calibration solutions should be disposed of as hazardous materials.

A.16 References

1. ISO TC 146/SC 02 N 361 Workplace atmospheres—Protocol for evaluating the performance of diffusive samplers.

[FR Doc. 2015–26486 Filed 11–30–15; 8:45 am]

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PMN No.	Concentration of concern
P–14–173, P–14–175, P–14–178, P–14–179, P–14–181, P–14–183, P–14–184, P–14–192, P–14–193	1 ppb.
P–14–176, P–14–180, P–14–185, P–14–186, P–14–187, P–14–190	2 ppb.
P–14–177, P–14–188	3 ppb.
P–14–191	4 ppb.
P–14–182	140 ppb.

(ii) [Reserved]

(b) *Specific requirements.* The provisions of subpart A of this part apply to this section except as modified by this paragraph.

(1) *Recordkeeping.* Recordkeeping requirements as specified in § 721.125(a), (b), (c), (i) and (k) are applicable to manufacturers and processors of these substances.

(2) *Limitations or revocation of certain notification requirements.* The provisions of § 721.185 apply to this section.

[FR Doc. 2015–30677 Filed 12–3–15; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2013–0290 and EPA–HQ–OAR–2013–0291; FRL–9939–35–OAR]

RIN 2060–AP69

NESHAP for Brick and Structural Clay Products Manufacturing; and NESHAP for Clay Ceramics Manufacturing: Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; correction.

SUMMARY: The Environmental Protection Agency (EPA) published a final rule in the **Federal Register** on October 26, 2015, titled NESHAP for Brick and Structural Clay Products Manufacturing; and NESHAP for Clay Ceramics Manufacturing. These amendments make two technical corrections to the published regulation.

DATES: This action is effective December 28, 2015.

FOR FURTHER INFORMATION CONTACT: Ms. Sharon Nizich, Sector Policies and Programs Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number: (919) 541–2825; facsimile number: (919) 541–5450; email address: *nizich.sharon@epa.gov.* For information about the applicability of the national emission standards for hazardous air pollutants, contact Mr. Patrick Yellin, Monitoring, Assistance and Media Programs Division (2227A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460; telephone number (202) 564–2970; email address *yellin.patrick@epa.gov.*

SUPPLEMENTARY INFORMATION: The EPA published a document in the **Federal Register** of October 26, 2015 (80 FR 65470). There were two errors included in the final rule. First, the reference to the IBR method (ASTM D6348–03) was incorrect. The incorrect IBR method reference included in the **Federal Register** was paragraph (h)(75). The correct reference is paragraph (h)(76). Second, there was a typographical error in 40 CFR 63.8605(c) referencing a requirement of a non-existing section. The incorrect non-existing reference is 40 CFR 63.8630(e). The correct reference is 40 CFR 63.8630(c).

Correction

In rule FR Doc. 2015–25724 published on October 26, 2015 (80 FR 65470), make the following corrections:

§ 63.14 [Corrected]

■ 1. On page 65520:

■ a. In the second column, correct amendatory instruction number 2.b. to read ''Revising paragraph (h)(76);''.

■ b. In the second column, redesignate paragraph (h)(75) as paragraph (h)(76).

§ 63.8605 [Corrected]

■ 2. On page 65549, second column, in paragraph (c), fifth line, remove ''§ 63.8630(e).'' and add ''§ 63.8630(c).'' in its place.

Dated: November 18, 2015.

Janet G. McCabe,

Acting Assistant Administrator, Office of Air and Radiation.

[FR Doc. 2015–30379 Filed 12–3–15; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

45 CFR Part 95

Centers for Medicare & Medicaid Services

42 CFR Part 433

[CMS–2392–F]

RIN 0938–AS53

Medicaid Program; Mechanized Claims Processing and Information Retrieval Systems (90/10)

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

SUMMARY: This final rule will extend enhanced funding for Medicaid eligibility systems as part of a state's mechanized claims processing system, and will update conditions and standards for such systems, including adding to and updating current Medicaid Management Information Systems (MMIS) conditions and standards. These changes will allow states to improve customer service and support the dynamic nature of Medicaid eligibility, enrollment, and delivery systems.

DATES: *Effective Date:* These regulations are effective on January 1, 2016.

FOR FURTHER INFORMATION CONTACT:

Victoria Guarisco (410) 786–0265, for issues related to administrative questions.

Carrie Feher (410) 786–8905, for issues related to the regulatory impact analysis.

Christine Gerhardt (410) 786–0693 or Martin Rice (410) 786–2417, for general questions.

SUPPLEMENTARY INFORMATION:

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2014–0830; FRL–9936–64–OAR]

RIN 2060–AQ99

National Emission Standards for Aerospace Manufacturing and Rework Facilities Risk and Technology Review

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This action finalizes the residual risk and technology review (RTR) and the rule review the Environmental Protection Agency (EPA) conducted for Aerospace Manufacturing and Rework Facilities under the national emissions standards for hazardous air pollutants (NESHAP). In this action, we are finalizing several amendments to the NESHAP based on the review of these standards. These final amendments add limitations to reduce organic and inorganic emissions of hazardous air pollutants (HAP) from specialty coating application operations; remove exemptions for periods of startup, shutdown and malfunction (SSM) so that affected units will be subject to the emission standards at all times; and revise provisions to address recordkeeping and reporting requirements applicable to periods of SSM. These final amendments include a requirement to report performance testing through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI). This action also makes clarifications to the applicability, definitions, and compliance demonstration provisions, and other technical corrections. The EPA estimates that implementation of this rule will reduce annual HAP emissions by 58 tons.

DATES: This final action is effective on December 7, 2015.

ADDRESSES: The EPA has established a docket for this rulemaking under Docket ID No. EPA–HQ–OAR–2014–0830. All documents in this docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov,* or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Kim Teal, Sector Policies and Programs Division (D243–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5580; fax number: (919) 541–5450; and email address: *teal.kim@epa.gov*. For specific information regarding the risk modeling methodology, contact Ted Palma, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5470; fax number: (919) 541–0840; and email address: *palma.ted@epa.gov*. For information about the applicability of the NESHAP to a particular entity, contact Patrick Yellin, Office of Enforcement and Compliance Assurance, (202) 564–2970, *yellin.patrick@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ADAF	Age dependent adjustment factor
ASTM	American Society for Testing and Materials
CAA	Clean Air Act
CARB	California Air Resources Board
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CTG	Control Technique Guideline
DoD	Department of Defense
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
FAA	Federal Aviation Administration
FR	Federal Register
g/L	grams/liter
HAP	Hazardous air pollutants
HCl	Hydrochloric acid
HF	Hydrogen fluoride
HI	Hazard index
HQ	Hazard quotient
HVLP	High volume low pressure
ICR	Information collection request
km	Kilometer
lb/gal	Pounds/gallon
MACT	Maximum achievable control technology
MIR	Maximum individual risk
mm Hg	Millimeters mercury
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NASA	National Aeronautics and Space Administration
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NRDC	Natural Resources Defense Council
NTTAA	National Technology Transfer and Advancement Act
OMB	Office of Management and Budget
PAH	Polycyclic aromatic hydrocarbons
PB–HAP	Hazardous air pollutants known to be persistent and bio-accumulative in the environment
POM	Polycyclic organic matter
PRA	Paperwork Reduction Act (PRA)
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act of 1976
REL	Reference exposure level
RFA	Regulatory Flexibility Act
RfC	Reference concentration
RIA	Regulatory impact analysis
RTR	Residual risk and technology review
SIP	State implementation plan
S/L/T	State, local, and tribal air pollution control agencies
SSM	Startup, shutdown and malfunction
TOSHI	Target organ-specific hazard index
tpy	Tons per year
TTN	Technology Transfer Network
UMRA	Unfunded Mandates Reform Act
URE	Unit risk estimate
VCS	Voluntary consensus standard
VOC	Volatile organic compounds

Background information. On February 17, 2015 (80 FR 8392), the EPA proposed revisions to the Aerospace Manufacturing and Rework Facilities NESHAP based on our RTR. In this action, we are finalizing decisions and revisions for this rule. We summarize some of the more significant comments that were timely received regarding the proposed rule and we have provided our responses in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in the response to comments document titled, *National Emissions Standards for Hazardous Air Pollutants: Aerospace Manufacturing and Rework Facilities (Risk and Technology Review)—Summary of Public Comments and Responses* (Docket ID No. EPA–HQ–OAR–2014–0830). The background information also includes discussion and technical analyses of other issues addressed in this final rule. A ''track-changes'' version of the regulatory language that incorporates the changes in this action is available in the docket.

Organization of this document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Regulated entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

TABLE 1—INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS ACTION

Source category	NESHAP	NAICS Code[a]
Aerospace Manufacturing and Rework Facilities	Aerospace Manufacturing and Rework Facilities.	336411, 336412, 336413, 336414, 336415, 336419, 481111, 481112, 481211, 481212, 481219.

[a] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source categories listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *http://www.epa.gov/ttn/atw/aerosp/aeropg.html*. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final rule and key technical documents at this same Web site.

Additional information is available on the RTR Web site at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html*. This information includes an overview of the RTR program, links to project Web sites for the RTR source categories and detailed emissions and other data we used as inputs to the risk assessments.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by February 5, 2016. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. This section also provides a mechanism for the EPA to reconsider the rule if the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule. Any person seeking to make such a demonstration should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC North Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of HAP from stationary sources. In the first stage, we must identify categories of sources emitting one or more of the HAP listed in CAA section 112(b) and then promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit, or have the potential to emit, any single HAP at a rate of 10 tons per year (tpy) or more, or 25 tpy or more of any combination of HAP. For major sources, these standards are commonly referred to as maximum achievable control technology (MACT) standards and must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). In developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems or techniques, including but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above.

For these MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as MACT floor requirements, and which may not be based on cost considerations. *See* CAA section 112(d)(3). For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than the MACT floor for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, we must also consider control options that are more stringent than the floor, under CAA section 112(d)(2). We may establish standards more stringent than the floor, based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

In the second stage of the regulatory process, the CAA requires the EPA to undertake two different analyses, which we refer to as the technology review and the residual risk review. Under the technology review, we must review the technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years, pursuant to CAA section 112(d)(6). Under the residual risk review, we must evaluate the risk to public health remaining after application of the technology-based standards and revise the standards, if necessary, to provide an ample margin of safety to protect public health or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. The residual risk review is required within 8 years after promulgation of the technology-based standards, pursuant to CAA section 112(f). In conducting the residual risk review, if the EPA determines that the current standards provide an ample margin of safety to protect public health, it is not necessary to revise the MACT standards pursuant to CAA section 112(f).[1] For more information on the statutory authority for this rule, *see* 80 FR 8394 (February 17, 2014).

B. What is this source category and how does the current NESHAP regulate its HAP emissions?

1. Description of the Aerospace Manufacturing and Rework Facilities Source Category and Applicability

The NESHAP for the Aerospace Manufacturing and Rework Facilities source category (surface coating) (henceforth referred to as the ''Aerospace NESHAP'') was promulgated on September 1, 1995 (60 FR 45956), and codified at 40 CFR part 63, subpart GG. As promulgated in 1995, the Aerospace NESHAP applies to the surface coating and related operations (*i.e.*, cleaning and depainting operations) at each new and existing affected source of HAP emissions at facilities that are major sources and are engaged, either in part or in whole, in the manufacture or rework of commercial, civil, or military aerospace vehicles or components. The requirements of the standards are nearly the same for both new and existing sources. The Aerospace NESHAP (40 CFR 63.742) defines ''aerospace vehicle or component'' as ''any fabricated part, processed part, assembly of parts or completed unit, with the exception of electronic components, of any aircraft, including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.'' Today, we estimate that 144 facilities are subject to the Aerospace NESHAP. A complete list of facilities subject to the Aerospace NESHAP is available in the Aerospace RTR database, which is available for review in the docket for this rulemaking. Section 63.741(c) defines each affected source in the Aerospace Manufacturing and Rework Facilities source category, and a facility could have a combination of both new and existing affected sources. However, the emission standards for new and existing affected sources are the same for nearly all operations covered by subpart GG. The exceptions are the filter efficiency requirements to control inorganic HAP emissions from primer and topcoat spray application operations in 40 CFR 63.745(g) and from dry media blasting operations in 40 CFR 63.746(b)(4), and the requirements for controls to reduce organic HAP emissions from chemical depainting operations in 40 CFR 63.746(c).

The Aerospace NESHAP applies to organic HAP emissions from cleaning operations, depainting operations, primer application operations, topcoat

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[1] The U.S. Court of Appeals for the District of Columbia Circuit has affirmed this approach of implementing CAA section 112(f)(2)(A). *NRDC* v. *EPA*, 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'').

application operations, chemical milling maskant application operations, and the handling and storage of waste. The rule also applies to inorganic HAP emissions from primer and topcoat application operations using spray equipment and depainting operations using dry media blasting. The rule provides an exemption for primers, topcoats, and chemical milling maskants used in low volumes, which is defined as 189 liters (50 gallons) or less per formulation, and for which the combined annual total does not exceed 757 liters (200 gallons).

Prior to the amendments being finalized here, the Aerospace NESHAP did not contain control requirements for specialty coating operations, as specified in 40 CFR 63.741(f) and in 40 CFR 63.742 (*i.e.,* the definitions for ''exterior primer,'' ''primer,'' and ''topcoat'' exclude specialty coatings). Appendix A of the Aerospace NESHAP defines 56 separate categories of specialty coatings.

Although the EPA did not include emission limitations for specialty coatings in the Aerospace NESHAP finalized in 1995 or in any subsequent amendments prior to the amendments being finalized here, the EPA included volatile organic compounds (VOC) content limits for the specialty coating categories in the 1997 Aerospace Control Techniques Guidelines (CTG) document.[2] The CAA requires that state implementation plans (SIPs) for certain ozone nonattainment areas be revised to require the implementation of reasonably available control technology (RACT) to control VOC emissions. The EPA has defined RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. The Aerospace CTG is intended to provide state and local air pollution control authorities with an information base; recommended emissions limitations; and monitoring, recordkeeping, and reporting requirements for proceeding with their analyses of RACT for their own regulations to reduce VOC emissions from aerospace surface coating operations.

2. Organic and Inorganic HAP Emission Sources

Organic HAP emissions from cleaning and depainting operations occur from the evaporation of the volatile portion of the cleaning solvents or chemical strippers. Emissions from cleaning operations are typically fugitive in nature and occur at most processing steps. Emissions from depainting operations that occur within a booth or hangar are typically captured and exhausted through a stack, although some emissions may be fugitive in nature (*e.g.*, open tanks).

Organic HAP emissions from coating (primers, topcoats, specialty coatings, and chemical milling maskants) application operations occur from the evaporation of the solvent contained in the coatings. These emissions occur during the application of the coatings on aerospace vehicles or parts, which may take place in large open areas, such as hangars, or in partially or fully enclosed spaces, such as within spray booths.

Organic HAP emissions from cleaning solvents and waste occur from evaporation of the volatile portion of the cleaning solvent or waste while it is being handled or stored. These emissions are fugitive in nature, occurring from each solvent and waste container.

Some coatings contain compounds that are inorganic HAP. Inorganic HAP emissions from coatings occur during the application of the coating if it is applied using spray guns. These inorganic HAP emissions are particles of the spray-applied coating, commonly referred to as ''overspray,'' that do not adhere to the surface being coated. Like the organic HAP emissions from the operations, the emissions of the inorganic HAP may occur in large open areas, such as hangars, or in partially or fully enclosed spaces, such as within spray booths. However, coatings that contain inorganic HAP are typically applied in spray booths equipped with exhaust filters to capture coating overspray. Inorganic HAP are not emitted from coatings applied with non-spray methods, such as brushes, rollers, or dip coating, because the coating is not atomized with these methods.

Inorganic HAP emissions from depainting operations may occur from non-chemical methods, such as plastic and other types of dry media blasting, used to strip an aerospace vehicle. (Chemical stripping techniques do not release inorganic HAP.) These emissions occur as particulates that are generated during the blasting process. The operation is typically carried out within a large hangar equipped with a ventilation system and particulate filtration device (*e.g.*, a baghouse) or in smaller enclosures, also equipped with filtration. The inorganic HAP that are released from the depainting operations are primarily found in the coating being stripped, although some stripping media may contain trace amounts of inorganic HAP.

3. Regulation of Organic and Inorganic HAP Emissions in the Aerospace NESHAP

The Aerospace NESHAP, prior to the amendments being finalized here, specified numerical emission limits for organic HAP emissions from primer, topcoat, chemical milling maskant application operations and chemical depainting operations; equipment and filter efficiency requirements for dry media blasting depainting operations and spray-applied coating operations; composition requirements and equipment standards for cleaning operations; and work practice standards for waste handling and storage operations.

The organic HAP emission rates for primers, topcoats, and chemical milling maskants are in the format of grams of HAP per liter of coating (g/L), or pounds/gallon (lb/gal), less water. Alternative limits are also provided for VOC in the format of g/L (or lb/gal), less water and exempt (non-VOC) solvents. Alternatively, a control system (*e.g.*, a thermal or catalytic oxidizer or carbon adsorption system) can be used to capture and control emissions from the primer, topcoat, or chemical milling maskant application operation. The system must achieve an overall capture and control efficiency of 81 percent. Further, the Aerospace NESHAP specifies which types of coating application techniques may be used.

The Aerospace NESHAP also provides operating requirements for the application of primers or topcoats that contain inorganic HAP, including control of spray booth exhaust streams with either particulate filters or waterwash systems (40 CFR 63.745(g)).

The amendments being finalized here require controlling organic and inorganic HAP emissions from specialty coating operations. They establish organic HAP and VOC content limits for 57 specialty coating categories, and also require specialty coating operations to meet the same inorganic HAP control requirements as for primers and topcoats. (The Aerospace CTG and appendix A to the Aerospace NESHAP define 56 categories of specialty coatings. The number of limits and the number of categories defined are different because some defined

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[2] Guideline Series: Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations. Emission Standards Division, U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, December 1997. Publication No. EPA–453/R–97–004.

categories are exempt, while others are split into subcategories subject to different HAP and VOC content limits.)

For cleaning operations (including hand-wipe cleaning), the Aerospace NESHAP specifies that cleaning solvents meet certain composition requirements or that the cleaning solvents have a composite vapor pressure of no more than 45 millimeters mercury (mm Hg) (24.1 inches of water) (40 CFR 63.744(b)). Work practice measures are also required (40 CFR 63.744(a)). Four work practice alternative techniques are specified for spray gun cleaning, and work practice standards are specified for flush cleaning operations (40 CFR 63.744(c) and (d)).

The Aerospace NESHAP also specifies requirements for depainting operations. Where there are no controls for organic HAP emissions from chemical depainting operations, the rule prohibits organic HAP emissions from chemical depainting operations, with the exception that 26 gallons of HAP-containing chemical stripper (or, alternatively, 190 pounds of organic HAP) may be used for each commercial aircraft stripped, or 50 gallons (or 365 pounds of organic HAP) for each military aircraft for spot stripping and decal removal (40 CFR 63.746(b)(1) through (3)). Where there are controls for organic HAP emissions from chemical depainting, emissions must be reduced (*i.e.*, captured and controlled) by 81 percent for controls installed before the effective date (*i.e.*, September 1, 1995) and by 95 percent for controls installed on or after the effective date (40 CFR 63.746(c)). For non-chemical depainting operations that generate inorganic HAP emissions from dry media blasting, the operation must be performed in an enclosed area or in a closed cycle depainting system, and the air stream from the operation must pass through a dry filter system meeting a minimum efficiency specified in the rule, through a baghouse or through a waterwash system before being released to the atmosphere (40 CFR 63.746(b)(4)).

The handling and storage of waste that contains HAP must be conducted in a manner that minimizes spills (40 CFR 63.748).

C. What changes did we propose for the Aerospace Manufacturing and Rework Facilities source category in our February 17, 2015, RTR proposal?

On February 17, 2015 (80 FR 8392), the EPA proposed amendments to the Aerospace Manufacturing and Rework Facilities NESHAP that included the following:

- Requirements to limit organic and inorganic HAP emissions from specialty coating application operations;
- The addition of reporting requirements for reporting of performance testing through the EPA's Central Data Exchange (CDX);
- Revisions related to the application of emission standards during SSM periods;
- Amendments to simplify recordkeeping and reporting for facilities using compliant coatings; and
- Several minor technical amendments.

III. What is included in this final rule?

This action finalizes the EPA's determinations pursuant to the RTR provisions of CAA section 112 for the Aerospace Manufacturing and Rework Facilities source category. This action also finalizes other changes to the NESHAP including the following:

- Requirements to limit organic and inorganic HAP emissions from specialty coating application operations;
- The addition of reporting requirements for reporting of performance testing through the EPA's CDX;
- Revisions related to the application of emission standards during SSM periods;
- Amendments to simplify recordkeeping and reporting for facilities using compliant coatings; and
- Several minor technical amendments and clarifications of the applicability of the NESHAP and definitions.

A. What are the final rule amendments based on the risk review for the Aerospace Manufacturing and Rework Facilities source category?

This section introduces the final amendments to the Aerospace Manufacturing and Rework Facilities NESHAP being promulgated pursuant to CAA section 112(f). The EPA proposed no changes to the Aerospace NESHAP based on the risk review conducted pursuant to CAA section 112(f). Specifically, as we proposed, we are finalizing our determination that risks from the Aerospace Manufacturing and Rework Facilities source category are acceptable, considering all of the health information and factors evaluated and also considering risk estimation uncertainty, the ample margin of safety, and the absence of adverse environmental effects. The EPA received no new data or other information during the public comment period that affected that determination. Therefore, we are not requiring additional controls and are thus readopting the existing standards under CAA section 112(f)(2).

B. What are the final rule amendments based on the technology review for the Aerospace Manufacturing and Rework Facilities source category?

We determined that there are no developments in practices, processes, and control technologies that warrant revisions to the MACT standards for this source category. The EPA proposed no changes to the Aerospace NESHAP based on the technology review conducted pursuant to CAA section 112(d)(6). As explained in section IV.B of this preamble, in response to public comments the EPA conducted a technology review for waste storage and handling operations since proposal. However, the technology review identified no developments in practices, processes, and control technologies that warrant revisions to the MACT standards for waste storage and handling operations. The EPA received no new data or other information during the public comment period that affected the technology review determinations for primer and topcoat application operations; chemical milling maskant application operations; cleaning operations; and chemical and dry media blasting depainting operations. Therefore, we are not finalizing revisions to the MACT standards under CAA section 112(d)(6).

C. What are the final rule amendments pursuant to CAA sections 112(d)(2) and (3) for the Aerospace Manufacturing and Rework Facilities source category?

We are finalizing amendments to the Aerospace NESHAP under CAA section 112(d)(2) and (3) to add emission standards for specialty coating application operations at facilities in the source category, which previously were not subject to control requirements under 40 CFR 63.745. Emission standards for specialty coating operations were included in the proposed amendments published on February 17, 2015. We are finalizing, as proposed, the organic HAP content and alternative VOC content limits for specialty coatings, with the exception of minor changes to the coating category definitions. We are finalizing the proposed requirements for specialty coating application equipment requirements, with the exception of minor changes to clarify the types of equipment and methods that are permitted for certain types of coating materials. We are also finalizing, as proposed, the requirements for controlling inorganic HAP emissions from specialty coating operations, with the exception of minor changes to make these requirements consistent with those for similar operations in other surface coating NESHAP. We are making other changes in response to comments we received on our proposal.

D. What are the requirements during periods of startup, shutdown, and malfunction?

We are finalizing, as proposed, changes to the Aerospace NESHAP to eliminate the SSM exemption. Consistent with *Sierra Club* v. *EPA* 551 F. 3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. Table 1 to Subpart GG of Part 63 (General Provisions applicability table) is being revised to change several references related to requirements that apply during periods of SSM. We eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption. The EPA also made changes to the rule to remove or modify inappropriate, unnecessary, or redundant language in the absence of the SSM exemption. We determined that facilities in this source category can meet the applicable emission standards in the Aerospace NESHAP at all times, including periods of startup and shutdown; therefore, the EPA determined that no additional standards are needed to address emissions during these periods.

E. What other changes have been made to the NESHAP?

This rule also finalizes, as proposed, revisions to several other Aerospace NESHAP requirements. We describe the revisions in the following paragraphs.

To increase the ease and efficiency of data submittal and data accessibility, we are finalizing, as proposed, a requirement that owners and operators of aerospace manufacturing and rework facilities submit electronic copies of certain required performance test reports through the EPA's CDX Web site using an electronic performance test report tool called the Electronic Reporting Tool (ERT). This requirement to submit performance test data electronically to the EPA does not require any additional performance testing and applies only to those performance tests conducted using test methods that are supported by the ERT.

We are finalizing the proposed amendments to include an alternative compliance demonstration that will allow facilities to use coating manufacturers' supplied data to demonstrate compliance with the HAP and VOC content limits for all coating types (primers, topcoats, specialty coatings, and chemical milling maskants). In response to comments, we are also finalizing a change that would allow any facility that is not using the averaging provisions in 40 CFR 63.743(d) to keep only annual records of consumption of each coating instead of having to keep monthly records. The EPA originally proposed that facilities using the alternative compliance demonstration could keep annual records instead of monthly records; facilities that were using test methods to determine HAP or VOC content of coatings would still need to keep monthly records.

In response to comments, we are also finalizing a provision that would add EPA Method 311, Analysis of Hazardous Air Pollutant Compounds in Paints and Coatings, as the reference method for determining the HAP content of primers, topcoats, and specialty coatings. This change was made as a result of comments received on the proposed alternative compliance demonstration and on the addition of HAP and VOC content limits for specialty coatings.

Also in response to comments, we are finalizing a change that would allow facilities that use spray booths to control inorganic HAP emissions to use an interlock system between the surface coating equipment and the monitoring system for the booth's filtration system. The interlock system will automatically shut down the surface coating equipment if the monitored parameters for the filtration system deviate from the allowed operating range.

In response to comments, the EPA is clarifying the applicability of the requirements for the handling and storage of spent cleaning solvents and HAP-containing wastes in 40 CFR 63.744(a) and 63.748 relative to subpart GG and the regulations in 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) that implement the Resource Conservation and Recovery Act (RCRA). These changes include removing and reserving 40 CFR 63.741(e), and revising 40 CFR 63.744(a) and 63.748 to specify requirements for spent cleaning solvents and solvent-laden applicators, and for organic HAP-containing waste that are not handled and stored in compliance with the regulations that implement RCRA.

In addition, we are finalizing, as proposed, several miscellaneous minor changes to improve the clarity of the rule requirements.

We are also finalizing minor changes to the NESHAP in consideration of comments received during the public comment period for the proposed rulemaking, as described in section IV.K of this preamble.

F. What are the effective and compliance dates of the standards?

The revisions to the MACT standards being promulgated in this action are effective on December 7, 2015.

The compliance date for the revised SSM requirements and the electronic reporting requirements for existing aerospace manufacturing and rework facilities is the effective date of the standards, December 7, 2015.

The compliance date for existing specialty coating application operations with the requirements to control organic HAP and inorganic HAP emissions from specialty coating application operations in 40 CFR 63.745 is December 7, 2018. The 3-year compliance date is based on the time needed for facilities to identify new coatings that comply with the HAP and VOC content limits and, in some cases, to receive approval to use them in certain aircraft, to upgrade coating application equipment, and to develop recordkeeping and reporting systems to demonstrate compliance. As discussed in section IV.J.3 of this preamble, this was revised from the proposed 1-year compliance period based on public comments.

New sources must comply with all of the standards immediately upon the effective date of the standard, December 7, 2015, or upon startup, whichever is later.

G. What are the requirements for submission of performance test data to the EPA?

The EPA is requiring owners and operators of aerospace manufacturing and rework facilities to submit electronic copies of certain required performance test reports through the EPA's CDX using the CEDRI. As stated in the proposal preamble (80 FR 8422, February 17, 2015), the EPA believes that the electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment and will ultimately result in less burden on the regulated community. Electronic reporting can also eliminate paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to the affected facilities, air agencies, the EPA, and the public.

As mentioned in the preamble of the proposal (80 FR 8422, February 17, 2015), the EPA Web site that stores the submitted electronic data, WebFIRE, will be easily accessible to everyone and will provide a user-friendly interface that any stakeholder can access. By making the records, data, and reports addressed in this rulemaking readily available, the EPA, the regulated community, and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having reports readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time and with less burden on the regulated community to gather and provide data.

We anticipate that fewer or less substantial information collection requests (ICRs) in conjunction with prospective CAA-required technology and risk-based reviews may be needed. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Air agencies will benefit from more streamlined and automated review of the electronically submitted data. Having reports and associated data in electronic format will facilitate review through the use of software ''search'' options, as well as the downloading and analyzing of data in spreadsheet format. The ability to access and review air emission report information electronically will assist air agencies to more quickly and accurately determine compliance with the applicable regulations, potentially allowing a faster response to violations, which could minimize harmful air emissions. This benefits both air agencies and the general public.

For a more thorough discussion of electronic reporting required by this rule, see the discussion in the preamble of the proposal (80 FR 8422, February 17, 2015). In summary, in addition to supporting regulation development, control strategy development, and other air pollution control activities, having an electronic database populated with performance test data will save industry, air agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

IV. What is the rationale for our final decisions and amendments for the Aerospace Manufacturing and Rework Facilities source category?

For each issue, this section provides a description of what we proposed and what we are finalizing for the issue, the EPA's rationale for the final decisions and amendments, and a summary of key comments and responses. For all comments not discussed in this preamble, comment summaries and the EPA's responses can be found in the comment summary and response document available in the docket.

A. Residual Risk Review for the Aerospace Manufacturing and Rework Facilities Source Category

1. What did we propose pursuant to CAA section 112(f) for the Aerospace Manufacturing and Rework Facilities source category?

Pursuant to CAA section 112(f), we conducted a residual risk review and presented the results of this review, along with our proposed decisions regarding risk acceptability and ample margin of safety, in the February 17, 2015, proposed rule for the Aerospace NESHAP (80 FR 8392). The results of the risk assessment are presented briefly in Table 2 of this preamble, and in more detail in the residual risk document, *Residual Risk Assessment for the Aerospace Manufacturing and Rework Facilities Source Category in Support of the November 2015 Risk and Technology Review Final Rule*, which is available in the docket for this rulemaking. Based on both actual and allowable emissions for the Aerospace Manufacturing and Rework Facilities source category, the maximum individual risk (MIR) was estimated to be 10-in-1 million, with emissions of strontium chromate from coating operations accounting for the majority of the risk. The total estimated national cancer incidence from this source category, based on both actual and allowable emission levels, was 0.02 excess cancer cases per year, or one case in every 50 years, with emissions of strontium chromate and chromium compounds contributing 66 percent and 15 percent, respectively, to the cancer incidence. The maximum chronic non-cancer target organ specific hazard index (TOSHI) value for the source category based on both actual and allowable emissions was estimated to be 0.5, driven by cadmium compounds emissions from blast depainting. Both chronic cancer MIR and non-cancer hazard index (HI) are determined at the census block with highest estimated risk. While this is generally at off-site locations, in the case of military operations, the census block could be located within the facility boundary (*i.e.*, on the military base).

TABLE 2—AEROSPACE MANUFACTURING AND REWORK FACILITIES INHALATION RISK ASSESSMENT RESULTS

Maximum individual cancer risk (-in-1 million) [a]	Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]	Maximum screening acute non-cancer HQ [c]
Actual Emissions				
10	≥ 1-in-1 million: 180,000 ≥ 10-in-1 million: 1,500. ≥ 100-in-1 million: 0.	0.02	0.5	HQ_{REL} = 2 (ethylene glycol ethyl ether acetate).
Allowable Emissions [d]				
10	≥ 1-in-1 million: 180,000 ≥ 10-in-1 million: 2,000.	0.02	0.5	

TABLE 2—AEROSPACE MANUFACTURING AND REWORK FACILITIES INHALATION RISK ASSESSMENT RESULTS—Continued

Maximum individual cancer risk (-in-1 million) [a]	Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]	Maximum screening acute non-cancer HQ [c]
	≥ 100-in-1 million: 0.			

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[b] Maximum TOSHI. The target organ with the highest TOSHI for the Aerospace Manufacturing and Rework Facilities source category for both actual and allowable emissions is the kidney system.

[c] See section III.A.3 of the preamble to the proposed rule (80 FR 8392) for an explanation of acute dose-response values. Acute assessments are not performed on allowable emissions.

[d] The development of allowable emission estimates can be found in the memorandum titled, *Aerospace Manufacturing and Rework Facilities RTR Modeling File Preparation,* December 2014, which is available in the docket. The allowable emissions multiplier of 1.02 was based on the ratio between the 20-year historical maximum production utilization rate and the 2008 production utilization rate. Because the allowable emissions were estimated to be only 2 percent higher than the actual emissions, the risk assessment results were the same.

Our screening analysis for worst-case acute impacts based on actual emissions indicated the potential for one HAP, ethylene glycol ethyl ether acetate, from one facility, to have hazard quotient (HQ) values above 1, based on its reference exposure level (REL) value. The EPA evaluated screening estimates of acute exposures and risks for each of the HAP at the point of highest potential off-site exposure for each facility. In the case of military operations, acute impacts could be evaluated within the official fenceline of the installation because of the mix of residential, military, industrial, and commercial activities on most military bases. However, the acute impacts would still be evaluated outside the perimeter of the actual aerospace manufacturing and rework facility. Of the 144 aerospace manufacturing and rework facilities, 143 had an estimated worst-case HQ less than or equal to 1 for all HAP.

In the multipathway risk screening analysis, the results of the worst-case Tier I screening analysis indicated that emissions of neither cadmium compounds nor mercury compounds, which are persistent and bioaccumulative HAP (PB–HAP), exceeded the screening emission rates. Neither dioxins nor polycyclic aromatic hydrocarbons (PAH), which are also PB-HAP, are emitted by any source in the source category.

In the environmental risk screening analysis, the Tier 1 screening analysis for PB-HAP (other than lead compounds, which were evaluated differently) indicated that the individual modeled Tier 1 concentrations for mercury and cadmium did not exceed any ecological benchmark for any facility in the source category. For lead compounds, we did not estimate any exceedances of the secondary national ambient air quality standards (NAAQS) for lead, indicating adequate protection against damage to animals, crops, and vegetation. For Hydrogen Fluoride (HF) and Hydrochloric acid (HCl), the average modeled concentration around each facility (*i.e.*, the average concentration of all off-site data points in the modeling domain) did not exceed the ecological benchmarks. In addition, each individual modeled concentration of HCl and HF (*i.e.,* each off-site data point in the modeling domain) was below the ecological benchmarks for all facilities.

The facility-wide chronic MIR and TOSHI were estimated based on emissions from all sources at the identified facilities (both MACT and non MACT sources). The results of the facility-wide assessment for cancer risks indicated that 44 facilities with aerospace manufacturing and rework processes had a facility-wide cancer MIR greater than or equal to 1-in-1 million. The maximum facility-wide cancer MIR was 20-in-1 million, primarily driven by arsenic and chromium (VI) compounds, from internal combustion engines. The maximum facility-wide TOSHI for the source category was estimated to be 0.5, primarily driven by emissions of hexamethylene-1,6-diisocyanate from specialty coatings operations.

We weighed all health risk factors in our risk acceptability determination, and we proposed that the residual risks from the Aerospace Manufacturing and Rework Facilities source category are acceptable.

We then considered whether the Aerospace NESHAP provides an ample margin of safety to protect public health and whether more stringent standards are necessary to prevent, taking into consideration costs, energy, safety and other relevant factors, an adverse environmental effect. In considering whether the standards should be tightened to provide an ample margin of safety to protect public health, we considered the same risk factors that we considered for our acceptability determination and also considered the costs, technological feasibility and other relevant factors related to emissions control options that might reduce risk associated with emissions from the source category. As noted in the discussion of the technology review in the preamble to the proposed rule (80 FR 8416–8419), no measures (beyond those already in place or that were proposed under CAA sections 112(d)(2) and (d)(3)) were identified for reducing HAP emissions from the Aerospace Manufacturing and Rework Facilities source category. Therefore, we proposed that the current standards provide an ample margin of safety to protect public health.

Further, we proposed that more stringent standards would not be necessary to prevent an adverse environmental effect, and this determination has not changed.

2. How did the risk review change for the Aerospace Manufacturing and Rework Facilities source category?

During the public comment period, the EPA received only two corrections affecting two emission sources at one facility in the risk modelling database, and both corrections reduced the emissions from that one facility. Because the residual risk analysis performed for the proposed rule had already found that the risks were acceptable with an ample margin of safety, the EPA did not repeat the risk analysis using these revised data.

3. What key comments did we receive on the risk review, and what are our responses?

The comments received on the proposed risk review were generally supportive of our determination of risk acceptability and ample margin of safety analysis. A summary of these comments and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2014–0830).

4. What is the rationale for our final approach and final decisions for the risk review?

For the reasons explained in the preamble to the proposed rule, we have determined that the risks from the Aerospace Manufacturing and Rework Facilities source category are acceptable and provide an ample margin of safety to protect public health. In addition, for the reasons explained in the preamble to the proposed rule, we have determined that more stringent standards are not necessary to prevent an adverse environmental effect. Since proposal, neither the risk assessment nor our determinations regarding risk acceptability, ample margin of safety or adverse environmental effects have changed. Therefore, we are not revising the Aerospace NESHAP to require additional controls pursuant to CAA section 112(f)(2) based on the residual risk review, and are thus readopting the existing standards under CAA section 112(f)(2).

B. Technology Review for the Aerospace Manufacturing and Rework Facilities Source Category

1. What did we propose pursuant to CAA section 112(d)(6) for the Aerospace Manufacturing and Rework Facilities source category?

The EPA performed a technology review for the Aerospace Manufacturing and Rework Facilities source category and summarized the results of that review in the preamble to the proposed rule (80 FR 8416–8419). The technology review covered the following emission source types in this source category: Primer and topcoat application operations; chemical milling maskant application operations; cleaning operations; and chemical and dry media blasting depainting operations. For each of these emission source types, the EPA's technology review found that there were no new developments in practices, processes and control technologies. As a result, the EPA did not propose to revise the Aerospace NESHAP standard requirements for any of these emission source types pursuant to CAA section 112(d)(6).

For waste storage and handling operations, the EPA determined that the practical effect of the provisions in 40 CFR 63.741(e) is that all HAP-containing wastes generated in aerospace manufacturing and rework operations are subject to RCRA regulations and are not subject to the requirements of 40 CFR 63.748. The EPA proposed that, because all of these HAP-containing wastes are subject to regulation under RCRA and not subject to 40 CFR 63.748, there would be no need to conduct a technology review of the standards for handling and storage of waste.

2. How did the technology review change for the Aerospace Manufacturing and Rework Facilities source category?

As proposed, the EPA is making no changes to the Aerospace NESHAP standard requirements in the final rule pursuant to CAA section 112(d)(6).

3. What key comments did we receive on the technology review, and what are our responses?

We received comments in support of and against the proposed technology review and our determination that no revisions were warranted under CAA section 112(d)(6). A summary of these comments and our responses can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2014–0830).

The EPA received one comment that disagreed with the determination that no technology review was needed for the standards for the storage and handling of waste in 40 CFR 63.748. The commenter argued that the EPA may not exempt a major source from CAA section 112 standards and may not evade the need to perform a CAA section 112(d)(6) review by referring to a different statute (*i.e.*, RCRA). In response to this comment, the EPA has completed a technology review for the standards for the storage and handling of waste, which is documented in the memorandum, *Technology Review for Waste Storage and Handling Operations in the Aerospace Source Category*, October 2015, available in the docket for this action. As discussed in the memorandum, we did not identify any developments in practices, processes, or control technologies for the storage and handling of waste. However, as explained in section IV.K of this preamble, in response to public comments, the EPA has revised the standards in 40 CFR 63.748 in the final rule to clarify the applicability of these standards relative to those found in RCRA.

The EPA received a second comment that the EPA's technology review did not address whether the current standards were adequate to control polycyclic organic matter (POM) emissions from the aerospace manufacturing and rework source category. The EPA disagrees with this comment. The only POM compound the EPA identified from Aerospace manufacturing and rework surface coating operations is naphthalene. The EPA conducted a technology review for the control of all organic HAP emissions, including naphthalene, from cleaning operations, primer and topcoat operations, chemical depainting operations, and chemical milling maskant operations. These technology reviews were included in the docket for the proposed rulemaking. The EPA also compared the 1990 naphthalene baseline emission inventory for the aerospace industry (79 FR 74661, December 16, 2014) [3] to the more recent naphthalene emissions from the risk modeling data file. In this comparative analysis between the 1990 baseline inventory and the risk modeling file, we found that emissions of naphthalene from the aerospace manufacturing and rework source category have been reduced by 99.96 percent since the updated 1990 baseline inventory. The results show that the MACT standards for aerospace coating operation, including the limits for total organic HAP, have resulted in naphthalene reductions of a magnitude that is typically associated only with the use of add-on controls. This result also demonstrates that the current approach of regulating total organic HAP and providing the option of using add-on controls is adequate to address naphthalene emissions under the technology review. In addition, the current risk modeling data file shows no POM emissions other than naphthalene from aerospace surface coating operations. Because these operations are not sources of other types of POM, there was no need to consider emissions of the other types of POM in these technology reviews. The full response to this comment can be found in the comment summary and response document available in the docket for this action.

4. What is the rationale for our final approach for the technology review?

For the reasons explained in the preamble to the proposed rule and in section IV.B.3 of this preamble, we determined there were no new developments in practices, processes and control technologies. Since proposal, neither the technology review nor our determinations regarding new developments in practices, processes and control technologies have changed. Therefore, we are not revising the Aerospace NESHAP pursuant to CAA section 112(d)(6) as a result of our technology review.

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[3] For purposes of CAA section 112(c)(6), EPA developed a 1990 baseline inventory for HAP identified in that section, including POM. This baseline inventory was recently updated. See 79 FR 74656 (December 16, 2014).

C. Legal Basis To Regulate Specialty Coatings

1. What did we propose?

In 2007, the United States Court of Appeals for the District of Columbia Circuit found that the EPA had erred in establishing emissions standards for sources of HAP in the NESHAP for Brick and Structural Clay Products Manufacturing and Clay Ceramics Manufacturing (67 FR 26690, May 16, 2003), and consequently vacated the rules.[4] Among other things, the Court found that the EPA erred by failing to regulate processes that emitted HAP, in some instances by establishing a MACT floor of ''no control.'' The EPA proposed to correct the same error in the Aerospace NESHAP by proposing to remove the exemption for the use of specialty coatings found at 40 CFR 63.741(f) and to add limits for specialty coating operations (including adhesives, adhesive bonding primers and sealants).

2. What changed since proposal?

The EPA is finalizing, as proposed, the amendments that remove the exemption for specialty coating operations found at 40 CFR 63.741(f) and is adding limits for specialty coating operations, including organic HAP and VOC content limits, application equipment requirements, and requirements to limit inorganic HAP emissions.

3. Comments and Responses

Comment: One commenter noted that the EPA's risk modeling has shown that specialty coatings account for less than 2 percent of the risk from the facility with the highest modeled risk, and the maximum cancer risk from specialty coatings is less than 1-in-1 million at over 90 percent of facilities and less than 10-in-1 million at all facilities. As a result, specialty coatings do not warrant regulation based on risk.

Response: The standards for specialty coatings were not proposed under the residual risk requirements in CAA 112(f)(2). The standards that were proposed to address organic and inorganic HAP emissions from specialty coating operations are for currently unregulated emission sources, and were proposed under the authority of CAA sections 112(d)(2) and (d)(3). Therefore, we disagree with the commenter's statement that we should allow the residual risk analysis to determine whether we address unregulated emission sources. The EPA is adding these standards for specialty coatings because they are a source of HAP emissions from the Aerospace Manufacturing and Rework Facilities source category and the EPA had not previously established MACT standards for these emissions points. These changes are necessary to ensure the emissions standards are consistent with the requirements of the CAA as interpreted by the Courts and are unrelated to the risk findings.

Comment: One commenter argued that the EPA is not compelled to regulate specialty coatings under CAA section 112(d)(2) and (3) by the ''Brick MACT'' decision. The commenter argued that the situation in the Aerospace NESHAP is different from the situation in the Brick MACT case. According to the commenter, the EPA erred in the Brick MACT case ''by failing to regulate processes that emitted HAP, in some instances by establishing a MACT floor of 'no control'.'' The commenter argued that in the Aerospace NESHAP, in contrast, the EPA did not establish a MACT floor of ''no control'' but instead excluded specialty coatings from that MACT floor because the amount of organic HAP emissions generated by coating-related operations is ''relatively small,'' the coatings are highly specialized, and subcategorization for specialty coatings ''can be significant,'' ''resulting in lower potential emission reductions.'' The commenter argued that the exclusion for specialty coatings is lawful under the Brick MACT decision, and that if the EPA's interpretation was taken to its logical conclusion, it would be unlawful for the Agency to exempt any subcategory or source from any MACT standard, and this is a result that is not mandated by the Brick MACT decision.

Response: The EPA disagrees with the commenter's interpretation of the ''Brick MACT'' decision relative to the regulation of specialty coatings. As explained at proposal, in March 2007 the D.C. Circuit Court issued an opinion vacating and remanding the CAA section 112(d) standards for the Brick and Structural Clay Products Manufacturing source categories in *Sierra Club* v. *EPA,* 479 F.3d 875 (D.C. Cir. 2007) (Brick MACT). Some key holdings in the Brick MACT case were: (1) Floors for existing sources must reflect the average emission limitation achieved by the best-performing sources, not levels that are achievable by all sources (479 F.3d at 880–81); (2) the EPA cannot set ''no-control floors.'' (479 F.3d at 883). The court reiterated its prior holdings, including *National Lime Ass'n,* 233 F.3d 625), that the EPA must set floor standards for all HAP emitted by the major source, including those HAP that are not controlled by at-the-stack control devices; and (3) that the EPA cannot ignore non-technology factors that reduce HAP emissions. ''The EPA's decision to base floors exclusively on technology even though non-technology factors affect emissions violates the Act.'' Id. The Agency has authority to amend improper MACT determinations, including amendments to improperly promulgated floor determinations, under CAA sections 112(d)(2) and (3). *Medical Waste Institute* v. *EPA,* 645 F.3d 420, 425–27 (D.C. Cir. 2011) (resetting MACT floor, based on post-compliance data, permissible when originally-established floor was improperly established, and permissibility of the EPA's action does not turn on whether the prior standard was remanded or vacated).

As explained at proposal, in the Aerospace NESHAP, the EPA made essentially the same error in failing to regulate sources of HAP within this source category (80 FR 8399). Specifically, in the Aerospace NESHAP, the EPA exempted specialty coatings from the standards established for other surface coating operations in the same source category, even though the EPA identified specialty coatings as a ''coating related operation'' and a source of HAP, as documented in the preamble to the proposed subpart GG. The issues cited by the EPA that complicated the regulation of specialty coatings, which were identified in the preamble to the proposed rule and noted by the commenter, do not remove the EPA's obligation to regulate these coatings under CAA section 112(d)(2) and (3). Indeed, the EPA identified achievable standards for VOC emissions from the same coatings and incorporated them into the Aerospace CTG only a few years after the NESHAP was promulgated. As previously explained, in developing MACT standards, CAA section 112(d)(2) directs the EPA to consider the application of measures, processes, methods, systems or techniques, including but not limited to those that reduce the volume of or eliminate HAP emissions through process changes, substitution of materials, or other modifications; enclose systems or processes to eliminate emissions; collect, capture, or treat HAP when released from a process, stack, storage, or fugitive emissions point; are design, equipment, work practice, or operational standards; or any combination of the above. The identified achievable standards for VOC emissions from the same coatings that were incorporated into the Aerospace CTG are processes, measures and

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[4] *Sierra Club* v. *EPA*, 479 F. 3d 875 (D.C. Cir. March 13, 2007).

methods that the EPA is directed to consider under CAA section 112(d)(2).

Portland Cement Ass'n v. *EPA*, 665 F.3d 177, 189 (D.C. Cir. 2011) confirms that CAA section 112(d)(6) does not constrain EPA and it may reassess its standards more often, including revising existing floors if need be. As a general matter, an agency remains free to revise improperly promulgated or otherwise unsupportable rules, even in the absence of a remand from a court. *United Gas Improvement Co.* v. *Callery Props. Inc.*, 382 U.S. 223, 229 (1996) (An agency, like a court, can undo what is wrongfully done by virtues of its order.'').

Moreover, in several recent rulemakings, we have chosen to fix underlying defects in existing MACT standards under CAA sections 112(d)(2) and (3), provisions that directly govern the initial promulgation of MACT standards (see National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries, October 28, 2009, 74 FR 55670; and National Emission Standards for Hazardous Air Pollutants: Group I Polymers and Resins; Marine Tank Vessel Loading Operations; Pharmaceuticals Production; and the Printing and Publishing Industry, April 21, 2011, 76 FR 22566). We believe that our approach is reasonable because using those provisions ensures that the process and considerations are those associated with initially establishing a MACT standard, and it is reasonable to make corrections using the process that would have been followed if we had not made an error at the time of the original promulgation.

We also disagree with the comment that the EPA is not mandated to regulate *de minimis* HAP. While the EPA's *de minimis* authority exists to help avoid what might be perceived as excessive regulation of tiny amounts of pollutants, it is unavailable ''where the regulatory function does provide benefits, in the sense of furthering the regulatory objectives, but the agency concludes that the acknowledged benefits are exceeded by the costs.'' *Alabama Power* v. *EPA*, 636 F.2d 323, 360–61 &n.89 (D.C. Cir. 1979). Accordingly, a *de minimis* exemption to CAA sections 112(d)(2) and (3) is unavailable because it would frustrate a primary legislative goal by carving out HAP emissions from regulation. Moreover, the EPA's rejection of the *de minimis* concept has been affirmed by the U.S. Court of Appeals for the D.C. Circuit in *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000), where the Court rejected the petitioner's claim that in light of both high costs and low quantities of HAP at issue in that rule, the EPA should read a *de minimis* exemption into the requirement to regulate all HAP emitted by major sources. The Court found that the ''EPA reasonably rejected this argument on the ground that the statute 'does not provide for exception from emissions standards based on *de minimis* principles where a MACT floor exists'.'' *National Lime Ass'n*, at 640. We also continue to believe that CAA section 112 is replete with careful definitions of volume or effect based limitations on regulation, indicating that Congress has already defined what amounts of HAP emissions are too small to warrant MACT standards. The requirement to adopt MACT emission limitations, for example, applies without exception to ''category or subcategory of major sources . . . of [HAP].'' CAA section 112(d)(1). For sources below the major sources threshold, however, the EPA has discretion to require ''generally available control technologies or management practices.'' CAA section 112(d)(5). Congress has thus defined volumetrically which sources' emissions are small enough not to warrant mandatory MACT standards.

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule and in our comment responses in section IV.C.3 of this preamble, we determined that the EPA should regulate specialty coating operations pursuant to CAA sections 112(d)(2) and (3). Since proposal, the EPA's rationale and legal justification for that decision have not changed. Therefore, in the final rule, we are including standards to limit emissions of organic and inorganic HAP from specialty coating operations.

D. Determination of Specialty Coating Limits and Definitions

1. What did we propose?

The EPA proposed to establish standards for specialty coatings at aerospace manufacturing and rework facilities with organic HAP content limits that are equivalent to the VOC content limits for specialty coatings included in the Aerospace CTG. The EPA proposed that the same application equipment requirements that apply to primer and topcoat application operations apply to specialty coatings. The EPA also proposed limits for emissions of inorganic HAP from spray-applied specialty coatings by revising the requirements to use spray booths with filters meeting minimum efficiency requirements for the spray application of primers and topcoats that contain inorganic HAP so they also apply to specialty coatings. Additionally, we proposed that the low-volume exemption provisions in the current Aerospace NESHAP for primers, topcoats and chemical milling maskants be revised to include specialty coatings.

2. What changed since proposal?

The EPA is including a definition of ''non-HAP material'' in 40 CFR 63.742, and revising 40 CFR 63.741(f) to exclude non-HAP coatings, strippers, maskants, and cleaning solvents from the requirements to reduce organic HAP emissions from aerospace manufacturing and rework operations. The final rule also clarifies that only the organic HAP content limits for all types of coatings are enforceable (*i.e.*, a coating cannot be considered out of compliance if it exceeds the VOC content, but does not exceed the HAP content limit), and that the VOC content can be used to demonstrate compliance with the HAP content limit for coatings that do not contain HAP solvents that are exempt from the EPA's definition of VOC found at 40 CFR 51.100(s).

The EPA is amending 40 CFR 63.741(f) in the final rule to exempt coatings that have been designated as ''classified national security information'' and amending 40 CFR 63.742 to add the definition of ''classified national security information.'' The EPA is revising the definition in Appendix A to subpart GG of ''electric or radiation-effect coating'' to change the word ''classified'' to ''classified national security information.''

The EPA is also revising the definition of ''electrostatic discharge and electromagnetic interference (EMI) coating'' in Appendix A to subpart GG to reflect all of the uses of these coatings on aerospace vehicles and components.

3. Comments and Responses

Comment: One commenter argued that the EPA should not issue dual limits for VOC and HAP for specialty coatings and should clarify that the VOC limits are not separately enforceable and are used only as a surrogate for HAP. The commenter argued that the EPA should make clear in the final rule that:

(1) Only the organic HAP limits are enforceable;

(2) Coatings that do not contain organic HAP are not covered by the rule; and

(3) For coatings that do not contain exempt solvents that are also HAP, VOC content may be used to demonstrate compliance with the organic HAP limits as an alternative to determining organic HAP content directly.

The commenter argued that CAA section 112 does not allow for the setting of VOC limits, except as a surrogate for HAP content, and then only in situations in which the HAP content could not exceed the VOC content. Therefore, the use of the VOC content to demonstrate compliance with the HAP content limits can only apply when the coating does not contain any exempt solvents that are HAP. The commenter argued that the VOC content would effectively cap the HAP content in those coatings with no exempt solvents.

The commenter also argued that under either approach, coatings that do not contain any organic HAP cannot be subject to the HAP content limits or the VOC limits as a surrogate for HAP, and the rule should include a provision to clarify this. The commenter argued that facilities can use coating formulation information to establish whether or not the coatings contain organic HAP.

Response: The EPA agrees with the commenter's recommendations to clarify the relationship between the VOC content of coatings and the HAP emission limits. In the final rule, the EPA is including a definition of ''non-HAP material'' in 40 CFR 63.472, and revising 40 CFR 63.741(f) to exclude non-HAP coatings from the requirements to reduce organic HAP emissions from coating operations. These clarifications and revisions in the final rule apply to all coating operations and not just specialty coating operations. The definition of ''non-HAP material'' is consistent with the HAP content criteria in other surface coating NESHAP.

The final rule also clarifies that only the organic HAP content limits are enforceable (*i.e.,* a coating cannot be considered out of compliance if it exceeds the VOC content, but does not exceed the HAP content limit), and that the VOC content can be used to demonstrate compliance with the HAP content limit for coatings that do not contain exempt solvents that are HAP. For coatings that contain exempt solvents that are HAP, the HAP content must be used to demonstrate compliance.

Comment: One commenter representing the Department of Defense (DoD) commented that DoD will be unable to certify compliance with the HAP/VOC limits for some materials whose composition is classified as national security information. The materials have properties with specific, classified characteristics based on their use such as radiation-effect coating, according to the commenter. Disclosure of the composition of these materials would risk undermining the function of the coating or could provide sufficient information that could be used to counter the effect of the coating, according to the commenter. The commenter requested that the proposed rule be modified to continue to exempt materials that meet the definition of ''Classified National Security Information.''

The commenter recommended that the EPA amend 40 CFR 63.742 with an additional definition for the term ''Classified National Security Information'' to read as follows:

> *Classified National Security Information* means information that has been determined pursuant to this Executive Order 13526, ''Classified National Security Information,'' December 29, 2009 or any successor order to require protection against unauthorized disclosure and is marked to indicate its classified status when in documentary form. The term ''Classified Information'' is an alternative term that may be used instead of ''Classified National Security Information.''

Response: The EPA agrees with the commenter. Therefore, the EPA is amending 40 CFR 63.741(f) in the final rule to specify that certain coatings that have been designated as ''classified national security information'' are not subject to the requirements of subpart GG and amending 40 CFR 63.742 to add the definition of ''classified national security information'' as suggested by the commenter. For consistency, the EPA is also revising the definition of ''electric or radiation-effect coating'' to change the word ''classified'' to ''classified national security information.''

Comment: One commenter argued that the current definition of electrostatic discharge and EMI coating in Appendix A to subpart GG appears to limit the use of these coatings on aircraft radomes, but these coatings are commonly used on several parts of the non-metallic exterior portions of the aircraft to dissipate electrical charge, not just the composite radome. The commenter recommended that the EPA should change the definition to reflect all of the uses of coatings on aircraft to state the following (deleted text in brackets, added text in italics):

> *Electrostatic discharge and electromagnetic interference (EMI) coating*— A coating applied to [space vehicles, missiles, aircraft radomes, and helicopter blades] *aerospace vehicles or components* to disperse static electricity or reduce electromagnetic interference.

Response: The EPA agrees with the commenter that this definition should be revised as suggested to reflect all of the uses of these coatings on aerospace vehicles and components.

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule, in the comment responses in section IV.D.3 of this preamble, and in the response to comments document in the docket for this rulemaking, we are finalizing the proposed requirements for specialty coatings with respect to HAP and VOC content limits as proposed and with the changes described in section IV.D.2 of this preamble.

E. Specialty Coating Application Equipment Requirements

1. What did we propose?

The EPA proposed that specialty coating application operations be subject to the same application equipment requirements in 40 CFR 63.745(f) that apply to primer and topcoat application operations. These requirements include the use of either non-spray application methods (*e.g.,* brush or roller), or the use of high-efficiency spray application methods (*e.g.,* high-volume low-pressure (HVLP) or electrostatic spray guns), with exceptions for certain coating operations and materials.

2. What changed since proposal?

The EPA is revising the application equipment requirements in 40 CFR 63.745(f) since proposal to make the following changes in the final rule:

- Exclude the application of adhesives, sealants, maskants, caulking materials, and inks from the application equipment requirements. (These coatings will be still subject to the organic HAP content limitations in 40 CFR 63.745(c).)
- Exclude from the application equipment requirements the application of any high-solids coating (not just specialty coatings) that contains less than 20 grams per liter of VOC for coatings that do not contain exempt solvents that are HAP, or 20 grams per liter of HAP for coatings that do contain exempt solvents that are HAP.
- Exclude from the application equipment requirements the application of all coatings (not just specialty coatings) applied using hand-held application equipment with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). The exclusion from the application equipment requirements is also limited to the spray application of no more than 3.0 fluid ounces of coating in a single application or ''job'' (*i.e.,* the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup

capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces of coating under this exclusion in 40 CFR 63.745(f) is prohibited. If a paint cup liner is used in a reusable holder or paint cup, then the holder or paint cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. (These coatings will still be subject to the organic HAP content limitations in 40 CFR 63.745(c).)

- Include high-efficiency airless spray guns and air-assisted airless spray guns in the list of allowable application methods for all coatings (not just specialty coatings).
- Revise 40 CFR 63.745(f)(1) and (f)(2) to clarify that the high-efficiency application equipment requirements apply only to spray-applied coating operations, as defined in 40 CFR 63.742, and remove the references to non-spray application methods.

The final rule includes a definition of ''spray-applied coating operation'' in 40 CFR 63.742 to clarify the applicability of the requirements in 40 CFR 63.745(f) and (g).

For specialty coating operations, the final rule also provides an alternative to the application equipment equivalency demonstration requirements in 40 CFR 63.750(i) so owners and operators may apply specialty coatings using any other coating application method capable of achieving emission reductions or a transfer efficiency equivalent to or better than that provided by HVLP, electrostatic spray, air-assisted airless, or airless application. To use this option, the owner or operator must also maintain records demonstrating the transfer efficiency achieved.

3. Comments and responses

Comment: One commenter argued that 40 CFR 63.745(f) should be revised to clarify that the proposed specialty coating application equipment requirements allow the use of any non-spray application equipment. The commenter argued that the rule allows the use of alternatives to the methods listed in 40 CFR 63.745(f)(1), but only if they are demonstrated to be equivalent to HVLP spray or electrostatic spray, according to 40 CFR 63.750(i). The commenter argued that the rule should be revised to allow all hand application methods and non-spray methods allowed in the California rules and to require the equivalency demonstration only for spray application methods. The commenter recommended that the EPA add the following language to 40 CFR 63.745(f)(1) to clarify that other methods are allowed:

> In addition to the methods in (f)(1)(i) through (f)(1)(ix), specialty coatings may be applied by flow coating, web coating, coil coating, touch-up markers, marking pens, trowels, spatulas, daubers, rags, sponges, and mechanically and/or pneumatic-driven syringes.

Response: The EPA agrees with the commenter that 40 CFR 63.745(f) should be revised to clarify that any hand or non-spray application methods should be allowed. Although the commenter made this in reference to only specialty coatings, the same is also true for the other types of coatings regulated by subpart GG. However, the EPA has determined that, based on the public comments received, further clarification and simplification of 40 CFR 63.745(f) are needed in the final rule. The purpose of this section is to minimize emissions from spray-applied coating operations by requiring the use of high-efficiency spray application equipment in almost all spray-applied coating operations, except in limited situations in which it is not technically feasible. All hand and non-spray application methods, including the specialty coating methods listed by the commenter, have essentially 100-percent transfer efficiency because no coating material is lost to overspray. The same is also true of other non-spray methods listed in 40 CFR 63.745(f): Flow/curtain coat application; dip coat application; roll coating; brush coating; cotton-tipped swab application; and electrodeposition (dip) coating. Two of the application methods mentioned by the commenter, touch-up markers and marking pens, are not included in the list of allowed methods in the final rule because the definition of ''coating'' in the final rule excludes materials applied by these methods, as a result of changes made in response to other public comments.

Therefore, in order to clarify and simplify the requirements of 40 CFR 63.745(f) in the final rule, the EPA is removing the references to these non-spray application methods and is revising the language of this section to clarify that these requirements apply to only spray-applied coating operations. The final rule is also adding a definition of ''spray-applied coating operations'' to 40 CFR 63.742. The definition of spray-applied coating operation added to 40 CFR 63.742 includes a list of application methods that are excluded from this definition, and these exclusions include, but are not limited to, the non-spray application methods that were formerly listed in 40 CFR 63.745(f) and the additions suggested by the commenters.

Comment: One commenter argued that adhesives, sealants, maskants, caulking materials, and inks are not atomized even when applied with spray application equipment; therefore, the application of these specialty coatings is not a spray-application operation and should not be subject to the high efficiency application equipment requirements. The commenter argued that the EPA should clarify that the application of adhesives, sealants, and maskants, caulking materials, and inks is not subject to the application equipment requirements by adding these to the list of exemptions in 40 CFR 63.745(f)(3).

Response: The EPA agrees with the commenter that these operations should be excluded from the provisions for spray-applied coating operations in 40 CFR 63.745(f). In other, more recently developed surface coating NESHAP such as 40 CFR part 63, subpart HHHHHH, the EPA also recognized that these materials are not atomized in the same way as, for example, primers and topcoats, even when applied with spray application equipment.

Comment: One commenter argued that 40 CFR 63.745(f)(3)(ii), which is an exemption from the high-efficiency application requirement in 40 CFR 63.745(f)(1), should be revised to exempt coatings that contain less than 20 grams of VOC per liter of coating. The commenter argued that this exemption accommodates spray application of low VOC coatings with high solids content that are not practical to apply with high-efficiency equipment, such as high solid/low VOC ceramic coatings applied to reduce the infrared signature of military aircraft and are classified as electric or radiation-effect specialty coatings. These coatings are not water-reducible and, due to high viscosity, cannot be spray applied using high-efficiency application equipment. The commenter noted that this exemption is also found in the California South Coast Air Quality Management District and Antelope Valley Air Quality Management District aerospace rules.

Response: The EPA agrees with the commenter on the need for an exemption from the application equipment rules for coatings that contain less than 20 grams of VOC per liter of coating. (These coatings continue to be subject to all other applicable requirements of subpart GG.) However, because subpart GG is a NESHAP and is not a VOC rule, facilities will be able to use the VOC content to meet this exemption only for coatings that do not contain HAP that are exempt from the definition of VOC. For coatings that contain HAP that are exempt from the definition of VOC, facilities will need to consider both the HAP and VOC content in determining whether the coatings qualify for this exemption to ensure that it is applied only to coatings with a high-solids content as intended.

Comment: One commenter argued that 40 CFR 63.745(f)(3) should be revised to allow the use of detailing guns or airbrushes for all specialty coating application operations, and not just the two exemptions currently in the rule at 40 CFR 63.745(f)(3)(i) and (iv).

Response: The EPA agrees that the use of airbrushes and detailing guns should be allowed for all specialty coating operations, and not just those included at 40 CFR 63.745(f)(3)(i) and (iv). Although the commenter made this comment in reference to only specialty coatings, the same is also true for the other types of coatings regulated by subpart GG, so the EPA is making this revision for all coatings. In past surface coating rulemakings, the EPA has determined that it is difficult to precisely define a ''detailing gun'' and ''airbrush,'' and these terms are not currently defined in subpart GG. Instead, in more recent rulemakings the EPA has adopted an objective standard based on the capacity of the paint cup attached to the spray gun to identify equipment that is typically considered an airbrush or detail gun. In 40 CFR part 63, subparts HHHHHH and XXXXXX, the EPA included less stringent provisions for hand-held application equipment with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). The EPA is adopting the same approach in the final amendments to 40 CFR 63.745(f)(3), but is also including language that limits the amount of coating applied to no more than 3.0 fluid ounces in a single coating operation. The exclusion from the application equipment requirements is also limited to the spray-application of no more than 3.0 fluid ounces of coating in a single application or ''job'' (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under this exclusion in 40 CFR 63.745(f) is prohibited. If a paint cup liner is used in a reusable holder or cup, then the holder or cup must also be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, a 3.0 ounce liner cannot be used in a holder that can also be used with a 6.0 ounce liner. This language is intended to prevent facilities from circumventing the rule by refilling paint cups or by using multiple detachable cups that have been filled in advance. (These coatings continue to be subject to the organic HAP content limitations in 40 CFR 63.745(c).)

Comment: One commenter argued that 40 CFR 63.745(f)(1) should be revised to allow the use of high-efficiency air-assisted airless spray guns, airless spray guns, screen printing, and inkjet printing for application of specialty coatings because these technologies are equivalent to or better than HVLP. The commenter argued that under CAA section 112(h)(3), the Agency must allow alternative equipment that achieves equivalent emission reductions to the equipment prescribed as MACT. The commenter also noted that under other NESHAP (*e.g,.* 40 CFR part 63, subparts JJ and HHHHHH), the EPA has determined that air-assisted airless and airless spray guns are equivalent to HVLP and electrostatic spray, which the EPA has designated as the MACT for aerospace specialty coatings. The commenter also noted that 40 CFR part 63, subpart HHHHHH allows the use of air-assisted airless spray guns and airless spray guns (in addition to HVLP) for aerospace surface coating operations at area sources. Further, the commenter noted that several state and regional air agencies allow the use of air-assisted airless spray guns and airless spray guns as equivalent to HVLP and included copies of two permits from the Antelope Valley Air Quality Management District and the Georgia Environmental Protection Division.

Finally, the commenter argued that screen printing and ink jet technology should be listed as approved application methods because they each achieve nearly 100-percent transfer efficiency, which is higher than the transfer efficiency of HVLP spray guns.

Response: The EPA agrees with the commenter that these alternative application methods (high-efficiency air-assisted airless spray guns, airless spray guns, screen printing, and inkjet printing) should be allowed under 40 CFR 63.745(f)(1) for surface coating application. Although the commenter made this comment in reference to specialty coatings only, the same is also true for the other types of coatings regulated by subpart GG; so, the EPA is making this revision for all coatings. As the commenter noted, the EPA has already included air-assisted airless spray guns and airless spray guns in other more recent surface coating rule makings. The EPA is adding them to the list of allowed methods under subpart GG because they are considered equivalent in efficiency to the methods already listed. The EPA is also including screen printing and inkjet printing to the list of methods that are considered non-spray application methods with transfer efficiency at least equal to the other non-spray application methods already in the rule. The definition of ''spray-applied coating operation'' being added to 40 CFR 63.742 specifically excludes screen printing and inkjet printing.

Comment: One commenter argued that the EPA should provide an alternative to using the equivalency demonstration requirements in 40 CFR 63.750(i). The commenter argued that the method in 40 CFR 63.750(i) is overly burdensome, especially for specialty coatings, because it requires testing on parts of a similar configuration to the actual parts being coated, and because of the number of specialty coatings used at most facilities. The commenter recommended that for specialty coatings, the EPA should allow a facility to use any application method that achieves emission reductions or a transfer efficiency equal to or better than the methods approved in the rule (HVLP, electrostatic spray, air-assisted airless, and airless), and that the EPA should allow facilities to use a method of its choice to demonstrate equivalency. The commenter argued that clarifying that facilities may demonstrate either equivalent emission reductions or transfer efficiency would increase flexibility in the rule by allowing the use of either type of equivalency method. The commenter recommended that the following language be added to 40 CFR 63.745(f):

> For specialty coatings, any other coating application method capable of achieving emission reductions or a transfer efficiency equivalent to or better than that provided by HVLP, electrostatic spray, air-assisted airless, or airless application. Any owner or operator using an application method pursuant to this subparagraph shall maintain records demonstrating the transfer efficiency achieved.

Response: The EPA agrees with the commenter that the approval procedures specified in 40 CFR 63.750(i) may be less appropriate for specialty coatings than for primers and topcoats because of the diversity of parts on which specialty coatings are used. Therefore, the EPA is adding language similar to the recommended language to 40 CFR 63.750(i) for specialty coating application methods, which is the actual approval process that needs to be revised for specialty coatings. The EPA also recognizes that with the addition of other application methods in 40 CFR 63.745(f)(1), aerospace facilities will be less likely to have to demonstrate that an alternative method is equivalent to HVLP or electrostatic spray application methods.

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule, in the comment responses in section IV.E.3 of this preamble, and in the response to comments document in the docket for this rulemaking, we are finalizing requirements for specialty coatings with respect to application equipment methods, as proposed, and with the changes described in section IV.E.2 of this preamble.

F. Specialty Coating Inorganic HAP Control Requirements

1. What did we propose?

The EPA proposed that specialty coating application operations that include the spray application of coatings that contain inorganic HAP be subject to the same standards for inorganic HAP emissions in 40 CFR 63.745(g) that apply to primer and topcoat application operations. These requirements include the use of a spray booth or similar enclosure that is fitted with filters on the exhaust and minimum filtration efficiency requirements for the exhaust filters.

2. What changed since proposal?

The EPA is revising the inorganic HAP control requirements in 40 CFR 63.745(g) since proposal to make the following changes:

- Clarifying in 40 CFR 63.745(g) that the inorganic HAP control requirements apply to only spray-applied coatings, and adding a definition of ''spray-applied coating operations'' to 40 CFR 63.742.
- Excluding from the inorganic HAP control requirements coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). The exclusion from the inorganic HAP control requirements is also limited to the spray application of no more than 3.0 fluid ounces of coating in a single application or ''job'' (*i.e.,* the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under this exclusion in 40 CFR 63.745(g) is prohibited. If a paint cup liner is used in a reusable holder or paint cup, then the holder or cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. (These coatings will continue to be subject to the organic HAP content limitations in 40 CFR 63.745(c).)
- Clarifying that the use of portable enclosures that meet the same filtration requirements as for spray booths can be used to comply.
- Allowing facilities that use spray booths to control inorganic HAP emissions to use an interlock system that will automatically shut down the surface coating equipment if the monitored parameters for the filtration system deviate from the allowed operating range.

3. Comments and Responses

Comment: One commenter argued that the EPA should clarify the operations subject to the inorganic HAP requirements by defining ''spray-applied coating operation.'' The commenter noted that the term ''spray gun'' is defined in the current rule as ''a device that atomizes a coating or other material and projects the particulates or other material onto a substrate.'' The commenter noted that 40 CFR part 63, subpart HHHHHH, which applies to area source aerospace facilities, excludes some specialty coating materials (including adhesives, sealants, maskants, and caulking materials) from the definition of spray-applied coating operation because they are not spray applied or are not atomized even when they are applied with a spray gun, and instead are emitted in larger particles that settle near the source and are not emitted. The commenter also noted that certain application methods were excluded from the definition of ''spray-applied coating operation'' in subpart HHHHHH, including the following: Powder coating, hand-held non-refillable aerosol containers, and non-atomizing application technology (for example, paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, and marking pens).

The commenter recommended that the operations subject to the inorganic HAP control requirements be clarified by adding the following definition to 40 CFR 63.742:

> *Spray-Applied Coating Operations* means operations that apply coatings using a device that creates an atomized mist of coating and deposits the coating on a substrate. For the purposes of this subpart, spray-applied operations do not include the following materials or activities:
>
> (1) Application of coating using powder coating, hand-held non-refillable aerosol containers, or non-atomizing application technology, including but not limited to paint brushes, rollers, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, marking pens, trowels, spatulas, daubers, rags, sponges, mechanically and/or pneumatic-driven syringes, and inkjet machines.
>
> (2) Application of adhesives, sealants, maskants, caulking materials, and inks.

Response: The EPA agrees with the commenter that certain operations, which are often performed with specialty coatings, should be specifically excluded from the inorganic HAP control requirements for spray-applied coating operations because they are not, in fact, applied with atomizing spray application equipment. Therefore, the EPA is adopting a definition very similar to that suggested by the commenter. The suggested definition is consistent with the provisions in 40 CFR part 63, subpart HHHHHH for defining coating operations subject to the inorganic HAP control requirements in subpart HHHHHH.

Comment: One commenter argued that the rule should include an additional exemption from the inorganic HAP requirements for specialty coatings in 40 CFR 63.745(g)(4) for the application of coatings from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). The commenter noted that this exemption is provided in 40 CFR part 63, subpart HHHHHH to accommodate low volume applications, including operations that use airbrushes, which may occasionally occur in various locations throughout the assembly facility where it is impractical to relocate the aircraft or part to a coating booth. Because the paint cup capacity is limited to 3.0 fluid ounces, operations of this type are inherently limited and result in little or no inorganic HAP emissions. Providing this exemption for specialty coatings would allow operational flexibility without creating extra HAP emissions, according to the commenter.

Response: The EPA agrees with the commenter on the need for the suggested exemption for coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). (These coatings will continue to be subject to the organic HAP content limitations in 40 CFR 63.745(c) and other applicable requirements of subpart GG.) The EPA is incorporating this change into the final rule because it is consistent with the exemption for coatings applied with air brushes in 40 CFR part 63, subpart HHHHHH, as noted by the commenter. This exemption is also consistent with the current exemptions in 40 CFR 63.745(g) for the control of inorganic HAP, for example, stencil operations performed by brush or airbrush, and the use of hand-held aerosol can application methods. The EPA is also including language that limits the amount of coating applied to no more than 3.0 fluid ounces in a single coating operation. The exclusion from the inorganic HAP control requirements is limited to the spray-application of no more than 3.0 fluid ounces of coating in a single application or ''job'' (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces of coating under this exclusion in 40 CFR 63.745(g) is prohibited. If a paint cup liner is used in a holder or cup, then the holder or cup must also be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, a 3.0 ounce liner cannot be used in a holder or cup that can also be used with a 6.0 ounce liner. This language is intended to prevent facilities from circumventing the rule by refilling paint cups or by using multiple detachable cups that have been filled in advance.

Comment: One commenter requested that the EPA allow interlock systems as an alternative to daily pressure drop and water flow readings on coating spray booths, as this type of system automatically shuts off the air supply to the spray guns if the monitored parameters are out of range. The commenter noted that the EPA has included an interlock option in other NESHAP (*e.g.,* 79 FR 72874, December 8, 2014). The commenter argued that an interlock system option would reduce the monitoring and recordkeeping burden for regulated facilities while ensuring that coating operations cease when the parameters are out of range.

Response: The EPA agrees that these types of interlock systems accomplish the same objectives as daily pressure drop and water flow readings and reduce the monitoring and recordkeeping burden associated with the use of spray booths to control inorganic HAP emissions from spray-applied coating operations, and has included this option in the final rule.

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule, in the comment responses in section IV.F.3 of this preamble, and in the response to comments document in the docket for this rulemaking, we are finalizing the proposed requirements for specialty coatings with respect to the requirements for controlling inorganic HAP emissions as proposed and with the changes described in section IV.F.2 of this preamble.

G. Complying With the Specialty Coating Limits

1. What did we propose?

The EPA proposed to revise 40 CFR 63.750 to include alternative compliance demonstration provisions for all coatings subject to the Aerospace NESHAP (primers, topcoats, specialty coatings and chemical milling maskants). If the manufacturer's supplied formulation data or calculation of HAP and VOC content indicates that the coating meets the organic HAP and VOC content emission limits for its coating type, as specified in 40 CFR 63.745(c) and 63.747(c), then the owner or operator would not be required to demonstrate compliance for these coatings using the test method and calculations specified in 40 CFR 63.750(c), (e), (k), and (m), or to keep the associated records and submit reports associated with these methods and calculations. Instead, the owner or operator would be able to rely on the manufacturers' formulation data and calculation of the HAP or VOC content to demonstrate compliance. However, the owner or operator would continue to be required to maintain purchase records and manufacturers' supplied data sheets for these compliant coatings. Owners or operators of facilities using these coatings would also continue to be required to handle and transfer these coatings in a manner that minimizes spills, apply these coatings using one or more of the specified application techniques and comply with inorganic HAP emission requirements.

2. What changed since proposal?

The EPA has revised 40 CFR 63.750(c) (Organic HAP content level determination—compliant primers, topcoats, and specialty coatings) and 63.750(k) (Organic HAP content level determination—compliant chemical milling maskants) to add a provision that owners and operators may add non-HAP solvents to coatings that meet the organic HAP and VOC content limits as supplied by the manufacturer and added language to 63.752(c) and (f) to specify the records that must be kept to demonstrate compliance using this provision.

The EPA revised 40 CFR 63.741(f) to clarify that subpart GG does not apply to coatings that do not contain HAP, but owners and operators can include these non-HAP coatings in averaging as long as records are kept of the non-HAP coatings used for averaging.

The EPA is revising the definition of coating in 40 CFR 63.742 to be consistent with the definition used in other more recent surface coating NESHAP.

We are also finalizing a change made since proposal as an outgrowth of comments to add EPA Method 311, Analysis of Hazardous Air Pollutant Compounds in Paints and Coatings, as the reference method for determining the HAP content of primers, topcoats, and specialty coatings.

3. Comments and Responses

Comment: One commenter recommended that the rule allow addition of HAP-free solvents to specialty coatings that meet the organic HAP and VOC content limits as supplied by the coating manufacturer. The commenter argued that industry members have identified several specialty coatings that meet the organic HAP and VOC content limits as supplied by the manufacturer but that would no longer meet the VOC limit ''as applied'' when solvents are added as recommended in the manufacturing specification. In those cases, the solvents added contain VOC, but no HAP, such as primers that are applied in warm weather. The commenter suggested that facilities would be required to keep records demonstrating compliance with the limits as supplied and that the solvents added do not contain HAP. The commenter argued that such a change would be equivalent to the proposed standards because (1) The coatings meet the organic HAP and VOC content limits as supplied, thereby effectively limiting the HAP content of the coating, and (2) the solvents added do not contain HAP, such that the coatings would remain compliant with the organic HAP limit ''as applied.''

Response: The EPA agrees that facilities should be able to add non-HAP solvents to coatings that meet the organic HAP and VOC content limits as supplied by the manufacturer. The facilities will be required to keep records demonstrating that the coatings meet the HAP and VOC content limits as supplied and that the thinners contain no HAP. The EPA has added language to 40 CFR 63.750(c) (primers/topcoat/specialty) and (k) (chemical milling maskants) to add this provision and to 40 CFR 63.752(c) and (f) to specify the records that must be kept to demonstrate compliance.

Comment: One commenter argued that the rule should be revised to clarify that it does not apply to specialty coatings that do not contain HAP. The commenter noted that proposed 40 CFR 63.741(f) includes the following sentence (emphasis added):

> The requirements of this subpart also do not apply to primers, topcoats, specialty coatings, chemical milling maskants, strippers, and cleaning solvents *containing HAP and VOC at concentrations less than 0.1 percent by mass for carcinogens or 1.0 percent by mass for non-carcinogens,* as determined from manufacturer's representations, such as in a material safety data sheet or product data sheet, or testing.

The commenter argued that this could be interpreted to mean that the rule would regulate coatings that contain no HAP, if they contained VOC above the levels specified in that sentence. The commenter argued that this is likely to have been unintentional because the EPA has the authority to regulate only sources of HAP under CAA section 112, and the EPA cannot regulate sources of VOC that are not sources of HAP. The commenter argued, however, that aerospace facilities should have the option to use coatings with no HAP to demonstrate compliance using the coating content averaging provisions of 40 CFR 63.750(d) and (f) to encourage the development and use of non-HAP coatings. The commenter recommended that the following provision should be added to 40 CFR 63.741(f) to clarify the exemption:

> The requirements of this subpart also do not apply to specialty coatings containing HAP at concentrations less than 0.1 percent by mass for carcinogens or 1.0 percent by mass for carcinogens, as determined from manufacturer's representations, such as in a material safety data sheet or product data sheet, or testing, except that if an owner or operator chooses to include one or more such coatings in averaging under §63.743(d), then the recordkeeping requirements of §63.752(c)(4) shall apply.

Response: The EPA agrees with the commenter that, as a rule promulgated under section 112 of the CAA, subpart GG should not apply to coatings that contain no HAP. Under CAA section 112(d)(1), the EPA is required to ''promulgate regulations establishing emissions standards for each category or subcategory of major sources . . . of listed hazardous air pollutants.'' Therefore, the EPA is revising 40 CFR 63.741(f) to remove the reference to VOC in the sentence cited by the commenter. The EPA also agrees that facilities should be allowed to include these non-HAP coatings in averaging, so the EPA is adding in language similar to that suggested by the commenter to clarify the recordkeeping requirements that would apply to these non-HAP coatings used in an average.

Comment: One commenter argued that the EPA should revise the definition of ''coating'' in 40 CFR 63.742 to be consistent with other surface coating NESHAP. The commenter argued that the current definition is vague, and with the proposed regulation of specialty coatings, it could be read to include products that are not considered coating products under other EPA surface coating rules. The commenter argued that the definition should limit coatings to liquid or mastic materials and exclude materials that are excluded from the definition of coating in other EPA rules. The commenter recommended the following definition of coating:

> Coating means a liquid, liquefiable, or mastic composition that is applied to the surface of an aerospace vehicle or component and converted by evaporation, cross-linking, or cooling, to form a decorative, protective, or functional solid film or the solid film itself. Coating application with handheld, non-refillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film which may be pre-coated with an adhesive by the manufacturer are not coating operations for the purposes of this subpart.

Response: The EPA agrees with the commenter that the definition of ''coating'' should be clarified because of the addition of specialty coatings, and the revised definition should be consistent with other surface coating NESHAP. The EPA reviewed the definitions of ''coating'' in other surface coating NESHAP and is revising the definition in subpart GG to match the definition used in 40 CFR part 63, subparts MMMM and PPPP to account for the diversity of materials represented by the specialty coatings and to clarify that the standards do not apply to paper or plastic film pre-coated with an adhesive by the film manufacturer.

The EPA is also excluding materials in handheld, non-refillable aerosol containers, touch-up markers, and marking pens from the definition of coating because these types of coatings have been excluded from the definition of ''coating'' or ''coating operation'' in other surface coating NESHAP. Aerosol coatings have been excluded from the subpart GG emissions limits because they are included in the list of specialty coatings in Appendix A to subpart GG.

The EPA is not adding the suggested language that a coating is ''a liquid, liquefiable, or mastic composition that is applied to the surface of an aerospace vehicle or component and converted by evaporation, cross-linking, or cooling, to form a decorative, protective, or functional solid film or the solid film itself.'' The EPA believes that this language is not needed because the revised definition will now include the following as examples of coatings: Paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. The EPA believes that these examples will be at least as illustrative as the language suggested by the commenter and will be consistent with the definition of ''coatings'' in other EPA rules.

The definition of coating in the final rule reads as set forth in 40 CFR 63.742.

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule, in the comment responses in section IV.G.3 of this preamble, and in the response to comments document in the docket for this rulemaking, we are finalizing the proposed requirements for specialty coatings with respect to the compliance requirements as proposed and with the changes described in section IV.G.2 of this preamble.

H. Electronic Reporting Requirements

1. What did we propose?

The EPA proposed that owners and operators of aerospace manufacturing and rework facilities submit electronic copies of certain required performance test reports by direct computer-to-computer electronic transfer using EPA-provided software. The direct computer-to-computer electronic transfer is accomplished through the EPA's CDX using the CEDRI. The CDX is the EPA's portal for submittal of electronic data using the EPA-provided ERT to generate electronic reports of performance tests and evaluations. The ERT generates an electronic report package that will be submitted using the CEDRI. The submitted report package will be stored in the CDX archive (the official copy of record) and the EPA's public database called WebFIRE. All stakeholders would have access to all reports and data in WebFIRE and accessing these reports and data will be very straightforward and easy (see the WebFIRE Report Search and Retrieval link at *http://cfpub.epa.gov/webfire/index.cfm?action=fire.searchERTSubmission*). A description of the WebFIRE database is available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.* A description of the ERT and instructions for using ERT can be found at *http://www3.epa.gov/ttn/chief/ert/index.html*. CEDRI can be accessed through the CDX Web site (*http://www.epa.gov/cdx*).

The submission of performance test data electronically to the EPA applies only to those performance tests conducted using test methods that will be supported by the ERT. The ERT contains a specific electronic data entry form for most of the commonly used EPA reference methods. A listing of the pollutants and test methods supported by the ERT is available at *http://www.epa.gov/ttn/chief/ert/index.html*.

2. What changed since proposal?

The EPA is making no changes to the proposed electronic reporting requirements and they are being finalized as proposed.

3. Comments and Responses

Comments were received regarding the proposed electronic reporting requirements and were generally supportive. The comments and our specific responses to those comments can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2014–0830).

4. Rationale for Final Approach

For the reasons explained in the preamble to the proposed rule and in the response to comments document in the docket for this rulemaking, we are finalizing the requirements for electronic reporting as proposed.

I. Startup, Shutdown, and Malfunction Provisions

1. What did we propose?

In its 2008 decision in *Sierra Club* v. *EPA*, 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously.

We have eliminated the SSM exemption in this rule. Consistent with *Sierra Club* v. *EPA*, 551 F.3d 1019 (D.C. Cir. 2008), *cert. denied*, 130 S. Ct. 1735 (U.S. 2010), the EPA proposed to remove the SSM provisions and other changes so that standards in this rule would apply at all times. We also proposed several revisions to Table 1 to subpart GG of part 63 (the General Provisions Applicability Table, hereafter referred to as the ''General Provisions table'') as explained in more detail below. For example, we proposed to eliminate the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also proposed to eliminate and revise certain recordkeeping and reporting requirements related to the SSM exemption as further described below.

In proposing the standards in this rule, the EPA took into account startup and shutdown periods and, for the reasons explained below, did not propose alternate standards for those periods. Information on periods of startup and shutdown received from the facilities through CAA section 114 questionnaire responses indicated that emissions during these periods do not exceed the emissions during normal operations. The facilities do not perform the regulated surface coating operations unless and until their control devices (*e.g.*, spray booths or other types of control devices) are operating to fully control emissions. Therefore, we determined that separate standards for periods of startup and shutdown are not necessary.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead they are, by definition sudden, infrequent, and not reasonably preventable failures of emissions control, process or monitoring equipment. The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. Under CAA section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and, for existing sources, generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the D.C. Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA*, 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the EPA to consider such events in setting CAA section 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As a result, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. *See, e.g., Sierra Club* v. *EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.' '') *See also, Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an air pollution control device with 99-percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady-state type unit that would take days to shut down, the source would go from 99-percent control to zero control until the control device was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations and the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112 standard was, in fact, sudden, infrequent, not reasonably preventable and was not instead caused in part by poor maintenance or careless operation.

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, CAA section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

a. 40 CFR 63.743(e) General Duty

We proposed to revise the entry in the General Provisions table for 40 CFR 63.6(e)(1)(i) by changing the ''yes'' in column 2 to a ''no.'' Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We proposed instead to add general duty regulatory text at 40 CFR 63.743(e) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The former language in 40 CFR 63.6(e)(1)(i) characterized what the general duty entailed during periods of SSM. With the elimination of the SSM exemption, there was no need to differentiate between normal operations and SSM events in describing the general duty. Therefore the language the EPA proposed for 40 CFR 63.743(e) does not include that language from 40 CFR 63.6(e)(1).

We also proposed to revise the General Provisions table entry for 40 CFR 63.6(e)(1)(ii) by changing the ''yes'' in column 2 to a ''no.'' Section 63.6(e)(1)(ii) imposed requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 40 CFR 63.743(e).

b. SSM Plan

We proposed to revise the General Provisions table entry for 40 CFR 63.6(e)(3) by changing the ''yes'' in column 2 to a ''no.'' Generally, these paragraphs require development of an SSM plan and specify SSM recordkeeping and reporting requirements related to the SSM plan. As noted, the EPA proposed to remove the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance and, thus, the SSM plan requirements are no longer necessary.

c. Compliance With Standards

We proposed to revise the General Provisions table entry for 40 CFR 63.6(f)(1) by changing the ''yes'' in column 2 to a ''no.'' The former language of 40 CFR 63.6(f)(1) exempted sources from non-opacity standards during periods of SSM. As discussed above, the Court in *Sierra Club* v. *EPA* vacated the exemptions contained in this provision and held that the CAA requires that some CAA *section 112* standards apply continuously. Consistent with *Sierra Club,* the EPA proposed to revise some standards in this rule to apply at all times.

d. 40 CFR 63.749(j) Performance Testing

We proposed to revise the General Provisions table entry for 40 CFR 63.7(e)(1) by changing the ''yes'' in column 2 to a ''no.'' Section 63.7(e)(1) describes performance testing requirements. The EPA instead proposed to add a performance testing requirement at 40 CFR 63.749(j). The performance testing requirements we proposed to add differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption and language that precluded startup and shutdown periods from being considered ''representative'' for purposes of performance testing. The proposed performance testing provisions specified that performance testing of controls must be conducted during representative operating conditions of the applicable source and may not take place during SSM periods of the applicable controlled surface coating operations, controlled chemical milling maskant application operations or controlled chemical depainting operations. As in 40 CFR 63.7(e)(1), performance tests conducted under this subpart should not be conducted during malfunctions because conditions during malfunctions are often not representative of normal operating conditions. The EPA proposed to add language that requires the owner or operator to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Section 63.7(e) requires that the owner or operator make available to the Administrator such records ''as may be necessary to determine the condition of the performance test'' available to the Administrator upon request, but does not specifically require the information to be recorded. The regulatory text the EPA proposed to add to this provision builds on that requirement and makes explicit the requirement to record the information.

e. Monitoring

We proposed to revise the General Provisions table entry for 40 CFR 63.8(c)(1)(i) and (iii) by changing the ''yes'' in column 2 to a ''no.'' The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

f. 40 CFR 63.752(a) Recordkeeping

We proposed to revise the General Provisions table entry for 40 CFR 63.10(b)(2)(i) by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA proposed that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional recordkeeping for startup and shutdown periods.

We proposed to revise the General Provisions table entry for 40 CFR 63.10(b)(2)(ii) by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA proposed to add such requirements to 40 CFR 63.752(a). The regulatory text we proposed to add differs from the General Provisions it is replacing in that the General Provisions requires the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA proposed that this requirement apply to any failure to meet an applicable standard and proposed to require that the source record the date, time, and duration of the failure rather than the ''occurrence.'' The EPA also proposed to add to 40 CFR 63.752(a) a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the quantity of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions. Examples of such methods include mass balance calculations, measurements when available, or engineering judgment based on known process parameters (*e.g.,* coating HAP content and application rate or control device efficiencies). The EPA proposed to require that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard.

We proposed to revise the General Provisions table entry for 40 CFR 63.10(b)(2)(iv) by changing the ''yes'' in column 2 to a ''no.'' When applicable, the provision requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.752(a).

We proposed to revise the General Provisions table entry for 40 CFR 63.10(b)(2)(v) by changing the ''yes'' in column 2 to a ''no.'' When applicable, the provision requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

g. 40 CFR 63.753 Reporting

We proposed to revise the General Provisions table entry for 40 CFR 63.10(d)(5) by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(d)(5) describes the reporting requirements for SSM periods. To replace the General Provisions reporting requirement, the EPA proposed to add reporting requirements to 40 CFR 63.753(a). The replacement language added to 40 CFR 63.753(a) differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We proposed language that requires sources that fail to meet an applicable standard at any time to report the information concerning such events in the semi-annual report already required under this rule. We proposed that the report must contain the number, date, time, duration and the cause of such events (including unknown cause, if applicable), a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

Examples of such methods include mass balance calculations, measurements when available or engineering judgment based on known process parameters (*e.g.,* coating HAP content and application rates and control device efficiencies). The EPA proposed this requirement to ensure there is adequate information to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

We will no longer require owners or operators to determine whether actions taken to correct a malfunction are consistent with an SSM plan, because plans will no longer be required. The proposed amendments will, therefore, eliminate the cross reference to 40 CFR 63.10(d)(5)(i) that contains the description of the previously required SSM report format and submittal schedule from this section. These specifications will be no longer necessary because the events will be reported in otherwise required reports with similar format and submittal requirements.

As discussed above, we proposed to revise the General Provisions table entry for 40 CFR 63.10(d)(5), by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(d)(5)(ii) describes an immediate report for SSM events when a source failed to meet an applicable standard, but did not follow the SSM plan. We will no longer require owners and operators to report when actions taken during a SSM event were not consistent with an SSM plan, because plans will no longer be required, and other reports and records will be used to allow the EPA to determine the severity of the failure to meet an applicable standard and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

2. What changed since proposal?

We have not changed any aspect of the SSM provisions for the Aerospace Manufacturing and Rework Facilities source category since the proposal.

3. Comments and Responses

Comments were received regarding the proposed revisions to remove the SSM exemptions for the Aerospace Manufacturing and Rework Facilities source category. The comments and our specific responses to those comments can be found in the comment summary and response document available in the docket for this action (EPA–HQ–OAR–2014–0830).

4. Rationale for Final Approach

For the reasons provided above, provided in the preamble for the proposed rule and provided in the comment summary and response document available in the docket, we have removed the SSM exemption from the Aerospace NESHAP; eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption; and removed or modified inappropriate, unnecessary or redundant language in the absence of the SSM exemption. We are finalizing our proposed determination that facilities comply with the standards at all times and no additional standards are needed to address emissions during startup or shutdown periods.

J. Effective Date and Compliance Dates for the Amendments

1. What did we propose?

The EPA proposed that the compliance date for the proposed amendments would be the effective date of those amendments (*i.e.,* the date the final amendments are promulgated), with one exception. The EPA proposed a compliance date of 1 year after the effective date for the following standards for existing specialty coating affected sources: 40 CFR 63.745(c)(5) and (6) (HAP and VOC content limits for specialty coatings); 40 CFR 63.745(f) (coating application equipment); and 40 CFR 63.745(g) (control of inorganic HAP emissions).

2. What changed since proposal?

The compliance date for existing specialty coating operations to comply with the amended requirements in 40 CFR 63.745 has been revised since proposal from 1 year from the effective date of this rule to 3 years from the effective date of this rule.

3. Comments and Responses

Comment: Several commenters argued that the EPA should provide a 3-year compliance period for specialty coatings rather than the proposed 1-year period. All commenters argued that additional time is needed to determine whether each coating is compliant, to engineer new coating formulations, to ensure the replacement specialty coatings meet the needed performance requirements specified by aircraft manufacturers, DoD, Federal Aviation Administration (FAA), National Aeronautics and Space Administration (NASA), or other countries' government agencies. They argued that additional time is also needed to incorporate the new formulation into the material specifications and add the coating to the qualified product list for the aircraft, and to implement changes to raw material supply chains, product lines, and distribution channels to ensure compliance by the deadline and to mitigate the effect of obsolete products and product information.

One commenter noted that the EPA acknowledged the lengthy period of time needed to qualify new coatings with respect to the technology review performed for primer and topcoat operations. Another commenter argued that 1 year is shorter than compliance periods provided in any other surface coating NESHAP and in other RTR standards. The commenter noted that the CTG limits generally have been applied only to facilities in non-attainment areas, and facilities in attainment areas may be faced with the need to reformulate some coatings. The commenter also argued that the application equipment and spray booth filtration requirements for specialty coatings will also be new requirements for all facilities using specialty coatings, and additional time may be needed to revise title V operating permits for new or upgraded spray booths, or to allow for averaging or alternative compliance demonstrations. The commenter added that, because of the large number of specialty coatings, additional time is also needed to develop compliance systems (even for facilities that previously were required to comply with the primer and topcoat operation standards), determine the VOC and HAP content of these coatings, and setting up recordkeeping and reporting systems.

Response: We agree with the commenters that, based on the additional information provided in their comments, a 3-year compliance period for existing sources is needed for specialty coating operations to comply with the new standards. A 3-year compliance period is the maximum amount of time allowed for an existing source compliance date under 40 CFR 63.6(c) of the General Provisions. Consistent with CAA section 112(i)(3), for standards developed under CAA section 112(d)(3) the EPA could provide up to a 3-year compliance date for existing sources. ''[S]ection 112(i)(3)'s three-year maximum compliance period applies generally to 'any emissions standard . . . promulgated under [section 112].' *Ass'n of Battery Recyclers* v. *EPA*, 716 F.3d 667, 672(D.C. Cir. 2013).).

4. Rationale for Final Approach

For the reasons provided in the preamble for the proposed rule, in the comment responses in section IV.J.3 of this preamble, and in the comment summary and response document available in the docket, we are finalizing the proposal to require that all of the amendments in the final rule will be effective on December 7, 2015, with one exception. The one exception is the compliance date for existing specialty coating affected sources (*i.e.,* existing on February 17, 2015) will be December 7, 2018, for the reasons explained in section IV.J.3 of this preamble.

K. Standards for Cleaning Operations and Standards for Handling and Storage of Waste

1. What did we propose?

The EPA proposed no changes to the standards for cleaning operations in 40 CFR 63.744 and for the standards for the handling and storage of waste in 40 CFR 63.748.

2. What changed since proposal?

Based on public comments received on the proposal, the EPA is clarifying the applicability of the requirements for the handling and storage of spent cleaning solvents and HAP-containing wastes in 40 CFR 63.744(a) and 63.748 relative to subpart GG and the regulations in 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) that implement the RCRA. These clarifying changes include the following:

- Removing and reserving 40 CFR 63.741(e);
- Revising 40 CFR 63.744(a) to specify that fresh and spent cleaning solvents, and solvent-laden applicators that are not handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) must comply with the requirements in 40 CFR 63.744(a)(1) through (a)(4); and
- Revising 40 CFR 63.748 to specify that wastes that contain organic HAP from aerospace surface coating operations (primer, topcoat, specialty coating, chemical milling maskant, and chemical depainting operations) that are not handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) must be handled and stored as follows:

(a) Conduct the handling and transfer of wastes that contain organic HAP to or from containers, tanks, vats, vessels, or piping systems in such a manner that minimizes spills during handling and transfer; and

(b) Store all waste that contains organic HAP in closed containers.

3. Comments and Responses

Comment: One commenter argued that the EPA may not exempt waste handling and storage operations from the technology review because doing so would violate CAA section 112(d)(6) and disagreed with the EPA's basis for not doing a technology review in the current rulemaking.

First, the commenter argued that the CAA requires a review of the existing emission standards at least every 8 years after promulgation, including reviewing developments in practices, processes, and control technologies. The commenter added that the EPA argued that ''there is no need to do a technology review'' in the current rulemaking because the EPA sets standards for wastes not covered by RCRA and the EPA stated that ''[t]he practical effect of [this rule] is that all HAP-containing wastes generated by aerospace manufacturing and rework operations are subject to RCRA and are exempt from the requirements of 40 CFR 63.748.'' The commenter added that in 1994, for wastes that are not subject to the provisions of RCRA, the EPA promulgated standards that required HAP-containing waste to be handled in such a manner that spills are minimized for waste handling and storage operations. The commenter added that the EPA recognizes that it must perform the first required 8-year review of the 1994 standards.

In addition, the commenter argued that the EPA has not provided any data or other evidence showing that all aerospace waste is exempt from the current standards that apply to aerospace facilities, nor has it shown that aerospace waste and storage handling is actually regulated by RCRA. The commenter stated that the EPA cites no RCRA regulations that regulate the emissions of these operations, including their hazardous air emissions, much less any such regulations that do so effectively. The commenter argued that unless the EPA can show that all aerospace waste storage and handling operations' air emissions are appropriately regulated by RCRA, at least as stringently as CAA section 112(d) and (f) require, then its refusal to review these standards is arbitrary and capricious.

The commenter argued that the EPA's stated reason for originally exempting certain waste (that is subject to RCRA) from the CAA waste handling and storage standards conflicts with and does not support a refusal to do a CAA section 112(d)(6) review now. The commenter noted that the EPA states in the current rule preamble that it promulgated the original exemption to try to avoid creating ''potential conflicts'' with RCRA. However, the commenter argued that the agency's explanation for the original exemption was actually more nuanced as the EPA stated that it was promulgating the exemption ''so that the . . . standards would not require less strict handling and storage of waste than the RCRA requirements.'' The commenter argued that there is no indication that it would create ''potential conflicts'' for the EPA to review the existing CAA standards to see if there are ''developments'' that it should account for in revised standards, as the CAA requires, to assure stronger standards than currently apply under either CAA or RCRA. The commenter explained that it would be fully consistent with the originally stated objective of assuring sufficiently strict requirements for the EPA to perform the requisite review now and would allow the EPA to assess and determine whether the CAA standards are up to date and sufficiently stringent. The commenter added that if the EPA performs the requisite CAA review and finds that there are ''developments'' in waste storage and handling, the EPA will then need to revise the standards to assure that they satisfy CAA section 112(d), including CAA section 112(d)(2) and (3). As part of this analysis, the EPA can ensure the standards are not less stringent than what is required under RCRA, and thus avoid any potential conflicts, according to the commenter.

The commenter argued that the reviews required by CAA sections 112(d)(6) and (f)(2) are both necessary in part to assure that there are appropriate emission standards in place for HAP emitted by aerospace waste storage and handling operations. The commenter stated that the EPA has no authority to exempt major sources from CAA section 112 standards. The commenter noted that the EPA acknowledged that it also may not set no control standards. The commenter added that these must meet a particular stringency test as defined by CAA section 112(d)(2) and (3). The commenter argued that the EPA may not evade these CAA responsibilities by referring to a different statute (*i.e.,* RCRA) that does not include and cannot substitute for the CAA section 112 requirements. The commenter argued that the EPA must ensure that the required CAA section 112(d)(6) review is satisfied and that any HAP emitted from waste storage and handling operations are subject to CAA section 112(d) standards that assure the ''maximum achievable'' degree of emission reductions.

The commenter noted that it is unclear whether the EPA included waste handling and storage operations in its CAA section 112(f)(2) risk assessment. The commenter argued that the EPA did not state whether it included emissions from waste storage and handling operations in the CAA section 112(f)(2) review, which requires assessing risks to public health and the environment under the existing standards.

Finally, the commenter argued that the EPA may not rely on the original exemption for certain waste operations because that, in turn, is unlawful under CAA section 112(c) and (d). Where Congress intended to allow the EPA to exempt sources from CAA section 112 standards based on the existence of standards under other statutes, it did so expressly, according to the commenter. See, *e.g.,* CAA section 7412(d)(9) (radionuclide emissions provision). The commenter added that there is no such exemption for aerospace sources, or any part of their emissions.

Response: The EPA disagrees with the commenter. The EPA is not exempting these waste handling operations from regulation under CAA section 112. In addition, as described in section IV.B.3 of this preamble, the EPA has completed a technology review for the standards for handling and storage of waste in 40 CFR 63.748 as required by CAA section 112(d)(6). Finally, the EPA has included these waste storage and handling operations in the risk assessment required under CAA section 112(f)(2).

First, the EPA has established standards for waste storage and handling operations under 40 CFR 63.744 and 63.748 that are already not subject to requirements under RCRA.

The provisions under 40 CFR 63.744(a)(1) and (a)(2) require that spent cleaning solvent and spent solvent-laden materials (*e.g.,* cloth or paper applicators) be stored in closed containers. The provisions under 40 CFR 63.744(a)(3) and 40 CFR 63.748 require that all handling and transfer of spent cleaning solvents or HAP containing wastes be done in a manner to minimize spills.

The provisions in 40 CFR 63.741(e) provide that ''All wastes that are determined to be hazardous wastes under the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580) (RCRA) as implemented by 40 CFR parts 260 and 261, and that are subject to RCRA requirements as implemented in 40 CFR parts 262 through 268'' are not subject to the requirements of subpart GG. The EPA included this provision so that the standards in subpart GG would not potentially require less stringent handling and storage of waste than the RCRA requirements. At the same time, the EPA made a determination that, for wastes subject to RCRA, no more stringent controls for HAP air emissions were achievable. The hazardous waste storage requirements implemented in the RCRA requirements represented the most stringent controls achievable.

However, the EPA recognizes that the inclusion of this language under 40 CFR 63.741(e) can lead to confusion over the materials and activities that are subject to the requirements of subpart GG, specifically 40 CFR 63.744(a) and 63.748. The EPA believes that some entities could read this provision as exempting from subpart GG all waste materials and activities that are eventually subject to RCRA even before they are placed in RCRA-covered containers for handling and storage, or before they are handled and stored according to RCRA requirements.

Therefore, the EPA is removing and reserving 40 CFR 63.741(e), and revising 40 CFR 63.744(a) and 63.748 to clarify the requirements for the handling and storage of spent solvents and other wastes relative to subpart GG and RCRA. The EPA is revising 40 CFR 63.744(a) to specify that fresh and spent cleaning solvents, and solvent-laden applicators that are not handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) must comply with the requirements in 40 CFR 63.744(a)(1) through (a)(4).

The EPA is revising 40 CFR 63.748 to specify that wastes that contain organic HAP from aerospace surface coating operation wastes from primer, topcoat, specialty coating, chemical milling maskant, and chemical depainting operations that are not handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC) must be handled and stored as follows:

(1) Conduct the handling and transfer of wastes that contain organic HAP to or from containers, tanks, vats, vessels, or piping systems in such a manner that minimizes spills during handling and transfer; and (2) store all waste that contains organic HAP in closed containers.

The EPA has determined that these changes will ensure that all spent solvents and other wastes that contain organic HAP that are generated from aerospace surface coating operations are handled and stored so that emissions are minimized through the application of MACT controls (*i.e.,* closed containers or closed transfer systems) either through the measures specified in subpart GG or because the spent solvent or waste handling is subject to regulation under RCRA, including the air emission control requirements in 40 CFR part 265, subpart CC. The EPA has included 40 CFR 63.748(b) to clarify the requirements for handling of waste and to ensure uniform handling of organic HAP containing materials and consistency among the requirements of 40 CFR 63.744(a), 63.748, and the regulations implementing RCRA. The EPA is also making this addition in order to be responsive to commenter's concerns that 40 CFR 64.748 did not satisfy the requirements of CAA section 112(d)(2); however, this provision reflects practices that are already employed by facilities to be compliant with 40 CFR 63.744(a) and the RCRA regulations. The EPA did not intend to exempt RCRA hazardous wastes from all waste storage and handling requirements of the rule. Our intention was for RCRA 40 CFR parts 262 through 268 to regulate the storage of RCRA wastes but also for 63.748 to require the handling and transfer of the waste to or from RCRA-controlled waste containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills and emissions from non-RCRA containers that may hold waste.

The EPA conducted a technology review of the standards for cleaning operations in 40 CFR 63.744, and the results of that review were included in the docket for the proposed rulemaking. In that technology review, the EPA concluded that there were no new developments in practices, processes, and control technologies for cleaning operations. Those controls of air emissions from cleaning operations (*i.e.,* the control of emissions from the handling and storage of spent solvent using closed containers and the housekeeping measures to minimize spills) are equally applicable to the storage and handling of waste. Therefore, the EPA concluded, at proposal, that there are no new developments in practices, processes, and control technologies for the requirements for cleaning operation or the handling and transfer of waste. However, as discussed in section IV.B.3 of this preamble, the EPA has also completed a separate technology review, since proposal, for the storage and handling of waste, and that technology review is in the docket for this rulemaking. The technology review for storage and handling of waste also concluded that there were no new developments in practices, processes, and control technologies for air emissions from waste storage and handling operations.

The EPA has also reviewed the requirements for the handling of waste under RCRA that would be applicable to RCRA wastes generated from aerospace surface coating operations, and the EPA has determined that there were no new developments in practices, processes, and control technologies for the handling of waste from surface coating operations beyond the current requirements in RCRA, including the air emission control requirements in 40 CFR part 265, subpart CC.

With respect to the question of whether the EPA included waste handling and storage in the risk assessment required by CAA section 112(f)(2), the risk assessment included data on emissions associated with waste handling operations. The EPA ICR that collected information in 2011 requested information from cleaning operations (including emissions from the handling and storage of spent cleaning solvent and solvent-laden materials) and information on emissions from any tanks associated with the cleaning, surface coating, or chemical depainting operations. These data encompass all of the potential sources of HAP emissions that would be associated with waste handling and storage associated with the cleaning operations or with other (non-cleaning) surface coating waste storage and handling. The EPA included these HAP emissions data in the inputs to the air quality modeling and risk assessment completed by the EPA in making the residual risk determination under CAA section 112(f)(2).

4. Rationale for Final Approach

For the reasons provided above in section IV.K.3 of this preamble, we are revising 40 CFR 63.744(a) and 63.748 to clarify the relationship between the requirements for the handling and storage of spent cleaning solvent and waste in subpart GG relative to the regulations implementing RCRA.

L. Technical Corrections to the Aerospace NESHAP

1. Technical Corrections Included in the Proposed Rule

The EPA proposed the following technical corrections to subpart GG:

- Revising 40 CFR 63.743(a)(2) to match the section title in 40 CFR 63.5.
- Revising 40 CFR 63.743(a)(8) to correct the reference to paragraph 63.6(i)(12)(iii)(B) by changing the ''(1)'' to an ''(i).''
- Revising 40 CFR 63.744(a) to correct and clarify the format of the reference to 40 CFR 63.744(a)(1) through (4).
- Correcting the ordering of 40 CFR 63.744(a)(3) and (4); currently paragraph (a)(4) is printed before (a)(3).
- Correcting the paragraph numbering for 40 CFR 63.746(b)(4)(ii)(C) by changing paragraph (C) from a lower case to upper case ''C.''
- Correcting the numbering of the tables in 40 CFR 63.745 to account for the proposed addition of Table 1 to that section to include specialty coating limits.
- Revising 40 CFR 63.749(d)(4) to correct the references to 40 CFR 63.749(d)(4)(i) through (d)(4)(iv) and (e).
- Revising 40 CFR 63.750(g)(6)(i) to remove the letters ''VR/FD'' that were inadvertently included.

The EPA did not receive any comments on these proposed changes. Therefore, these changes have been incorporated into the final rule as proposed.

2. Technical Corrections Included in the Final Rule

The public comments on the proposed rule included requests for the following technical corrections to subpart GG in addition to those discussed directly above:

One commenter recommended that the first full sentence of 40 CFR 63.753(c) should be revised to include specialty coating application operations to clarify that this section applies to specialty coating applications. The EPA agrees with this comment and is making this clarifying change.

One commenter requested that the EPA change the specialty coating category name for ''Corrosion Prevention System'' in Appendix A to subpart GG to ''Corrosion Prevention Compound'' to match the naming convention used in Table 1 to subpart GG. The EPA acknowledges this difference within subpart GG, but in the final rule is changing the name used in Table 1 to subpart GG to match the category definition in Appendix A to subpart GG because that definition specifically uses the word ''system,'' instead of ''compound,'' in the body of the definition.

One commenter noted that the EPA should state in 40 CFR 63.752(a) that facilities are not required to keep records in accordance with 40 CFR 63.10(d)(5), to be consistent with the removal of SSM requirements in 40 CFR 63.753(a) and Table 1 to subpart GG. The EPA agrees and has added 40 CFR 63.10(d)(5) to the list of paragraphs in 40 CFR 63.10 that do not apply.

One commenter noted that the term ''affected unit'' should be changed to ''affected source'' in 40 CFR 63.752(a)(1) to (3) for consistency with other sections of the rule. The EPA agrees and has made this change.

One commenter requested that the EPA clarify in the final rule if 40 CFR 63.10(b)(2)(vii) to (xiv) are applicable to the Aerospace NESHAP. The EPA acknowledges that in the version of Table 1 to subpart GG published in the **Federal Register** (80 FR 8438), the row for 40 CFR 63.10(b)(2)(vii) to (xiv) in the amended Table 1 to subpart GG was inadvertently left blank in the second column, and this should have been marked ''Yes'' that these requirements still apply. The amendments to Table 1 to subpart GG changed only certain elements in Table 1 and those changes, including those to 40 CFR 63.10(b), were explained in the preamble. Before the amendments, all of 40 CFR 63.10(b) applied to subpart GG. Sub-paragraphs 40 CFR 63.10(b)(2)(vii) to (xiv) are not being amended, and they still apply to subpart GG.

In the final rule, the EPA is also correcting 40 CFR 63.749(d)(3)(i) and (4)(i) to reference the applicable limits in 63.745(c). At 40 CFR 63.749(d)(3)(i) and (4)(i), the rule referenced only the single primer and topcoat limits that were promulgated in 1995 (60 FR 45948, September 1, 1995) and did not include the primer and topcoat limits that were added in 1998 (63 FR 46526, September 1, 1998) and 2000 (65 FR 76941, December 8, 2000). This change will resolve confusion over the applicable limits being referenced.

The EPA is also correcting several references to ''spray cans'' and replacing those references with ''non-refillable aerosol containers'' because that is the term used elsewhere in the rule. Similarly, the EPA is also correcting several references to ''painting operations'' and replacing them with ''surface coating operations.''

V. Summary of Cost, Environmental and Economic Impacts

A. What are the affected sources?

The EPA estimates, based on the responses to the 2011 ICR, that there are 144 major source facilities that are engaged in aerospace manufacturing and rework surface coating operations. Based on the responses to the 2011 ICR, the EPA estimates that 109 facilities likely would be affected by the final limits for specialty coatings and the requirements to use high-efficiency application equipment for specialty coatings.

B. What are the air quality impacts?

The EPA estimates that annual HAP emissions from specialty coatings are about 360 tpy; inorganic HAP emissions are about 5 tpy, and the remainder are organic HAP. The estimated emission reductions are 58 tons of HAP, which would be achieved from the regulation of specialty coatings. The EPA estimated that these emission reductions will result from the requirements to use high-efficiency application equipment and also from the application of the HAP content limits to specialty coatings.

C. What are the cost impacts?

The EPA estimates that the annual cost impacts will be about $590,000 per year for all affected facilities. The cost impacts are attributed to monitoring and recordkeeping costs for complying with the specialty coating HAP content limits. The cost per facility was estimated based on the number of specialty coatings used at each facility, as reported in the 2011 ICR. The costs are based on an assumption of 1 hour of technical labor for annual recordkeeping and reporting for each specialty coating used by a facility, plus additional management and clerical hours representing a fraction of the technical labor hours.

The EPA does not have sufficient data from the 2011 ICR to estimate the total cost impacts for specialty coatings having to comply with the proposed high-efficiency application equipment requirement. Because high-efficiency application equipment generates less coating overspray than conventional equipment, the costs of upgrading to new equipment can be offset by cost savings from reduced coating consumption and reduced spray booth filter maintenance. For these reasons, many facilities are likely to have already switched to high-efficiency application methods for specialty coating operations, as they are already required to for primer and topcoat application operations. For example, the average volume of specialty coatings used per facility is 3,000 gallons per year, based on the 2011 ICR data. The estimated purchase cost for a professional quality HVLP spray gun is $700 for the gun and hoses. If the average facility had to purchase three new spray guns, and the facility was spending an average of $30 per gallon of spray-applied coating, the facility would need to see a decrease in coating consumption of only 70 gallons per year (about a 3-percent reduction) to recover the initial cost of those three spray guns in 1 year.

The EPA expects some additional potential cost savings from the alternative compliance demonstration provision included in 40 CFR 63.750(c), (e), (k), and (m), but we do not have sufficient data to estimate the cost savings associated with the alternative compliance demonstration. However, for comparison, the estimated cost to perform an analysis of VOC content according to EPA Method 24, based on published vendor data, is about $575 per sample. The costs for an analysis of HAP content using EPA Method 311 are expected to be at least several times higher. Because the alternative compliance demonstration will allow facilities to use coating manufacturers' documentation of HAP or VOC content based on coating composition, the cost of these coating analyses using EPA Method 24 or 311 would be avoided.

The EPA's cost analyses are documented in the memorandum, *Methodology for Estimating Control Costs for Specialty Coating Operations in the Aerospace Source Category*, January 2014, in the docket for this rulemaking.

D. What are the economic impacts?

Economic impact analyses focus on changes in market prices and output levels. If changes in market prices and output levels in the primary markets are significant enough, impacts on other markets are also examined. Both the magnitude of costs needed to comply with the rule and the distribution of these costs among affected facilities can have a role in determining how the market will change in response to a rule.

This rule applies to the surface coating and related operations at facilities that are major sources and are engaged, either in part or in whole, in the manufacture or rework of commercial, civil or military aerospace vehicles or components. The final rule adds recordkeeping and reporting provisions for specialty coating operations but does not change the compliance costs for operations already being regulated by the existing emission standards. The annual costs were calculated for only the 109 aerospace manufacturing and rework facilities that reported having specialty coating operations.

The estimated annual costs for the final rule are less than $1 million in the first year and in succeeding years (less than $850,000 in the first year and less than $600,000 in succeeding years). These costs are estimated for the 109 facilities that, based on information reported by facilities, appear to have specialty coating operations. Thus, the average cost per facility is less than $10,000 per year. These costs are small compared to sales for the companies in aerospace manufacturing and reworking. For example, in 2012 the average annual value of shipments (a rough estimate of sales) for firms in the category of ‘‘other aircraft parts and auxiliary equipment manufacturing’’ was almost $50 million (Source: U.S. Census Bureau, 2012 Economic Census for NAICS 336413 for 2012). In this case, the cost-to-sales estimate will be approximately 0.02 percent of sales for each firm. Costs this small will not have significant market impacts, whether they are absorbed by the firm or passed on as price increases.

The EPA does not know of any firms that are small entities and using specialty coatings that are potentially subject to this final rule. Because no small firms face control costs, there is no significant impact on small entities. Therefore, these amendments will not have a significant impact on a substantial number of small entities.

E. What are the benefits?

We anticipate this rulemaking will reduce organic and inorganic HAP emissions by approximately 58 tons each year. These avoided emissions will result in improvements in air quality and reduced negative health effects associated with exposure to air pollution of these emissions.

This rulemaking is not an ‘‘economically significant regulatory action’’ under Executive Order 12866 because it is not likely to have an annual effect on the economy of $100 million or more. Therefore, we have not conducted a Regulatory Impact Analysis (RIA) for this rulemaking or a benefits analysis. While we expect that these avoided emissions will improve air quality and reduce health effects associated with exposure to air pollution associated with these emissions, we have not quantified or monetized the benefits of reducing these emissions for this rulemaking.

F. What analysis of environmental justice did we conduct?

The EPA is making environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations in the United States. The EPA has established policies regarding the integration of environmental justice into the agency’s rulemaking efforts, including recommendations for the consideration and conduct of analyses to evaluate potential environmental justice concerns during the development of a rule.

Following these recommendations, to gain a better understanding of the source category and near source populations, the EPA conducted a proximity analysis for aerospace manufacturing and rework facilities prior to proposal to identify any overrepresentation of minority, low income or indigenous populations. This analysis gives an indication of the prevalence of sub-populations that may be exposed to air pollution from the sources. Further details concerning this analysis are presented in the memorandum titled, *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Aerospace Facilities*, a copy of which is available in the dockets for this action. The results of the analysis were summarized in Table 3 of the proposed rule preamble (*see* 80 FR 8414, February 17, 2015).

The results of the Aerospace Manufacturing and Rework Facilities baseline risk assessment indicated that emissions from the source category expose approximately 180,000 people to a cancer risk at or above 1-in-1 million and no one was predicted to have a chronic non-cancer TOSHI greater than 1.

The baseline analysis indicated that the percentages of the population exposed to a cancer risk greater than or equal to 1-in-1 million and living within 50 kilometers (km) of the 144 aerospace facilities is higher for minority populations, 36 percent exposed, versus the national minority population average of 28 percent. The specific demographics of the population within 50 km of the facilities indicate potential disparities in certain demographic groups, including the ‘‘African American’’ and ‘‘Below the Poverty Level’’ groups. However, the EPA’s baseline analysis also showed that the estimated risks were within the ample margin of safety for all minority populations and low income populations. The EPA has also determined that the changes to this rule, which will reduce emissions of organic and inorganic HAP by 58 tpy, will lead to reduced risks to minority populations and low-income populations compared to the baseline analysis.

G. What analysis of children’s environmental health did we conduct?

As part of the health and risk assessments, as well as the proximity analysis conducted for this action, risks to infants and children were assessed. These analyses are documented in the *Residual Risk Assessment for the Aerospace Manufacturing and Rework Facilities Source Category in Support of the January, 2015 Risk and Technology Review*, and in the *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Aerospace Facilities*, which are available in the docket for this action.

The results of the proximity analysis show that children 17 years and younger as a percentage of the population in close proximity to aerospace manufacturing and rework facilities and with an estimated cancer risk greater than or equal to 1-in-1 million is similar to the percentage of the national population in this age group (26 percent versus 24 percent, respectively). The difference in the absolute number of percentage points of the population 17 years old and younger from the national average indicates a 2 percent over-representation near aerospace manufacturing and rework facilities. Consistent with the EPA’s

Policy on Evaluating Health Risks to Children,[5] we conducted inhalation and multipathway risk assessments for the Aerospace Manufacturing and Rework Facility source category considering risk to infants and children. Children are exposed to chemicals emitted to the atmosphere via two primary routes: Either directly via inhalation or indirectly via ingestion or dermal contact with various media that have been contaminated with the emitted chemicals. The EPA considers the possibility that children might be more sensitive than adults to toxic chemicals, including chemical carcinogens.

For each carcinogenic HAP included in this assessment that has a potency estimate available, individual and population cancer risks were calculated by multiplying the corresponding lifetime average exposure estimate by the appropriate unit risk estimate (URE). This calculated cancer risk is defined as the upper-bound probability of developing cancer over a 70-year period (*i.e.*, the assumed human lifespan) at that exposure. Because UREs for most HAP are upper-bound estimates, actual risks at a given exposure level may be lower than predicted, and could be zero.

For the EPA's list of carcinogenic HAP that act by a mutagenic mode-of-action, we applied the EPA's *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*.[6] This guidance has the effect of adjusting the URE by factors of 10 (for children aged 0-1), 3 (for children aged 2-15), or 1.6 (for 70 years of exposure beginning at birth), as needed in risk assessments. In this case, this has the effect of increasing the estimated lifetime risks for these pollutants by a factor of 1.6.

With regard to other carcinogenic pollutants for which early-life susceptibility data are lacking, it is the Agency's long-standing science policy position that use of the linear low-dose extrapolation approach (without further adjustment) provides adequate public health conservatism in the absence of chemical-specific data indicating differential early-life susceptibility or when the mode of action is not mutagenicity. The basis for this methodology is also provided in the 2005 Supplemental Guidance.

In the treatment of POM, the EPA expresses carcinogenic potency for compounds in this group in terms of benzo[a]pyrene equivalence, even though only a small fraction of the total POM emissions may be reported as individual compounds, based on evidence that carcinogenic POM have the same mutagenic mechanism of action as does benzo[a]pyrene. For this reason, the EPA implementation policy[7] recommends applying the *Supplemental Guidance* to all carcinogenic PAHs (a subset of POM) for which risk estimates are based on relative potency. Accordingly, we applied the *Supplemental Guidance* to all unspeciated POM mixtures.

Unlike linear dose-response assessments for cancer, non-cancer health hazards generally are not expressed as a probability of an adverse occurrence. Instead, hazard of non-cancer effects is expressed by comparing an exposure to a reference level as a ratio. The HQ is the estimated exposure divided by a reference level (*e.g.*, the reference concentration, RfC). For a given HAP, exposures at or below the reference level (HQ≤1) are not likely to cause adverse health effects. As exposures increase above the reference level (HQs increasingly greater than 1), the potential for adverse effects increases. For exposures predicted to be above the RfC, the risk characterization includes the degree of confidence ascribed to the RfC values for the compound(s) of concern (*i.e.*, high, medium, or low confidence) and discusses the impact of this on possible health interpretations. The reference levels used to determine the HQ's incorporate generally conservative uncertainty factors that account for effects in the most susceptible populations including all life stages (*e.g.*, infants and children).

For our multipathway screening assessment (*i.e.*, ingestion), we assessed risks for adults and various age groups of children. Children's exposures are expected to differ from exposures of adults due to differences in body weights, ingestion rates, dietary preferences and other factors. It is important, therefore, to evaluate the contribution of exposures during childhood to total lifetime risk using appropriate exposure factor values, applying age-dependent adjustment factors (ADAF) as appropriate. The EPA developed a health-protective exposure scenario whereby the receptor, at various life stages, receives ingestion exposure via both the farm food chain and the fish ingestion pathways.

Based on the analyses described above, the EPA has determined that the changes to this rule, which will reduce emissions of organic and inorganic HAP by 58 tpy, will lead to reduced risk to children and infants.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders*.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to the OMB under the PRA. The ICR document that the EPA prepared has been assigned EPA ICR number 1687.10. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information requirements in this rulemaking are based on the notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These notifications, reports, and records are essential in determining compliance, and are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to agency policies set forth in 40 CFR part 2, subpart B.

Respondents are owners or operators of aerospace manufacturing and rework operations. The rule adds recordkeeping and reporting provisions for specialty coating operations, but does not change the recordkeeping and reporting provisions for any other types of operations. Therefore, of the 144 aerospace manufacturing and rework facilities subject to the Aerospace NESHAP, the annual costs for increased

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[5] Policy on Evaluating Health Risks to Children, U.S. Environmental Protection Agency, Washington, DC. May 2014. Available at *http://www2.epa.gov/sites/production/files/2014-05/documents/1995_childrens_health_policy_statement.pdf*.

[6] Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens. Risk Assessment Forum, U.S. Environmental Protection Agency, Washington, DC. EPA/630/R–03/003F. March 2005. Available at *http://www.epa.gov/raf/publications/pdfs/childrens_supplement_final.pdf*.

[7] US EPA, 2005. Science Policy Council Cancer Guidelines Implementation Workgroup Communication I: Memo from W.H. Farland dated 4 October 2005 to Science Policy Council. *http://www.epa.gov/osa/spc/pdfs/canguid1.pdf*

recordkeeping and reporting apply to only the 109 aerospace manufacturing and rework facilities that reported having specialty coating operations. Respondents must keep records of the specialty coatings used at the facility, including the name and VOC content of the coating, the HAP and VOC emitted per gallon of coating and the monthly volume of each coating used. Respondents must also submit semiannual reports of noncompliance. Recordkeeping and reporting of monitored parameters related to air pollution control technologies are required if controls are used to demonstrate compliance with the standards. The reports and records will be used to determine compliance with the standards.

Respondents/affected entities: Aerospace manufacturing and rework facilities using specialty coatings.

Respondent's obligation to respond: Mandatory (40 CFR part 63, subpart GG).

Estimated number of respondents: 109 facilities using specialty coatings.

Frequency of response: Initially, occasionally and semiannually.

Total estimated burden: 6,914 hours (per year) for the responding facilities and 148 hours (per year) for the agency. These are estimates for the average annual burden for the first 3 years after the rule is final. Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $695,570 (per year), which includes no annualized capital or operation and maintenance costs, for the responding facilities and $8,740 (per year) for the agency. These are estimates for the average annual cost for the first 3 years after the rule is final.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. This action will not impose any costs on small entities. Although there are small entities subject to this final rule they are either not using specialty coatings or the specialty coatings they're using are already compliant with the limits in the rule. Therefore, no facilities meeting the Small Business Administration's definition of a small business will incur costs. The results of the economic impact analysis are summarized in section V.D of this preamble and can be found in the memorandum, *Economic Impact Analysis for National Emission Standards for Aerospace Manufacturing and Rework Facilities.* A copy of this memorandum is in the docket for this rulemaking. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in the UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. No tribal facilities are known to be engaged in the aerospace manufacturing or rework surface coating operations that would be affected by this action. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the document, *Residual Risk Assessment for the Aerospace Manufacturing and Rework Facilities Source Category in Support of the November 2015 Risk and Technology Review Final Rule,* which is available in the docket for this action, and are discussed in section V.G of this preamble.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

The final rule involves technical standards. The EPA is adding EPA Method 311 in the final rule to measure the organic HAP content of coatings subject to the rule. Consistent with the NTTAA, the EPA conducted a search to identify voluntary consensus standards (VCS) in addition to EPA Method 311. Two VCS were identified that were potentially applicable for EPA Method 311. These were American Society for Testing and Materials (ASTM) D6438 (1999)—Standard Test Method for Acetone, Methyl Acetate, and Parachlorobenzotrifluoride Content of Paints and Coatings by Solid Phase Microextraction-Gas Chromotography, and California Air Resources Board (CARB) Method 310—Determination of Volatile Organic Compounds in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products. The EPA decided not to use either of these VCS because both methods are impractical as alternatives to EPA Method 311 because they target chemicals that are VOC and are not HAP. The search and review results have been documented and are placed in the docket for this rulemaking.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it increases the level of environmental protection for all affected populations. A summary of the results of this evaluation are contained in section IV.A of this preamble and more detailed information is provided in the residual risk document, *Residual Risk Assessment for the Aerospace Manufacturing and Rework Facilities Source Category in Support of the November 2015 Risk and Technology Review Final Rule* in the docket for this rulemaking. A copy of this methodology and the results of the demographic analysis are included in a technical report, *Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Aerospace Facilities,* which may be found in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2014–0830).

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated: November 19, 2015.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, part 63 of title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart GG—National Emission Standards for Aerospace Manufacturing and Rework Facilities

■ 2. Section 63.741 is amended by:

■ a. Revising paragraph (c) introductory text.

■ b. Redesignating paragraphs (c)(4) through (7) as paragraphs (c)(5) through (8).

■ c. Adding paragraph (c)(4).

■ d. Revising newly redesignated paragraph (c)(8).

■ e. Removing and reserving paragraph (e).

■ f. Revising paragraphs (f) and (g).

The revisions and addition read as follows:

§ 63.741 Applicability and designation of affected sources.

* * * * *

(c) *Affected sources.* The affected sources to which the provisions of this subpart apply are specified in paragraphs (c)(1) through (8) of this section. The activities subject to this subpart are limited to the manufacture or rework of aerospace vehicles or components as defined in this subpart. Where a dispute arises relating to the applicability of this subpart to a specific activity, the owner or operator shall demonstrate whether or not the activity is regulated under this subpart.

* * * * *

(4) For organic HAP or VOC emissions, each specialty coating application operation, which is the total of all specialty coating applications at the facility.

* * * * *

(8) For inorganic HAP emissions, each spray booth, portable enclosure, or hangar that contains a primer, topcoat, or specialty coating application operation subject to § 63.745(g), or a depainting operation subject to § 63.746(b)(4).

* * * * *

(e) [Reserved]

(f) This subpart does not regulate research and development, quality control, and laboratory testing activities, chemical milling, metal finishing, electrodeposition (except for electrodeposition of paints), composites processing (except for cleaning and coating of composite parts or components that become part of an aerospace vehicle or component as well as composite tooling that comes in contact with such composite parts or components prior to cure), electronic parts and assemblies (except for cleaning and topcoating of completed assemblies), manufacture of aircraft transparencies, and wastewater operations at aerospace facilities. These requirements do not apply to the rework of aircraft or aircraft components if the holder of the Federal Aviation Administration (FAA) design approval, or the holder's licensee, is not actively manufacturing the aircraft or aircraft components. These requirements also do not apply to parts and assemblies not critical to the vehicle's structural integrity or flight performance. The requirements of this subpart do not apply to primers, topcoats, specialty coatings, chemical milling maskants, strippers, and cleaning solvents that meet the definition of non-HAP material, as determined from manufacturer's representations, such as in a material safety data sheet or product data sheet, or testing, except that if an owner or operator chooses to include one or more non-HAP primer, topcoat, specialty coating, or chemical milling maskant in averaging under § 63.743(d), then the recordkeeping requirements of § 63.752(c)(4) shall apply. The requirements of this subpart also do not apply to primers, topcoats, and specialty coatings that meet the definition of ''classified national security information'' in § 63.742. Additional specific exemptions from regulatory coverage are set forth in paragraphs (e), (g), (h), (i) and (j) of this section and §§ 63.742, 63.744(a)(1), (b), (e), 63.745(a), (f)(3), (g)(4), 63.746(a), (b)(5), 63.747(c)(3), and 63.749(d).

(g) The requirements for primers, topcoats, specialty coatings, and chemical milling maskants in §§ 63.745 and 63.747 do not apply to the use of low-volume coatings in these categories for which the annual total of each separate formulation used at a facility does not exceed 189 l (50 gal), and the combined annual total of all such primers, topcoats, specialty coatings, and chemical milling maskants used at a facility does not exceed 757 l (200 gal). Primers, topcoats, and specialty coatings exempted under paragraph (f) of this section and under § 63.745(f)(3) and (g)(4) are not included in the 50 and 200 gal limits. Chemical milling maskants exempted under § 63.747(c)(3) are also not included in these limits.

* * * * *

■ 3. Section 63.742 is amended by:

■ a. Adding a definition for ''Airless and air-assisted airless spray'' in alphabetical order.

■ b. Revising the definition for ''Chemical milling maskant''.

■ c. Adding a definition for ''Classified National Security Information'' in alphabetical order.

■ d. Revising the definition for ''Coating''.

■ e. Adding a definition for ''Non-HAP material'' in alphabetical order.

■ f. Revising the definition for ''Softener''.

■ g. Adding a definition for ''Spray-applied coating operation'' in alphabetical order.

■ h. Revising the definition for ''Stripper.''

The additions and revisions read as follows:

§ 63.742 Definitions.

* * * * *

Airless and air-assisted airless spray mean any coating spray application technology that relies solely on the fluid pressure of the coating to create an atomized coating spray pattern and does not apply any atomizing compressed air to the coating before it leaves the spray gun nozzle. Air-assisted airless spray uses compressed air to shape and distribute the fan of atomized coating, but still uses fluid pressure to create the atomized coating.

* * * * *

Chemical milling maskant means a coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or II etchants and any of the above types of maskants (*i.e.,* bonding, critical use and line sealer, and seal coat) are also not included in this definition. (*See* also Type I and Type II etchant definitions.)

* * * * *

Classified National Security Information means information that has been determined pursuant to Executive Order 13526, ''Classified National Security Information,'' December 29, 2009 or any successor order to require protection against unauthorized disclosure and is marked to indicate its classified status when in documentary form. The term ''Classified Information'' is an alternative term that may be used instead of ''Classified National Security Information.''

* * * * *

Coating means a material that is applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances; paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer; or pre-impregnated composite sheets are not considered coatings for the purposes of this subpart. Materials in handheld non-refillable aerosol containers, touch-up markers, and marking pens are also not considered coatings for the purposes of this subpart. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

* * * * *

Non-HAP material means, for the purposes of this subpart, a primer, topcoat, specialty coating, chemical milling maskant, cleaning solvent, or stripper that contains no more than 0.1 percent by mass of any individual organic HAP that is an Occupational Safety and Health Administration-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP.

* * * * *

Softener means a liquid that is applied to an aerospace vehicle or component to degrade coatings such as primers, topcoats, and specialty coatings specifically as a preparatory step to subsequent depainting by non-chemical based depainting equipment. Softeners may contain VOC but shall not contain any HAP as determined from MSDS's or manufacturer supplied information.

* * * * *

Spray-applied coating operation means coatings that are applied using a device that creates an atomized mist of coating and deposits the coating on a substrate. For the purposes of this subpart, spray-applied coatings do not include the following materials or activities:

(1) Coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters) in which no more than 3.0 fluid ounces of coating is applied in a single application (*i.e.,* the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component). Under this definition, the use of multiple small paint cups and the refilling of a small paint cup to spray apply more than 3.0 fluid ounces of a coating is a spray-applied coating operation. Under this definition, the use of a paint cup liner in a reusable holder or cup that is designed to hold a liner with a capacity of more than 3.0 fluid ounces is a spray-applied coating operation.

(2) Application of coating using powder coating, hand-held non-refillable aerosol containers, or non-atomizing application technology, including but not limited to paint brushes, rollers, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, marking pens, trowels, spatulas, daubers, rags, sponges, mechanically and/or pneumatic-driven syringes, and inkjet machines.

(3) Application of adhesives, sealants, maskants, caulking materials, and inks.

* * * * *

Stripper means a liquid that is applied to an aerospace vehicle or component to remove permanent coatings such as primers, topcoats, and specialty coatings.

* * * * *

■ 4. Section 63.743 is amended by:
■ a. Revising paragraphs (a)(2), (a)(8), and (a)(10).
■ b. Removing and reserving paragraph (b).
■ c. Revising paragraphs (d)(1), (2), and (3).
■ d. Removing and reserving paragraphs (d)(4) and (5).
■ e. Adding paragraph (e).

The revisions and addition read as follows:

§ 63.743 Standards: General.

(a) * * *

(2) § 63.5, Preconstruction review and notification requirements; and

* * * * *

(8) For the purposes of this subpart, each owner or operator is to be provided 30 calendar days to present additional information to the Administrator after he/she is notified of the intended denial of a compliance extension request submitted under either § 63.6(i)(4) or § 63.6(i)(5), rather than 15 calendar days as provided for in § 63.6(i)(12)(iii)(B) and § 63.6(i)(13)(iii)(B).

* * * * *

(10) For the purposes of compliance with the requirements of § 63.5(b)(4) of the General Provisions and this subpart, owners or operators of existing primer, topcoat, or specialty coating application operations and depainting operations who construct or reconstruct a spray booth or hangar that does not have the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined shall only be required to notify the Administrator of such construction or reconstruction on an annual basis. Notification shall be submitted on or before March 1 of each year and shall include the information required in §63.5(b)(4) for each such spray booth or hangar constructed or reconstructed during the prior calendar year, except that such information shall be limited to inorganic HAP. No advance notification or written approval from the Administrator pursuant to §63.5(b)(3) shall be required for the construction or reconstruction of such a spray booth or hangar unless the booth or hangar has the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined.

(b) [Reserved]

* * * * *

(d) * * *

(1) Each owner or operator of a new or existing source shall use any

combination of primers, topcoats (including self-priming topcoats), specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants such that the monthly volume-weighted average organic HAP and VOC contents of the combination of primers, topcoats, specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants, as determined in accordance with the applicable procedures set forth in § 63.750, complies with the specified content limits in §§ 63.745(c) and 63.747(c), unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(2) Averaging is allowed only for uncontrolled primers, topcoats (including self-priming topcoats), specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants.

(3) Averaging is not allowed between specialty coating types defined in Appendix A to this subpart, or between the different types of coatings specified in paragraphs (d)(3)(i) through (vii) of this section.

(i) Primers and topcoats (including self-priming topcoats).

(ii) Type I and Type II chemical milling maskants.

(iii) Primers and chemical milling maskants.

(iv) Topcoats and chemical milling maskants.

(v) Primers and specialty coatings.

(vi) Topcoats and specialty coatings.

(vii) Chemical milling maskants and specialty coatings.

(4) [Reserved]

(5) [Reserved]

* * * * *

(e) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

■ 5. Section 63.744 is amended by revising paragraph (a) introductory text to reads as follows:

§ 63.744 Standards: Cleaning operations.

(a) *Housekeeping measures*. Each owner or operator of a new or existing cleaning operation subject to this subpart shall comply with the requirements in paragraphs (a)(1) through (4) of this section unless the cleaning solvent used is identified in Table 1 of this section or meets the definition of ''Non-HAP material'' in 63.742. The requirements of paragraphs (a)(1) through (4) of this section do not apply to spent cleaning solvents, and solvent-laden applicators that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

* * * * *

■ 6. Section 63.745 is amended by:

■ a. Revising the section heading and paragraphs (a), (b), and (c) introductory text.

■ b. Redesignating tables 1 through 4 as tables 2 through 5.

■ c. Adding paragraphs (c)(5), (c)(6), and new Table 1.

■ d. Revising paragraphs (e) introductory text, (e)(1), (f) introductory text, (f)(1), (f)(2), (f)(3)(i), (f)(3)(ii), (f)(3)(iv), (f)(3)(v), and (f)(3)(vi).

■ e. Adding paragraphs (f)(3)(vii) and (f)(3)(viii).

■ f. Revising paragraphs (g) introductory text, (g)(1), (g)(2)(i)(A), (g)(2)(i)(C), (g)(2)(ii)(A), (g)(2)(ii)(B), (g)(2)(iii)(B), (g)(2)(iv)(C), (g)(2)(v), (g)(4)(ix), and (g)(4)(x).

■ g. Adding paragraph (g)(4)(xi).

The revisions and additions read as follows:

§ 63.745 Standards: Primer, topcoat, and specialty coating application operations.

(a) Each owner or operator of a new or existing primer, topcoat, or specialty coating application operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation), and in paragraph (d) of this section for those coatings that are controlled (organic HAP emissions from the operation are reduced by the use of a control device). Aerospace equipment that is no longer operational, intended for public display, and not easily capable of being moved is exempt from the requirements of this section.

(b) Each owner or operator shall conduct the handling and transfer of primers, topcoats, and specialty coatings to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels*. Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (6) of this section for those coatings that are uncontrolled.

* * * * *

(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1 of this section for each applicable specialty coating type.

(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1 of this section for each applicable specialty coating type.

TABLE 1—SPECIALTY COATINGS—HAP AND VOC CONTENT LIMITS

Coating Type	HAP Limit g/L (lb/gallon) [1]	VOC Limit g/L (lb/gallon) [1]
Ablative Coating	600 (5.0)	600 (5.0)
Adhesion Promoter	890 (7.4)	890 (7.4)
Adhesive Bonding Primers: Cured at 250°F or below	850 (7.1)	850 (7.1)
Adhesive Bonding Primers: Cured above 250°F	1030 (8.6)	1030 (8.6)
Commercial Interior Adhesive	760 (6.3)	760 (6.3)
Cyanoacrylate Adhesive	1,020 (8.5)	1,020 (8.5)
Fuel Tank Adhesive	620 (5.2)	620 (5.2)
Nonstructural Adhesive	360 (3.0)	360 (3.0)
Rocket Motor Bonding Adhesive	890 (7.4)	890 (7.4)
Rubber-based Adhesive	850 (7.1)	850 (7.1)

TABLE 1—SPECIALTY COATINGS—HAP AND VOC CONTENT LIMITS—Continued

Coating Type	HAP Limit g/L (lb/gallon) [1]	VOC Limit g/L (lb/gallon) [1]
Structural Autoclavable Adhesive	60 (0.5)	60 (0.5)
Structural Nonautoclavable Adhesive	850 (7.1)	850 (7.1)
Antichafe Coating	660 (5.5)	660 (5.5)
Bearing Coating	620 (5.2)	620 (5.2)
Caulking and Smoothing Compounds	850 (7.1)	850 (7.1)
Chemical Agent-Resistant Coating	550 (4.6)	550 (4.6)
Clear Coating	720 (6.0)	720 (6.0)
Commercial Exterior Aerodynamic Structure Primer	650 (5.4)	650 (5.4)
Compatible Substrate Primer	780 (6.5)	780 (6.5)
Corrosion Prevention System	710 (5.9)	710 (5.9)
Cryogenic Flexible Primer	645 (5.4)	645 (5.4)
Cryoprotective Coating	600 (5.0)	600 (5.0)
Dry Lubricative Material	880 (7.3)	880 (7.3)
Electric or Radiation-Effect Coating	800 (6.7)	800 (6.7)
Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	800 (6.7)	800 (6.7)
Elevated-Temperature Skydrol-Resistant Commercial Primer	740 (6.2)	740 (6.2)
Epoxy Polyamide Topcoat	660 (5.5)	660 (5.5)
Fire-Resistant (interior) Coating	800 (6.7)	800 (6.7)
Flexible Primer	640 (5.3)	640 (5.3)
Flight-Test Coatings: Missile or Single Use Aircraft	420 (3.5)	420 (3.5)
Flight-Test Coatings: All Other	840 (7.0)	840 (7.0)
Fuel-Tank Coating	720 (6.0)	720 (6.0)
High-Temperature Coating	850 (7.1)	850 (7.1)
Insulation Covering	740 (6.2)	740 (6.2)
Intermediate Release Coating	750 (6.3)	750 (6.3)
Lacquer	830 (6.9)	830 (6.9)
Bonding Maskant	1,230 (10.3)	1,230 (10.3)
Critical Use and Line Sealer Maskant	1,020 (8.5)	1,020 (8.5)
Seal Coat Maskant	1,230 (10.3)	1,230 (10.3)
Metallized Epoxy Coating	740 (6.2)	740 (6.2)
Mold Release	780 (6.5)	780 (6.5)
Optical Anti-Reflective Coating	750 (6.3)	750 (6.3)
Part Marking Coating	850 (7.1)	850 (7.1)
Pretreatment Coating	780 (6.5)	780 (6.5)
Rain Erosion-Resistant Coating	850 (7.1)	850 (7.1)
Rocket Motor Nozzle Coating	660 (5.5)	660 (5.5)
Scale Inhibitor	880 (7.3)	880 (7.3)
Screen Print Ink	840 (7.0)	840 (7.0)
Extrudable/Rollable/Brushable Sealant	280 (2.3)	280 (2.3)
Sprayable Sealant	600 (5.0)	600 (5.0)
Silicone Insulation Material	850 (7.1)	850 (7.1)
Solid Film Lubricant	880 (7.3)	880 (7.3)
Specialized Function Coating	890 (7.4)	890 (7.4)
Temporary Protective Coating	320 (2.7)	320 (2.7)
Thermal Control Coating	800 (6.7)	800 (6.7)
Wet Fastener Installation Coating	675 (5.6)	675 (5.6)
Wing Coating	850 (7.1)	850 (7.1)

[1] Coating limits for HAP are expressed in terms of mass (grams or pounds) of HAP per volume (liters or gallons) of coating less water. Coating limits for VOC are expressed in terms of mass (grams or pounds) of VOC per volume (liters or gallons) of coating less water and less exempt solvent.

* * * * *

(e) *Compliance methods.* Compliance with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (6) of this section shall be accomplished by using the methods specified in paragraphs (e)(1) and (2) of this section either by themselves or in conjunction with one another.

(1) Use primers, topcoats (including self-priming topcoats), and specialty coatings with HAP and VOC content levels equal to or less than the limits specified in paragraphs (c)(1) through (6) of this section; or

* * * * *

(f) *Application equipment.* Except as provided in paragraph (f)(3) of this section, each owner or operator of a new or existing primer, topcoat (including self-priming topcoat), or specialty coating application operation subject to this subpart in which any of the coatings contain organic HAP or VOC shall comply with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) All spray applied primers, topcoats (including self-priming topcoats), and specialty coatings shall be applied using one or more of the spray application techniques specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.

(i) High volume low pressure (HVLP) spraying;

(ii) Electrostatic spray application;

(iii) Airless spray application;

(iv) Air-assisted airless spray application; or

(v) Any other coating spray application methods that achieve emission reductions or a transfer efficiency equivalent to or better than HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application methods as determined according to the requirements in §63.750(i).

(2) All coating spray application devices used to apply primers, topcoats (including self-priming topcoats), or specialty coatings shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times. Spray application equipment modified by the facility shall maintain a transfer efficiency equivalent to HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application techniques.

(3) * * *

(i) Any situation that normally requires an extension on the spray gun to properly reach limited access spaces;

(ii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns;

* * * * *

(iv) The use of airbrush application methods for stenciling, lettering, and other identification markings, and the spray application of no more than 3.0 fluid ounces of coating in a single application (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under the requirements of this paragraph is prohibited. If a paint cup liner is used in a reusable holder or cup, then the holder or cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, a 3.0 ounce liner cannot be used in a holder that can also be used with a 6.0 ounce liner under the requirements of this paragraph;

(v) The use of hand-held non-refillable aerosol containers;

(vi) Touch-up and repair operations;

(vii) Adhesives, sealants, maskants, caulking materials, and inks; and

(viii) The application of coatings that contain less than 20 grams of VOC per liter of coating.

(g) *Inorganic HAP emissions*. Except as provided in paragraph (g)(4) of this section, each owner or operator of a new or existing primer, topcoat, or specialty coating application operation subject to this subpart in which any of the coatings that are spray-applied (as defined in §63.742) and contain inorganic HAP, shall comply with the applicable requirements in paragraphs (g)(1) through (3) of this section.

(1) Apply these coatings in a booth, hangar, or portable enclosure in which air flow is directed downward onto or across the part or assembly being coated and exhausted through one or more outlets.

(2) * * *

(i) * * *

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 2 and 3 of this section; or

TABLE 2—TWO-STAGE ARRESTOR; LIQUID PHASE CHALLENGE FOR EXISTING SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>5.7
>50	>4.1
>10	>2.2

TABLE 3—TWO-STAGE ARRESTOR; SOLID PHASE CHALLENGE FOR EXISTING SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>8.1
>50	>5.0
>10	>2.6

* * * * *

(C) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 2 and 3 of this section and is approved by the permitting authority.

(ii) * * *

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 4 and 5 of this section; or

TABLE 4—THREE-STAGE ARRESTOR; LIQUID PHASE CHALLENGE FOR NEW SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>95	>2.0
>80	>1.0
>65	>0.42

TABLE 5—THREE-STAGE ARRESTOR; SOLID PHASE CHALLENGE FOR NEW SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>95	>2.5
>85	>1.1
>75	>0.70

(B) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 4 and 5 of this section and is approved by the permitting authority.

(iii) * * *

(B) If the primer, topcoat, or specialty coating contains chromium or cadmium, control shall consist of a HEPA filter system, three-stage filter system, or other control system equivalent to the three-stage filter system as approved by the permitting agency.

(iv) * * *

(C) Continuously monitor the pressure drop across the filter and read and record the pressure drop once per shift, or install an interlock system that will automatically shut down the coating spray application system if the pressure drop exceeds or falls below the filter manufacturer's recommended limit(s); and

* * * * *

(v) If a conventional waterwash system is used, continuously monitor the water flow rate and read and record the water flow rate once per shift, or install an interlock system that will automatically shut down the coating spray application system if the water flow rate falls below or exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures. If a pumpless system is used, continuously monitor the booth parameter(s) that indicate performance of the booth per the manufacturer's recommendations to maintain the booth within the acceptable operating efficiency range and read and record the parameters once per shift, or install an interlock system that will automatically shut down the coating spray application system if the booth parameters are outside the parameter range in the manufacturer's recommendations.

* * * * *

(4) * * *

(ix) Spray application of primers, topcoats, and specialty coatings in an area identified in a title V permit, where the permitting authority has determined that it is not technically feasible to spray apply coatings to the parts in a booth;

(x) The use of hand-held non-refillable aerosol containers; and

(xi) The spray application of no more than 3.0 fluid ounces of coating in a single application (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under the requirements of this paragraph is prohibited. If a paint cup liner is used in a reusable holder or cup, then the holder or cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, under the requirements of this paragraph, a 3.0 ounce liner cannot be used in a holder that can also be used with a 6.0 ounce liner.

■ 7. Section 63.746 is amended by:

■ a. Revising paragraphs (b)(4)(ii)(A) and (B).

■ b. Redesignating the first paragraph (c) (beginning ''Owners or operators of new sources . . .'') as paragraph (b)(4)(ii)(C).

The revisions read as follows:

§ 63.746 Standards: Depainting operations.

(b) * * *

(4) * * *

(ii)(A) For existing sources, pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system, certified using the method described in § 63.750(o) to meet or exceed the efficiency data points in Tables 2 and 3 of § 63.745, through a baghouse, or through a waterwash system before exhausting it to the atmosphere.

(B) For new sources, pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system certified using the method described in § 63.750(o) to meet or exceed the efficiency data points in Tables 4 and 5 of § 63.745 or through a baghouse before exhausting it to the atmosphere.

* * * * *

■ 8. Section 63.748 is revised to read as follows:

§ 63.748 Standards: Handling and storage of waste.

(a) The owner or operator of each facility subject to this subpart that produces a waste that contains organic HAP from aerospace primer, topcoat, specialty coating, chemical milling maskant, or chemical depainting operations must be handled and stored as specified in paragraph (a)(1) or (a)(2) of this section. The requirements of paragraphs (a)(1) and (a)(2) of this section do not apply to spent wastes that contain organic HAP that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

(1) Conduct the handling and transfer of the waste to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(2) Store all waste that contains organic HAP in closed containers.

(b) [Reserved]

■ 9. Section 63.749 is amended by:

■ a. Revising paragraphs (a), (b), the heading for paragraph (d), paragraphs (d)(3) introductory text, (d)(3)(i), (d)(4) introductory text, (d)(4)(i), (d)(4)(iii)(A), (d)(4)(iii)(B), (e) introductory text, and (h)(3) introductory text.

■ b. Adding new paragraph (j).

The revisions and additions read as follows:

§ 63.749 Compliance dates and determinations.

(a) *Compliance dates*. (1) Each owner or operator of an existing affected source subject to this subpart shall comply with the requirements of this subpart by September 1, 1998, except as specified in paragraphs (a)(2) and (3) of this section. Owners or operators of new affected sources subject to this subpart shall comply on the effective date or upon startup, whichever is later. In addition, each owner or operator shall comply with the compliance dates specified in § 63.6(b) and (c) as indicated in Table 1 to this subpart.

(2) Owners or operators of existing primer, topcoat, or specialty coating application operations and depainting operations who construct or reconstruct a spray booth or hangar must comply with the new source requirements for inorganic HAP specified in §§ 63.745(g)(2)(ii) and 63.746(b)(4) for that new spray booth or hangar upon startup. Such sources must still comply with all other existing source requirements by September 1, 1998.

(3) Each owner or operator of a specialty coating application operation that begins construction or reconstruction after February 17, 2015 shall be in compliance with the requirements of this subpart on December 7, 2015 or upon startup, whichever is later. Each owner or operator of a specialty coating application operation that is existing on February 17, 2015 shall be in compliance with the requirements of this subpart on or before December 7, 2018.

(b) *General*. Each facility subject to this subpart shall be considered in noncompliance if the owner or operator uses a control device, other than one specified in this subpart, that has not been approved by the Administrator, as required by § 63.743(c).

* * * * *

(d) *Organic HAP and VOC content levels—primer, topcoat, and specialty coating application operations*— * * *

* * * * *

(3) The primer application operation is considered in compliance when the conditions specified in paragraphs (d)(3)(i) through (d)(3)(iv) of this section, as applicable, and in paragraph (e) of this section are met. Failure to meet any one of the conditions identified in these paragraphs shall constitute noncompliance. The compliance demonstration for a primer may be based on the organic HAP content or the VOC content of the primer; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a primer contains HAP solvents that are exempt from the definition of VOC in § 63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

(i) For all uncontrolled primers, all values of H_i and H_a (as determined using the procedures specified in § 63.750(c) and (d)) are less than or equal to the applicable HAP content limit in §63.745(c)(1), and all values of G_i and G_a (as determined using the procedures specified in § 63.750(e) and (f)) are less than or equal to the applicable VOC content limit in § 63.745(c)(2).

* * * * *

(4) The topcoat or specialty coating application operation is considered in compliance when the conditions specified in paragraphs (d)(4)(i) through (d)(4)(iv) of this section, as applicable, and in paragraph (e) of this section are met. Failure to meet any of the conditions identified in these paragraphs shall constitute noncompliance.

(i) The topcoat application operation is considered in compliance when the conditions specified in paragraph (d)(4)(i)(A) of this section are met. The specialty coating application operation is considered in compliance when the conditions specified in paragraph (d)(4)(i)(B) are met. The compliance demonstration for a topcoat or a specialty coating may be based on the organic HAP content or the VOC content of the coating; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a topcoat or specialty coating contains HAP solvents that are exempt from the definition of VOC in § 63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

(A) For all uncontrolled topcoats, all values of H_i and H_a (as determined using the procedures specified in § 63.750(c) and (d)) are less than or equal to the applicable HAP content limit in § 63.745(c)(3), and all values of G_i and G_a (as determined using the procedures specified in § 63.750(e) and (f)) are less than or equal to the applicable VOC content limit in § 63.745(c)(4).

(B) For all uncontrolled specialty coatings, all values of H_i and H_a (as determined using the procedures specified in § 63.750(c) and (d)) are less than or equal to the HAP content limits specified in Table 1 to § 63.745 for the applicable specialty coating types (less water) as applied, and all values of G_i and G_a (as determined using the procedures specified in § 63.750(e) and (f)) are less than or equal to the VOC content limits specified in Table 1 to § 63.745 for the applicable specialty coating types (less water and exempt solvents) as applied.

* * * * *

(iii)(A) Uses an application technique specified in § 63.745(f)(1)(i) through (f)(1)(iv); or

(B) Uses an alternative application technique, as allowed under § 63.745(f)(1)(v), such that the emissions of both organic HAP and VOC for the implementation period of the alternative application method are less than or equal to the emissions generated using HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application methods, as determined using the procedures specified in § 63.750(i).

* * * * *

(e) *Inorganic HAP emissions—primer, topcoat, and specialty coating application operations.* For each primer, topcoat, or specialty coating application operation that emits inorganic HAP, the operation is in compliance when:

* * * * *

(h) * * *

(3) The chemical milling maskant application operation is considered in compliance when the conditions specified in paragraphs (i)(3)(i) and (ii) of this section are met. The compliance demonstration for a chemical milling maskant may be based on the organic HAP content or the VOC content of the chemical milling maskant; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a chemical milling maskant contains HAP solvents that are exempt from the definition of VOC in § 63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

* * * * *

(j) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the Administrator or an applicable subpart. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

■ 10. Section 63.750 is amended by revising paragraphs (c) introductory text, (c)(2), (d) introductory text, (d)(1)(iii), (e) introductory text, (f) introductory text, (f)(1)(iii), (i)(1), (i)(2)(i), (i)(2)(iii), (i)(3) introductory text, (k) introductory text, (m) introductory text, and (o) to read as follows:

§ 63.750 Test methods and procedures.

* * * * *

(c) *Organic HAP content level determination—compliant primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings complying with the primer, topcoat, or specialty coating organic HAP content limits specified in § 63.745(c) without being averaged, the procedures in paragraphs (c)(1) through (3) of this section shall be used to determine the mass of organic HAP emitted per volume of coating (less water) as applied. As an alternative to the procedures in paragraphs (c)(1) through (3) of this section, an owner or operator may use the coating manufacturer's supplied data to demonstrate that organic HAP emitted per volume of coating (less water), as applied, is less than or equal to the applicable organic HAP limit specified in § 63.745(c). Owners and operators that use the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating may add non-HAP solvent to those coatings provided that the owner or operator also maintains records of the non-HAP solvent added to the coating.

* * * * *

(2) For each coating formulation as applied, determine the organic HAP weight fraction, water weight fraction (if applicable), and density from manufacturer's data. If the value for organic HAP weight fraction cannot be determined using the manufacturer's data, the owner or operator shall use Method 311 of 40 CFR part 63, appendix A, or submit an alternative procedure for determining the value for approval by the Administrator. If the values for water weight fraction (if applicable) and density cannot be determined using the manufacturer's data, the owner or operator shall submit an alternative procedure for determining their values for approval by the Administrator. Recalculation is required only when a change occurs in the coating formulation. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 311 analysis, compliance shall be based on the results from the Method 311 analysis.

* * * * *

(d) *Organic HAP content level determination—averaged primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings that are averaged together in order to comply with the primer, topcoat, and specialty coating organic HAP content limits specified in § 63.745(c), the following procedure shall be used to determine the monthly volume-weighted average mass of organic HAP emitted per volume of coating (less water) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) * * *

(iii) Manufacturer's formulation data may be used to determine the total organic HAP content of each coating and any ingredients added to the coating prior to its application. If the total organic HAP content cannot be determined using the manufacturer's data, the owner or operator shall use Method 311 of 40 CFR part 63, appendix A for determining the total organic HAP weight fraction, or shall submit an alternative procedure for determining the total organic HAP weight fraction for approval by the Administrator. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 311 analysis, compliance shall be based on the results from the Method 311 analysis.

* * * * *

(e) *VOC content level determination—compliant primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings complying with the primer, topcoat, and specialty coating VOC content levels specified in § 63.745(c) without being averaged, the procedures in paragraphs (e)(1) through (3) of this section shall be used to determine the mass of VOC emitted per volume of coating (less water and exempt solvents) as applied. As an alternative to the procedures in paragraphs (e)(1) through (3) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that VOC emitted per volume of coating (less water and exempt solvents), as applied, is less than or equal to the applicable VOC limit specified in § 63.745(c).

* * * * *

(f) *VOC content level determination—averaged primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings that are averaged within their respective coating category in order to comply with the primer, topcoat, and specialty coating VOC content limits specified in § 63.745(c)(2), (c)(4), and (c)(6), the following procedure shall be used to determine the monthly volume-weighted average mass of VOC emitted per volume of coating (less water and exempt solvents) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) * * *

(iii) Determine the VOC content of each primer, topcoat, and specialty coating formulation (less water and exempt solvents) as applied using EPA Method 24 or from manufacturer's data.

* * * * *

(i)(1) *Alternative application method—primers, topcoats, and specialty coatings.* (i) Each owner or operator seeking to use an alternative application method (as allowed in § 63.745(f)(1)(v)) in complying with the standards for primers and topcoats shall use the procedures specified in paragraphs (i)(2)(i) and (ii) or (i)(2)(iii) of this section to determine the organic HAP and VOC emission levels of the alternative application technique as compared to either HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods.

(ii) For specialty coatings, an owner or operator may use any other coating application method capable of achieving emission reductions or a transfer efficiency equivalent to or better than that provided by HVLP, electrostatic spray, air-assisted airless, or airless application. Any owner or operator using an application method pursuant to this paragraph (i)(2)(ii) shall maintain records demonstrating the transfer efficiency achieved.

(2)(i) For the process or processes for which the alternative application method is to be used, the total organic HAP and VOC emissions shall be determined for an initial 30-day period, the period of time required to apply coating to five completely assembled aircraft, or a time period approved by the permitting agency. During this initial period, only HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods shall be used. The emissions shall be determined based on the volumes, organic HAP contents (less water), and VOC contents (less water and exempt solvents) of the coatings as applied.

* * * * *

(iii) Test the proposed application method against either HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods in a laboratory or pilot production area, using parts and coatings representative of the process(es) where the alternative method is to be used. The laboratory test will use the same part configuration(s) and the same number of parts for both the proposed method and the HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods.

* * * * *

(3) Each owner or operator seeking to demonstrate that an alternative application method achieves emission reductions equivalent to HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods shall comply with the following:

* * * * *

(k) *Organic HAP content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant organic HAP content limit specified in § 63.747(c)(1) without being averaged, the procedure in paragraph (k)(1) of this section shall be used to determine the mass of organic HAP emitted per unit volume of coating (chemical milling maskant) i as applied (less water), H_i (lb/gal). As an alternative to the procedures in paragraph (k)(1) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that organic HAP emitted per volume of coating (less water), as applied, is less than or equal to the applicable organic HAP limit specified in § 63.747(c). Owners and operators that use the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating may add non-HAP solvent to those coatings provided that the owner or operator also maintains records of the non-HAP solvent added to the coating.

* * * * *

(m) *VOC content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant VOC content limit specified in § 63.747(c)(2) without being averaged, the procedure specified in paragraphs (m)(1) and (2) of this section shall be used to determine the mass of VOC emitted per volume of chemical milling maskant (less water and exempt solvents) as applied. As an alternative to the procedures in paragraphs (m)(1) and (2) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that VOC emitted per volume of coating (less water and exempt solvents), as applied, is less than or equal to the applicable VOC limit specified in § 63.747(c).

* * * * *

(o) *Inorganic HAP emissions—dry particulate filter certification requirements.* Dry particulate filters used to comply with §§ 63.745(g)(2) or 63.746(b)(4) must be certified by the filter manufacturer or distributor, paint/depainting booth supplier, and/or the facility owner or operator using method 319 in appendix A of this part, to meet or exceed the efficiency data points found in Tables 2 and 3, or 4 and 5 of § 63.745 for existing or new sources respectively.

■ 11. Section 63.751 is amended by revising paragraph (c) to read as follows:

§ 63.751 Monitoring requirements.

* * * * *

(c) *Dry particulate filter, HEPA filter, and waterwash systems—primer, topcoat, and specialty coating application operations.* (1) Each owner or operator using a dry particulate filter system to meet the requirements of § 63.745(g)(2) shall, while primer, topcoat, and specialty coating application operations are occurring, continuously monitor the pressure drop across the system and read and record the pressure drop once per shift following the recordkeeping requirements of § 63.752(d), or install an interlock system as specified in § 63.745(g)(2)(iv)(C).

(2) Each owner or operator using a conventional waterwash system to meet the requirements of § 63.745(g)(2) shall, while primer or topcoat application operations are occurring, continuously monitor the water flow rate through the system and read and record the water flow rate once per shift following the recordkeeping requirements of § 63.752(d), or install an interlock system as specified in § 63.745(g)(2)(v). Each owner or operator using a pumpless waterwash system to meet the requirements of § 63.745(g)(2) shall, while primer, topcoat, and specialty coating application operations are occurring, measure and record the parameter(s) recommended by the booth manufacturer that indicate booth performance once per shift, following the recordkeeping requirements of § 63.752(d), or install an interlock system as specified in § 63.745(g)(2)(v).

* * * * *

■ 12. Section 63.752 is amended by revising paragraphs (a), (c) introductory text, (c)(1), (c)(2) introductory text, (c)(4) introductory text, (c)(5) introductory text, (c)(6) introductory text, the heading of paragraph (d), and paragraphs (d)(1) and (f) introductory text to read as follows:

§ 63.752 Recordkeeping requirements.

(a) *General*. Each owner or operator of a source subject to this subpart shall fulfill all recordkeeping requirements specified in § 63.10(a), (b), (d), and (f), except § 63.10(b)(2)(i), (iv) and (v). Each owner or operator must also record and maintain according to § 63.10(b)(1) the information specified in paragraph (a)(1) through (3) of this section.

(1) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, and duration of each failure.

(2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with § 63.743(e), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

* * * * *

(c) *Primer, topcoat, and specialty coating application operations—organic HAP and VOC*. Each owner or operator required to comply with the organic HAP and VOC content limits specified in § 63.745(c) shall record the information specified in paragraphs (c)(1) through (6) of this section, as appropriate. Each owner and operator using coating manufacturer's supplied data to demonstrate compliance with the applicable organic HAP or VOC limit specified in § 63.745(c) may retain the manufacturer's documentation and annual purchase records in place of the records specified in paragraphs (c)(2) and (3) of this section. Owners and operators using the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating, and adding non-HAP solvent to those coatings, must also maintain records of the non-HAP solvent added to the coating.

(1) The name and VOC content as received and as applied of each primer, topcoat, and specialty coating used at the facility.

(2) For uncontrolled primers, topcoats, and specialty coatings that meet the organic HAP and VOC content limits in § 63.745(c)(1) through (c)(6) without averaging:

* * * * *

(4) For primers, topcoats, and specialty coatings complying with the organic HAP or VOC content level by averaging:

* * * * *

(5) For primers, topcoats, and specialty coatings that are controlled by a control device other than a carbon adsorber:

* * * * *

(6) For primers, topcoats, and specialty coatings that are controlled by a carbon adsorber:

* * * * *

(d) *Primer, topcoat, and specialty coating application operations—inorganic HAP emissions*. (1) Each owner or operator complying with § 63.745(g) for the control of inorganic HAP emissions from primer, topcoat, and specialty coating application operations through the use of a dry particulate filter system or a HEPA filter system shall record the pressure drop across the operating system once each shift during which coating operations occur.

* * * * *

(f) *Chemical milling maskant application operations*. Each owner or operator seeking to comply with the organic HAP and VOC content limits for the chemical milling maskant application operation, as specified in § 63.747(c), or the control system requirements specified in § 63.747(d), shall record the information specified in paragraphs (f)(1) through (4) of this section, as appropriate. Each owner and operator using coating manufacturer's supplied data to demonstrate compliance with the applicable organic HAP or VOC limit specified in § 63.747(c) may retain the manufacturer's documentation and annual purchase records in place of the records specified in paragraph (f)(1) of this section. Owners and operators using the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating, and adding non-HAP solvent to those coatings, must also maintain records of the non-HAP solvent added to the coating.

■ 13. Section 63.753 is amended by:

■ a. Revising paragraphs (a)(1) introductory text and (a)(2).

■ b. Adding paragraphs (a)(4) and (5).

■ c. Revising paragraphs (c) introductory text, (c)(1)(i), (c)(1)(ii), and (e)(1).

■ d. Adding paragraph (f).

The revisions and additions read as follows:

§ 63.753 Reporting requirements.

(a)(1) Except as provided in paragraphs (a)(2) through (5) of this section, each owner or operator subject to this subpart shall fulfill the requirements contained in § 63.9(a) through (e) and (h) through (j), Notification requirements, and § 63.10(a), (b), (d), and (f), Recordkeeping and reporting requirements, of the General Provisions, 40 CFR part 63, subpart A, and that the initial notification for existing sources required in § 63.9(b)(2) shall be submitted not later than September 1, 1997, or as specified in § 63.9(b)(2). In addition to the requirements of § 63.9(h), the notification of compliance status shall include:

* * * * *

(2) The initial notification for existing sources, required in § 63.9(b)(2) shall be submitted no later than September 1, 1997, or as specified in § 63.9(b)(2). For the purposes of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under § 63.9(b)(2), provided the same information is contained in the permit application as required by § 63.9(b)(2), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall

be submitted by the same due dates as those specified for the initial notifications.

* * * * *

(4) Each owner or operator subject to this subpart is not required to comply with § 63.10(b)(2)(i), (b)(2)(iv), (b)(2)(v), and (d)(5).

(5) If a source fails to meet an applicable standard specified in §§ 63.744 through 63.748, report such events in the semiannual report:

(i) The number of failures to meet an applicable standard.

(ii) For each instance, report the date, time, and duration of each failure.

(iii) For each failure the report must include a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

* * * * *

(c) *Primer, topcoat, and specialty coating application operations.* Each owner or operator of a primer or topcoat application operation subject to this subpart shall submit the following information:

(1) * * *

(i) For primers, topcoats, and specialty coatings where compliance is not being achieved through the use of averaging or a control device, the HAP or VOC content in manufacturer's supplied data as recorded under § 63.752(c), or each value of H_i and G_i, as recorded under § 63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in § 63.745(c);

(ii) For primers, topcoats, and specialty coatings where compliance is being achieved through the use of averaging, each value of H_a and G_a, as recorded under § 63.752(c)(4)(i), that exceeds the applicable organic HAP or VOC content limit specified in § 63.745(c);

* * * * *

(e) * * *

(1) For chemical milling maskants where compliance is not being achieved through the use of averaging or a control device, the HAP or VOC content in manufacturer's supplied data as recorded under § 63.752(f), or each value of H_i and G_i, as recorded under § 63.752(f)(1)(i), that exceeds the applicable organic HAP or VOC content limit specified in § 63.747(c);

* * * * *

(f) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests following the procedure specified in either paragraph (f)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*)). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (f).

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

■ 14. Revise table 1 to subpart GG of part 63 to read as follows:

TABLE 1 TO SUBPART GG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GG

Reference	Applies to affected sources in subpart GG	Comment
63.1(a)(1)	Yes.	
63.1(a)(2)	Yes.	
63.1(a)(3)	Yes.	
63.1(a)(4)	Yes.	
63.1(a)(5)	No	Reserved.
63.1(a)(6)	Yes.	
63.1(a)(7)	Yes.	
63.1(a)(8)	Yes.	
63.1(a)(9)	No	Reserved.
63.1(a)(10)	Yes.	
63.1(a)(11)	Yes.	
63.1(a)(12)	Yes.	
63.1(a)(13)	Yes.	
63.1(a)(14)	Yes.	
63.1(b)(1)	Yes.	
63.1(b)(2)	Yes.	
63.1(b)(3)	Yes.	
63.1(c)(1)	Yes.	
63.1(c)(2)	Yes	Subpart GG does not apply to area sources.
63.1(c)(3)	No	Reserved.
63.1(c)(4)	Yes.	
63.1(c)(5)	Yes.	
63.1(d)	No	Reserved.
63.1(e)	Yes.	
63.2	Yes.	

TABLE 1 TO SUBPART GG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GG—Continued

Reference	Applies to affected sources in subpart GG	Comment
63.3	Yes.	
63.4(a)(1)	Yes.	
63.4(a)(2)	Yes.	
63.4(a)(3)	Yes.	
63.4(a)(4)	No	Reserved.
63.4(a)(5)	Yes.	
63.4(b)	Yes.	
63.4(c)	Yes.	
63.5(a)	Yes.	
63.5(b)(1)	Yes.	
63.5(b)(2)	No	Reserved.
63.5(b)(3)	Yes.	
63.5(b)(4)	Yes.	
63.5(b)(5)	Yes.	
63.5(b)(6)	Yes.	
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes.	
63.5(d)(1)(ii)(A)–(H)	Yes.	
63.5(d)(1)(ii)(I)	No	Reserved.
63.5(d)(1)(ii)(J)	Yes.	
63.5(d)(1)(iii)	Yes.	
63.5(d)(2)–(4)	Yes.	
63.5(e)	Yes.	
63.5(f)	Yes.	
63.6(a)	Yes.	
63.6(b)(1)–(5)	Yes	§ 63.749(a) specifies compliance dates for new sources.
63.6(b)(6)	No	Reserved.
63.6(b)(7)	Yes.	
63.6(c)(1)	Yes.	
63.6(c)(2)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(c)(3)–(4)	No	Reserved.
63.6(c)(5)	Yes.	
63.6(d)	No	Reserved.
63.6(e)(1)(i)	No	*See* § 63.743(e) for general duty requirement.
63.6(e)(1)(ii)	No.	
63.6(e)(2)	No	Section reserved.
63.6(e)(3)	No.	
63.6(f)(1)	No.	
63.6(f)(2)–(f)(3)	Yes.	
63.6(g)	Yes.	
63.6(h)	No	The standards in subpart GG do not include opacity standards.
63.6(i)(1)–(3)	Yes.	
63.6(i)(4)(i)(A)	Yes.	
63.6(i)(4)(i)(B)	No	§ 63.743(a)(4) specifies that requests for extension of compliance must be submitted no later than 120 days before an affected source's compliance date.
63.6(i)(4)(ii)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(i)(5)–(12)	Yes.	
63.6(i)(13)	Yes.	
63.6(i)(14)	Yes.	
63.6(i)(15)	No	Reserved.
63.6(i)(16)	Yes.	
63.6(j)	Yes.	
63.7(a)(1)	Yes.	
63.7(a)(2)(i)–(vi)	Yes.	
63.7(a)(2)(vii)–(viii)	No	Reserved.
63.7(a)(2)(ix)	Yes.	
63.7(a)(3)	Yes.	
63.7(b)	Yes.	
63.7(c)	Yes.	
63.7(d)	Yes.	
63.7(e)(1)	No	*See* § 63.749(j).
63.7(e)(2)–(4)	Yes.	
63.7(f)	Yes.	
63.7(g)(1)	Yes.	
63.7(g)(2)	No	Reserved.
63.7(g)(3)	Yes.	
63.7(h)	Yes.	
63.8(a)(1)–(2)	Yes.	

TABLE 1 TO SUBPART GG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GG—Continued

Reference	Applies to affected sources in subpart GG	Comment
63.8(a)(3)	No	Reserved.
63.8(a)(4)	Yes.	
63.8(b)	Yes.	
63.8(c)(1)(i)	No.	
63.8(c)(1)(ii)	Yes.	
63.8(c)(1)(iii)	No.	
63.8(c)(2)–(d)(2)	Yes.	
63.8(d)(3)	No.	
63.8(e)(1)–(4)	Yes.	
63.8(e)(5)(i)	Yes.	
63.8(e)(5)(ii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(1)	Yes.	
63.8(f)(2)(i)–(vii)	Yes.	
63.8(f)(2)(viii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(2)(ix)	Yes.	
63.8(f)(3)–(6)	Yes.	
63.8(g)	Yes.	
63.9(a)	Yes.	
63.9(b)(1)	Yes.	
63.9(b)(2)	Yes	§ 63.753(a)(1) requires submittal of the initial notification at least 1 year prior to the compliance date; § 63.753(a)(2) allows a title V or part 70 permit application to be substituted for the initial notification in certain circumstances.
63.9(b)(3)	Yes.	
63.9(b)(4)	Yes.	
63.9(b)(5)	Yes.	
63.9(c)	Yes.	
63.9(d)	Yes.	
63.9(e)	Yes.	
63.9(f)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(1)	No.	
63.9(g)(2)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(3)	No.	
63.9(h)(1)–(3)	Yes	§ 63.753(a)(1) also specifies additional information to be included in the notification of compliance status.
63.9(h)(4)	No	Reserved.
63.9(h)(5)–(6)	Yes.	
63.9(i)	Yes.	
63.9(j)	Yes.	
63.10(a)	Yes.	
63.10(b)(1)	Yes.	
63.10(b)(2)(i)	No.	
63.10(b)(2)(ii)	No	*See* § 63.752(a) for recordkeeping of (1) date, time, and duration; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
63.10(b)(2)(iii)	Yes.	
63.10(b)(2)(iv)–(v)	No.	
63.10(b)(2)(vi)	Yes.	
63.10(b)(2)(vi)(A)–(C)	No	§ 63.10(b)(vii)(A), (B) and (C) do not apply because subpart GG does not require the use of CEMS.
63.10(b)(2)(vii)–(xiv).		
63.10(b)(3)	Yes.	
63.10(c)(1)	No.	
63.10(c)(2)–(4)	No	Reserved.
63.10(c)(5)–(6)	No.	
63.10(c)(7)–(8)	Yes.	
63.10(c)(9)	No	Reserved.
63.10(c)(10)–(13)	No.	
63.10(c)(14)	No	§ 63.8(d) does not apply to this subpart.
63.10(c)(15)	No.	
63.10(d)(1)–(2)	Yes.	
63.10(d)(3)	No	The standards in subpart GG do not include opacity standards.
63.10(d)(4)	Yes.	
63.10(d)(5)	No	*See* § 63.753(a)(5) for malfunction reporting requirements.
63.(10)(e)(1)	No.	
63.10(e)(2)(i)	No.	
63.10(e)(2)(ii)	No	The standards in subpart GG do not include opacity standards.
63.10(e)(3)	No.	
63.10(e)(4)	No	The standards in subpart GG do not include opacity standards.
63.10(f)	Yes.	

TABLE 1 TO SUBPART GG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GG—Continued

Reference	Applies to affected sources in subpart GG	Comment
63.11	Yes.	
63.12	Yes.	
63.13	Yes.	
63.14	Yes.	
63.15	Yes.	
63.16	Yes.	

■ 15. Appendix A to subpart GG of part 63 is amended by revising definitions for ''Electric or radiation-effect coating'' and ''Electrostatic discharge and electromagnetic interference (EMI) coating'' to read as follows:

Appendix A to Subpart GG of Part 63—Specialty Coating Definitions

* * * * *

Electric or radiation-effect coating—A coating or coating system engineered to interact, through absorption or reflection, with specific regions of the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, lightning strike protection, electromagnetic pulse (EMP) protection, and radar avoidance. Coatings that have been designated as ''Classified National Security Information'' by the Department of Defense are exempt.

Electrostatic discharge and electromagnetic interference (EMI) coating—A coating applied to aerospace vehicles and components to disperse static energy or reduce electromagnetic interference.

* * * * *

[FR Doc. 2015–30356 Filed 12–4–15; 8:45 am]

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Part IV

Environmental Protection Agency

40 CFR Parts 60 and 63

National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units; Technical Correction; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2009–0234 and EPA–HQ–OAR–2011–0044; FRL–9942–28–OAR]

RIN 2060–AS41

National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units; Technical Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; technical corrections.

SUMMARY: This action finalizes the technical corrections that the Environmental Protection Agency (EPA) proposed on February 17, 2015, to correct and clarify certain text of the EPA's regulations regarding ''National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units''. We are also taking final action to remove the rule provision establishing an affirmative defense for malfunction.

DATES: The effective date of this rule is April 6, 2016.

ADDRESSES: *Docket.* The EPA has established two dockets for this action: Docket ID No. EPA–HQ–OAR–2011–0044 (new source performance standards (NSPS) action) and Docket ID No. EPA–HQ–OAR–2009–0234 (Mercury and Air Toxics Standards (MATS) action). All documents in the dockets are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available (*e.g.,* confidential business information or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Avenue NW., Washington, DC 20004. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about the MATS action: Mr. Jim Eddinger, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5426; fax number (919) 541–5450; email address: *eddinger.jim@epa.gov.* For questions about the NSPS action: Mr. Christian Fellner, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–4003; fax number (919) 541–5450; email address: *fellner.christian@epa.gov.*

SUPPLEMENTARY INFORMATION:

A. How can I get copies of this document and other related information?

This **Federal Register** document and the document titled ''Summary of Public Comments and Responses: MATS and Utility NSPS Technical Corrections'' (TC RTC) are available in the dockets the EPA established under Docket ID No. EPA–HQ–OAR–2009–0234 and Docket ID No. EPA–HQ–OAR–2011–0044. The TC RTC is available in both the MATS and Utility NSPS dockets by conducting a search of the title ''Summary of Public Comments and Responses: MATS and Utility NSPS Technical Corrections.'' In addition to being available in the docket, electronic copies of these documents are available on the *www.regulations.gov* Web site. This **Federal Register** document and the TC RTC can also be found on the EPA's Technology Transfer Network (TTN) Web site at *http://www.epa.gov/ttn/atw/utility/utilitypg.html.*

B. Judicial Review

Under CAA section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by June 6, 2016. Under CAA section 307(d)(7)(B), only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Note, under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce these requirements.

I. Background

The final Clean Air Act (CAA) rules published in the **Federal Register** on February 16, 2012 (77 FR 9303), establish national emission standards for hazardous air pollutants (NESHAP) from coal- and oil-fired electric utility steam generating units (EGUs), referred to as ''MATS,'' and NSPS for fossil-fuel-fired electric utility, industrial-commercial-institutional, and small industrial-commercial-institutional steam generating units, referred to as the ''Utility NSPS''.

In the February 17, 2015, **Federal Register** (80 FR 8442), the EPA proposed to correct certain regulatory text. The proposed corrections were categorized generally as follows: (a) Resolution of conflicts between preamble and regulatory text, (b) corrections that were inadvertently not made that the EPA stated it would make in response to comments, and (c) clarification of language in regulatory text. In the proposed rule, the EPA identified each proposed technical correction to the regulatory text as found in the Code of Federal Regulations (*i.e.,* 40 CFR). Table 1 of this preamble lists the proposed revisions to the regulatory text that the EPA is finalizing. In Table 2 below, the EPA lists additional changes that the Agency determined were necessary to conform to changes the Agency included in the proposed rule.

TABLE 1—SUMMARY OF PROPOSED TECHNICAL CORRECTIONS AND CLARIFICATIONS BEING FINALIZED

Section of subpart Da (40 CFR part 60)	Description of correction (40 CFR part 60)
40 CFR 60.48Da(f)	Revise procedures for calculating compliance with the NSPS daily average particulate matter (PM) emission limit using PM continuous emission monitoring system (CEMS).

Section of subpart UUUUU (40 CFR part 63)	Description of correction (40 CFR part 63)
40 CFR 63.9983(a)	Revise to clarify that MATS does not apply to either major or area source combustion turbines, except for integrated gasification combined cycle (IGCC) units.
40 CFR 63.9983(b) and (c)	Revise consistent with the definitional changes in 40 CFR 63.10042.
40 CFR 63.9983(e)	Add to clarify applicability to units meeting the definition of a natural gas-fired EGU in MATS, and, because they combust greater than 10 percent biomass, also meet the definition of a biomass-fired boiler in the Industrial Boiler NESHAP (subpart DDDDD).
40 CFR 63.9991(c)(1) and (2)	Revise to clarify the conditions that are required in order to use the alternate sulfur dioxide (SO_2) limit.
40 CFR 63.10000(c)(1)(i)(A) and 63.10005(h)	Revise to clarify the provisions of units designated as being low emitting EGUs (LEE) when an acid gas scrubber and a bypass stack are present.
40 CFR 63.10000(c)(1)(i)(C)	Add to allow EGUs the ability to seek LEE status if their bypass stacks that are able to measure emissions and to allow EGUs with LEE status the ability to bypass emissions control devices during emergency periods.
40 CFR 63.10000(c)(2)(iii)	Revise to state that EGU choosing to use quarterly testing and parametric monitoring for hydrogen fluoride (HF) or hydrogen chloride (HCl) compliance must include the continuous monitoring systems (CMS) in their site-specific monitoring plans.
40 CFR 63.10000(m)	Add to clarify that EGUs choosing to meet the work practice standards contained in paragraph (2) of the definition of startup may verify, instead of certify, monitoring systems used to meet the work practice standards.
40 CFR 63.10001	Revise to remove the affirmative defense provisions.
40 CFR 63.10005(a)	Revise to clarify that different compliance demonstrations may require different and additional types of data collection and to clarify the date by which compliance must be demonstrated for existing EGUs.
40 CFR 63.10005(a)(2)	Revise to clarify the date by which compliance must be demonstrated for EGUs using CMS or sorbent trap monitoring systems.
40 CFR 63.10005(a)(2)(i)	Revise to clarify applicability of the provision to both the 30- and 90-boiler operating day performance testing requirements.
40 CFR 63.10005(b)(6)	Add to clarify the date EGUs must begin conducting required stack tests when stack test data collected prior to the applicable compliance date are submitted to satisfy initial performance test.
40 CFR 63.10005(d)(3) and (d)(4)(i)	Revise to more clearly state when compliance must be demonstrated.
40 CFR 63.10005(f)	Revise to clarify when sources must complete the initial tune-up after the compliance date, and the timing for subsequent tune-ups when the initial tune-up is conducted prior to the compliance date.
40 CFR 63.10005(h)(3)	Revise to clarify that the alternate 30- and 90-day averaging provisions are both applicable to mercury (Hg) emission limits.
40 CFR 63.10005(i)(4)	Revise to delete paragraphs (iii) and (iv). The identified test methods are not for determining fuel moisture content, as required in the provision.
40 CFR 63.10006(f)	Revise to specify EGU operational status with respect to performance testing; the requirements if the performance testing schedule is missed; and intervals between performance tests.
40 CFR 63.10009(a)(2) and (a)(2)(i)	Revise to clarify that the 90-boiler operating day averaging period is an option for Hg emissions from non-low rank virgin coal-fired EGUs.
40 CFR 63.10009(b)(1)	Revise to clarify group eligibility equations 1a and 1b.
40 CFR 63.10009(b)(2), (b)(3), (f)(2), (g)(1), (g)(2), and (j)(1)(ii).	Revise to correct the term ''gross electric output'' to ''gross output'' which is the term defined in 40 CFR 63.10042.
40 CFR 63.10009(f)	Revise to clarify the conditions for determining the ability of the emissions averaging group to meet the emissions limit and to clarify use of the alternate Hg emission limit.
40 CFR 63.10010(a)(4)	Revise to add requirement to route exhaust gases that bypass emissions control devices through stacks that contain monitoring so that emissions can be measured and to clarify that hours that a bypass stack is in use are to be counted as hours of deviation from monitoring requirements.
40 CFR 63.10010(f)(3)	Revise to clarify that 30-boiler operating day rolling averages are based only on valid hourly SO_2 emission rates.
40 CFR 63.10010(h)(6)(i) and (ii), (i)(5)(i)(A) and (B), and (j)(4)(i)(A) and (B).	Revise to clarify that data collected during certain periods are not to be included in compliance assessments but such periods are to be included in annual deviation reports.
40 CFR 63.10010(j)(l)(i)	Revise to replace the incorrect reference to § 63.7(e) with the correct reference to § 63.8(d)(2).
40 CFR 63.10010(l) and (l)(4)	Revise to clarify that EGU owners or operators who choose to meet the work practice standards contained in paragraph (2) of the definition of startup may verify, instead of certify, monitoring systems used.
40 CFR 63.10011(b)	Revise to remove the incorrect reference to Table 4 and to replace the incorrect reference to Table 7 with the correct reference to Table 6.

TABLE 1—SUMMARY OF PROPOSED TECHNICAL CORRECTIONS AND CLARIFICATIONS BEING FINALIZED—Continued

Section of subpart UUUUU (40 CFR part 63)	Description of correction (40 CFR part 63)
40 CFR 63.10011(c)(1) and (2)	Revise to clarify the date by which compliance must be demonstrated by EGUs that use CEMS or sorbent trap monitoring systems and to clarify in 40 CFR 63.10011(c)(1) that the alternate Hg emission limit may be used.
40 CFR 63.10011(e)	Revise to replace "according to" with "in accordance with."
40 CFR 63.10011(g)(4)(v)(A) and Table 3	Revise to clarify our intent by changing "to the maximum extent possible" to "to the maximum extent possible, taking into account boiler or control device integrity."
40 CFR 63.10020(e)	Revise to clarify that it applies only to EGU owners or operators who choose to meet the work practice standards contained in paragraph (2) of the definition of startup. In addition, the undefined term "electrical load" has been replaced with the defined term "gross output" and the incorrect terms "liquid to fuel ratio" and "the differential pressure of the liquid" have been replaced with the correct terms "liquid to flue gas ratio" and "the pressure drop across the scrubber."
40 CFR 63.10021(d)(3)	Revise to clarify the type of monitoring that is to be used to demonstrate compliance.
40 CFR 63.10021(e)	Revise to clarify the condition that allows delay of burner inspections for initial tune-ups.
40 CFR 63.10021(e)(9)	Revise to clarify the dates that tune-ups must be reported.
40 CFR 63.10023(b) and Table 6	Revise to clarify that all EGUs using PM continuous parametric monitoring systems (CPMS) for compliance purposes are to follow the same procedure for determining the operating limit.
40 CFR 63.10030(e)(1)	Revise to replace the phrase "identification of which subcategory the source is in" with "identification of the subcategory of the source."
40 CFR 63.10030(e)(7)(i)	Revise to delete and reserve since subsequent performance tests are not part of the Notification of Compliance Status.
40 CFR 63.10030(e)(7)(iii)	Add to establish the procedures by which an EGU owner or operator may switch between mass per heat input and mass per gross output emission limits.
40 CFR 63.10030(e)(8)(i)	Revise to clarify that it applies only to EGU owners or operators who choose to meet the work practice standards contained in paragraph (2) of the definition of startup. Revise to clarify that PM control device efficiencies and PM emission rates are those of periods other than startup and shutdown periods.
40 CFR 63.10030(e)(8)(ii)	Revise to remove the requirement for use of an independent professional engineer.
40 CFR 63.10030(f)	Revise to add notification requirements for EGUs that move in and out of MATS applicability.
40 CFR 63.10031(c)(4)	Revise to clarify the reporting requirements for EGU tune-ups.
40 CFR 63.10031(c)(5)	Revise to clarify that it applies only to EGU owners or operators who choose to meet the work practice standards contained in paragraph (2) of the definition of startup.
40 CFR 63.10031(c)(6)	Revise to add emergency bypass reporting for EGUs with LEE status.
40 CFR 63.10032(f)	Revise to clarify that the requirements of § 63.10032(f)(1) apply only to those EGU owners or operators who choose to meet the work practice standards contained in paragraph (1) of the definition of startup, while the requirements of § 63.10032(f)(2) apply only to those EGU owners or operators who choose to meet the work practice standards contained in paragraph (2) of the definition of startup.
40 CFR 63.10042	The definitions of "Coal-fired electric utility steam generating unit," "Coal refuse," "Fossil fuel-fired," "Integrated gasification combined cycle electric utility steam generating unit or IGCC," "Limited-use liquid oil-fired subcategory," "Natural gas-fired electric utility steam generating unit," and "Oil-fired electric utility steam generating unit" are revised to clarify the period of time to be included in determining the source's applicability to the MATS. A definition of "neural network" is added because the term is used in 40 CFR 63.10005(f), 63.10006(i), and 63.10021(e) and Table 3 to subpart UUUUU of Part 63 but is not defined.
Table 1 to subpart UUUUU of part 63	Revise to correct the term "gross electric output" to "gross output" which is the term defined in 40 CFR 63.10042.
Table 2 to subpart UUUUU of part 63	Revise to correct the term "gross electric output" to "gross output" which is the term defined in 40 CFR 63.10042. Provision 1(c) (the Hg limit for EGUs in the subcategory "unit designed for coal ≥8,300 Btu/lb") is also revised to clarify the applicability of the alternate 90-boiler operating day compliance option.
Table 3 to subpart UUUUU of part 63	Revise as described earlier to clarify the term "maximum extent possible.".
Table 4 to subpart UUUUU of part 63	Revise to clarify that existing as well as new EGUs using PM CPMS share the same procedures for developing operating limits.
Table 5 to subpart UUUUU of part 63	Revise to clarify that when using Method 29, the metals matrix spike and recovery levels are to be reported.
Table 6 to subpart UUUUU of part 63	Revise to clarify that existing, as well as new, EGUs using PM CPMS share the same procedures for developing operating limits.
Table 8 to subpart UUUUU of part 63	Revise to clarify that compliance reports are to include information required by 40 CFR 63.10031(c)(5) and (6).
Table 9 to subpart UUUUU of part 63	Revise to correct an inadvertent omission of 30-day notification requirements of 40 CFR 63.9.
Paragraphs 4.1.1.3 and 5.1.2.3 and Tables A–1 and A–2 to appendix A.	Revise to adjust Hg CEMS language regarding converters.
Paragraph 7.1.2.5 to appendix A	Add to require that owners or operators flag EGUs that are part of emission averaging groups.
Paragraph 3.2.1.2.1 of appendix A	Revise to specifically indicate that Hg gas generators and cylinders are allowed.
Paragraphs 4.1.1.1, Table A–1, Table A–2, 5.1.2.1, and 4.1.1.3 of appendix A.	Revise to exclude use of oxidized Hg gas standards for daily calibration of Hg CEMS.
Paragraph 5.1.2.3 of appendix A	Revise to make the weekly single level system integrity check mandatory.

TABLE 1—SUMMARY OF PROPOSED TECHNICAL CORRECTIONS AND CLARIFICATIONS BEING FINALIZED—Continued

Section of subpart UUUUU (40 CFR part 63)	Description of correction (40 CFR part 63)
Paragraphs 4.1.1.5.2, Table A–1, Table A–2, and 4.1.1.5 of appendix A.	Revise to provide an alternative relative accuracy test audit (RATA) procedure for EGUs with low emissions.
Paragraph 5.2.1 of appendix A	Revise to correct the number of days for sorbent trap use from 14 to 15.
Paragraph 6.2.2.3 of appendix A	Revise to clarify that the 90-day alternative Hg standard may be used and that electrical output is gross output.
Paragraph 7.1.2.6 of appendix A	Add to clarify that EGU owners or operators are to keep records of their EGUs that constitute emissions averaging groups.
Paragraphs 2.1, 2.3, 2.3.1, 2.3.2, 3.1, 3.2, 3.3, 5, 5.1, 5.2, and 5.3 of appendix B.	Revise to clarify that use of Performance Specification (PS) 18, when promulgated, will be allowed.
Paragraph 5.4 of appendix B	Add as part of the renumbering due to the addition of PS 18.
Paragraph 8 of appendix B	Revise to accommodate use of PS 18.
Paragraphs 10.1.8, 10.1.8.1, 10.1.8.1.1, and 10.1.8.1.2 of appendix B.	Revise as part of the renumbering due to the addition of PS 18.
Paragraph 10.1.8.1.3 of appendix B	Revise to clarify that records of relative accuracy audits (RAAs) are also required.
Paragraphs 10.1.8.2, 10.1.8.1.2.1, and 10.1.8.1.2.2 of appendix B.	Revise to clarify the quarterly gas audit recordkeeping requirements for PS 15 and the quarterly data accuracy assessments for PS 18 (which are reserved).
Paragraph 11.4 of appendix B	Revise to replace the incorrect abbreviation "*i.e.*" with "*e.g.*".
Paragraph 11.4.2 of appendix B	Revise to specify the requirements of the daily beam intensity checks for EGUs using PS 18.
Paragraph 11.4.3 of Appendix B	Revise to reflect the reporting requirements for PS 15.
Paragraph 11.4.4 of appendix B	Revise to reserve the reporting requirements for quarterly parameter verification checks for PS 18.
Paragraphs 11.4.4.1, 11.4.5, 11.4.5.1, 11.4.6, 11.4.6.1 of appendix B.	Add to reserve the reporting requirements for quarterly gas audit information and for quarterly dynamic spiking for PS 18.
Paragraph 11.4.7 of appendix B	Add to include reporting requirements for RAAs.
Paragraphs 11.4.7.1 through 11.4.7.13 of appendix B.	Add as part of the renumbering due to the addition of PS 18.
Paragraph 11.5.3.4 of appendix B	Revise to include reporting requirements for beam intensity checks for PS 18.

Most of the corrections and clarifications remain the same as presented in the proposed correction document and those changes are being finalized without further discussion. However, the EPA has made some changes in this final rule after consideration of the public comments received on the proposed correction document. The changes are to clarify applicability and implementation issues associated with proposed changes, and the significant changes are discussed below in this preamble. A summary of the comments received and our responses thereto is contained in the document ''Summary of Public Comments and Responses: MATS and Utility NSPS Technical Corrections'' located in the dockets for these rulemakings.

II. Significant Changes Since Proposal

This section of the preamble summarizes the significant changes made to the proposed corrections and clarifications.

1. Section 63.9984(f) is revised to add ''or the EGU's otherwise applicable compliance date established by the EPA or the state.'' A commenter stated that the EPA's proposed revision, which was adding ''the date that compliance must be demonstrated, as given'' in § 63.9984, to the initial compliance requirements in § 63.10005(a) for existing EGUs, does not effectively clarify the date that compliance must be demonstrated due to its reference to § 63.9984 and paragraph (f) of § 63.9984 because § 63.9984(b) specifies a compliance date of April 16, 2015 for existing EGUs. Also, § 63.9984(f), which states the dates by which compliance must be demonstrated, refers to § 63.9984(b). Therefore, we revised § 63.9984(f) because specifying a date for existing EGUs to demonstrate compliance is confusing for existing sources that have been granted a compliance extension.

2. Section 63.10000(n) is added to address comments that noted the proposed technical corrections did not address the permanent conversion to natural gas or biomass consistent with the proposals outlined in the February 17, 2015 preamble. In the preamble (see 80 FR 8447), we stated ''The EPA is also proposing that sources that permanently convert to natural gas or biomass after the compliance date are no longer subject to MATS, notwithstanding the coal or oil usage the previous 3 calendar years.'' However, we inadvertently did not include the necessary language to address permanent conversions in the proposed regulatory text. For that reason, we are revising paragraph (n) to incorporate the proposed change as outlined in the preamble to the proposed rule.

3. The proposal to revise § 63.10005(b)(1) to change the time period allowed for existing EGUs to use stack test data collected prior to the applicable compliance date has been withdrawn. Several commenters did not support the proposed revision to change the window in which initial compliance can be demonstrated, and said that EGUs should be allowed to demonstrate initial compliance using stack tests conducted on or after April 16, 2014. Commenters said the EPA's proposed change is unfair, renders investments in stack testing useless, and requires companies to perform new, unnecessary initial compliance testing. For these reasons, and because the Agency believes earlier stack tests may be representative under certain circumstances, the EPA is not making the proposed change.

4. Section 63.10006(f) is revised to: (1) Correct the minimum time between annual performance tests (from 370 to 320 calendar days); (2) clarify the minimum time between annual sorbent trap mercury testing for 30-boiler operating day low emitting EGU (LEE) retests (also 320 calendar days); and (3) provide the minimum time between annual sorbent trap mercury testing for 90-boiler operating day LEE retests (230 calendar days). Commenters correctly stated that the 370-day interval for annual tests was a typographical error, as they would expect the interval to be 365 days or less. Commenters expressed concerns that, while the proposed revised § 63.10006(f) specified the time

periods between annual performance tests, it did not specify the time periods between annual sorbent trap mercury testing for either the 30-boiler operating day averaging periods or the 90-boiler operating day averaging periods. The three revisions, listed above, being made to § 63.10006(f) address the commenters' concerns. In addition, § 63.10010(i)(2)(i) and (ii) is revised to clarify the time periods between quarterly, annual, and three year testing for particulate matter continuous emissions monitoring system (PM CEMS) audits.

5. Section 63.10009(b)(1) is revised to clarify group eligibility equations 1a and 1b. The purpose of the group eligibility equations is to provide EGU owners or operators a quick method for demonstrating initial compliance with the emission limits for all units participating in the emission averaging group using the maximum rated heat input or gross output of each unit and the results of the initial compliance demonstrations. Commenters stated that the EPA proposed to drop the double summation in the denominator, which is a correct step. However, the commenters indicated they do not understand what the Agency was thinking with respect to adding the ''q_j'' term in both the numerator and denominator and that the EPA defined ''q_j'' to be the hours in the averaging period (720 for 30-day averages and 2,160 for 90-day averages) because the term's presence in both the numerator and denominator cancels out and has no effect. Commenters also stated that they do not agree that the newly proposed group averaging eligibility Equation 1a is more useful than the original equation. Commenters said both the original equation and the newly proposed equation are flawed and, thus, produce incorrect results. Commenters said corrections need to be made to either equation that the EPA wants to use. Commenters said the stack testing components of the equation for each unit that is tested need to be weighted the same as units that use continuous monitoring in order for any equation to produce correct calculations. Commenters said the original equation works for the continuous monitoring components, but is flawed because it does not properly weight the stack testing components, and the newly proposed equation is flawed on both fronts. Based on the commenters' concerns, the equations have been revised so that individual EGU characteristics, whether from continuous emission monitoring systems (CEMS) or stack testing results, are easier to input. We agree that the added ''q_j'' term and ''r_k'' term have no effect, and they have been deleted. We are also deleting the ''n'' term since Equations 1a and 1b are to demonstrate initial compliance based on using the initial compliance results and not continuous compliance that is based on an averaging period. We have revised some of the terms' descriptions to clarify that the emission rates used are those determined during the initial compliance demonstration.

6. Section 63.10009(e), (g), and (j)(2) are revised to require compliance with the weighted average emissions rate at all times following the date that emissions averaging begins. A commenter argued that the EPA must also revise these sections to remove the specifically identified dates (*e.g.,* April 16, 2015 and February 16, 2015). We agree that the dates within § 63.10009(e), (g), and (j)(2) should be removed, and the dates have been replaced with ''the date that you begin emission averaging.''

7. Section 63.10010(h)(6)(i), (i)(5)(i)(A), and (j)(4)(i)(A) and (B) are revised to clarify when monitoring system quality assurance or quality control activities are to be reported. Commenters said § 63.10010(h)(6)(i), (i)(5)(i)(A), and (j)(4)(i)(A) and (B) specify what data from particulate matter (PM) continuous parameter monitoring system (CPMS), PM CEMS, and hazardous air pollutants (HAP) metal CEMS must be excluded from compliance determinations and that the EPA proposed to separate the language regarding deviation reporting that currently appears at the end of these provisions into a separate sentence to ''ease readability.'' The commenter disagreed that the proposed revision improves readability and said that, to the contrary, by separating out the sentence, the EPA implies that the periods when data are not collected because of monitoring system malfunctions, repairs, required quality assurance or quality control, as well as periods when a monitoring system is out of control, are deviations from monitoring requirements, which they are not. The commenter is incorrectly interpreting the proposed change. Periods when data are not collected because of monitoring system malfunctions are deviations. The required quality assurance or quality control activities that are deviations from monitoring requirements are, as stated in § 63.10010(h)(6)(i), (i)(5)(i)(A), and (j)(4)(i)(A) and (B), those conducted during monitoring systems malfunctions.

8. Section 63.10011(g)(4)(v)(A) is revised to change the proposed language ''to the maximum extent practicable'' back to the language ''to the maximum extent possible'' as in the final rule. Commenters said the requirement to use clean fuels ''to the maximum extent practicable'' does not even address the level of toxic emissions during startup, let alone reduce them to the maximum extent achievable as is required under CAA section 112(d)(2). Commenters said, perhaps most importantly, that the EPA's proposed change impermissibly assumes that existing older boilers and control devices are not capable of being upgraded—despite Congress' mandate in CAA section 112(d)(2)–(3) that emissions standards and work practices reflect what is achievable and actually being achieved by the best-performing sources. Commenters said further, under CAA section 112(d), it is the Administrator's duty to establish standards to achieve the required emissions reductions—not the duty of owners and operators. Commenters said the EPA's purported work practices impermissibly allow operators themselves to determine the standards and their own emission reductions achieved (or not) by the requirements. Commenters said the EPA's proposed change leaves it up to each operator to determine the amount of clean fuel use that represents the ''maximum extent practicable,'' and leaves it up to each operator to determine what qualifies as a ''consideration such as boiler or control device integrity.'' Commenters said that even though the requirement for clean fuels states that EGUs must have sufficient clean fuel capacity to engage and operate PM control devices within 1 hour of adding the primary fuel (and even though a separate work practice requires PM controls to be engaged and operated within 1 hour), these requirements do not establish whether and to what point EGUs must actually use clean fuels in startups. These comments primarily concern issues that the EPA did not reopen in the proposed document. Because those issues were not reopened, the EPA did not respond to these comments. We did propose to change § 63.10011(g)(4)(v)(A) as the commenter states. We continue to believe that the use of clean fuels during startup must be maximized to reduce HAP emissions and have reconsidered the proposed change of ''possible'' to ''practicable.'' We believe ''possible'' is a more enforceable standard. The final change to § 63.10011(g)(4)(v)(A) is: ''to the maximum extent possible, taking into account considerations such as boiler or control device integrity,

throughout the startup period.'' This language is also included in section 4 of Table 3, to clarify that this provision applies during periods of shutdown.

The EPA is not finalizing the proposed change because we have determined that requiring clean fuel use to the maximum extent ''possible'' is more enforceable than the proposed change to ''practicable'', and the Agency believes it is critical that the work practice be enforceable to ensure that sources use as much clean fuel with its inherently low HAP content as possible when a source's controls are not yet fully engaged. At the same time, we believe operators must be able to consider the integrity of the EGU system when determining the clean fuel use that is ''possible'' for a given unit. We believe the final rule addresses both considerations.

9. Section 63.10030(e)(8)(iii) is added to allow EGU owners or operators the ability to switch between paragraphs 1 and 2 of the startup definition. Commenters requested that switching between paragraphs of the definition of startup not be prohibited. We have no objection to such switching provided certain criteria are met. Just as we had not considered that EGU owners or operators would want to switch between mass per year heat input emission limits and mass per gross output emission limits, but proposed to allow such changes provided certain criteria are met, we did not consider that an owner or operator would want to switch between the startup definitions for the EGU. Given the commenter's specific request and the EPA's conditional approval based on the already existing model given in § 63.10030(e)(7)(iii)(A), § 63.10030(e)(8)(iii) is added to the rule. This new section allows EGU owners or operators the ability to switch between paragraphs 1 and 2 of the startup definition provided, among other things, that the EGUs involved in the switch are identified, that a request is submitted 30 days prior to the anticipated switch, that the request contains certification that all previous plans, such as monitoring and emissions averaging, are revised, that records are maintained, and that the new definition is not used until the next reporting period after receipt of written acknowledgement from the Administrator or the delegated authority of the switch.

10. Section 63.10031(c)(4) is revised to clarify that the ''date'' of the tune-up is the date the tune-up provisions specified in § 63.10021(e)(6) and (7) are completed. Commenters noted that there will not necessarily be a single date associated with completion of an EGU's tune-ups conducted under § 63.10021(e) and suggested that, related to the possibility of a delayed burner inspection, the Agency make it clear that compliance with all requirements besides the burner inspection must occur by the compliance demonstration date, but that the burner inspection may be delayed, and to revise the provision to recognize that as a result, performance of subsequent inspections and tune-ups may be on a separate 36-month track and some EGUs may have ''dates'' rather than a ''date'' for completion of requirements. Regardless of when the burner inspection is conducted, the tune-up is considered to have been conducted on the date the combustion optimization is completed. The purpose of the tune-up is the optimization of the combustion to minimize organic HAP, carbon monoxide, and nitrogen oxides (NO_X) and to improve or return the unit to its design combustion efficiency (*i.e.,* § 63.10021(e)(6) and (7)). We realize that EGUs may need to be taken off-line to conduct an inspection of burners. So, we allow that inspection to be delayed, or as § 63.10021(e) is revised, to be performed prior to the tune-up. Therefore, subsequent tune-ups must be performed within 36 months from when the previous tune-up (*i.e.,* the requirements of § 63.10021(e)(6) and (7)) was completed, and the source must conduct the next burner inspection on a similar schedule.

11. Section 63.10031(c)(7) is added to include the reporting requirements that have been removed from § 63.10030(e)(7)(i). A commenter said that there is no reason to submit Notification of Compliance Status (NOCS) for ongoing 3-year tests that are performed to demonstrate that LEE status is maintained, so the proposed language in § 63.10030(e)(7)(i) should be revised. We agree that not only the ongoing 3-year LEE retests, but also the annual and quarterly LEE retests and annual retests that are performed to establish operating limits, should not be submitted as NOCS. According to the introductory text of § 63.10030(e), the NOCS is required only for reporting initial compliance. Therefore, § 63.10030(e)(7)(i) has been removed and reserved, and the reporting requirements in § 63.10030(e)(7)(i) have been moved to a new place, *i.e.,* § 63.10031(c)(7), and are part of the compliance report requirements. Likewise, the compliance certification and deviation information requirements in § 63.10030(e)(5) and (e)(6) apply for compliance reports and are replicated in new § 63.10031(c)(8) and (9), and each of these paragraphs is included in the introductory text in § 63.10030(c) and in Table 8.

12. The definitions of ''Coal-fired electric utility steam generating unit,'' ''Fossil fuel-fired,'' ''Limited-use liquid oil-fired subcategory,'' and ''Oil-fired electric utility steam generating unit'' in § 63.10042 are further revised to clarify the period of time to be included in determining the source's applicability to the MATS.

One commenter indicated that the proposed rule does not address permanent conversion to natural gas or biomass, nor does it make clear that, after the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the 3 previous calendars years on an annual rolling basis. The commenter said that the EPA's clarifying proposals are not clearly outlined in the proposed revised definitions. The commenter urged the EPA to revise the definition in a manner consistent with the proposals outlined in the preamble. Several commenters indicated the proposed changes do not prevent an EGU from continuing to be subject to MATS for several years after a fuel switch.

We agree that the proposed clarification to the definitions does not make it clear that, after the first 3 years of compliance, an EGU is required to evaluate applicability based on coal or oil usage from the 3 previous calendar years on an annual rolling basis. Thus, we have revised the definitions for ''Coal-fired electric utility steam generating unit,'' ''Oil-fired electric utility steam generating unit,'' and ''Fossil fuel-fired'' to clarify that applicability after the first 3 years of compliance will be based on coal or oil usage from the 3 previous calendar years on an annual rolling basis.

Concerning the permanent fuels switch, the EPA explained above that it has addressed permanent conversions in § 63.10000(n) of the final rule, as discussed in paragraph 2 above.

13. Appendix A is finalized with all proposed revisions with the exception of adding an alternative specification for the relative accuracy test audit (RATA) where commenters provided data to support a different approach using an absolute value criterion. However, due to the current lack of available NIST-traceable elemental Hg gas cylinders, owners or operators of EGUs that have purchased/installed Hg CEMS that lack integrated elemental Hg gas generators may continue to use NIST-traceable oxidized gases for calibration error tests and daily checks until such time that NIST-traceable compressed elemental Hg gas standards are available and traceable with a combined uncertainty

(K=2) of 5 percent. Once those standards are available, we will issue a notice of availability in the **Federal Register**. Should NIST-traceable oxidized mercury reference gases with a combined uncertainty of 5% ultimately be available, we will consider allowing their use for calibration error tests and checks.

14. Appendix B is finalized with all proposed revisions except those related to sections 10 and 11 regarding recordkeeping and reporting for hydrogen chloride (HCl) CEMS subject to PS 18. Sections 10 and 11 will be addressed in the upcoming MATS Completion of Electronic Reporting Requirements rule. One change has been made that was not proposed. A minor technical correction has been made to section 9.4, requiring the HCl emission rates to be reported to 2 significant figures in scientific notation, which is consistent with the way that the emission standards are presented in Tables 1 and 2.

III. Other Corrections and Clarifications

In finalizing the rule, the EPA is addressing several other technical corrections and clarifications in the regulatory language based on public comments that were received on the February 2015 proposal that the Agency determined were necessary to conform to changes included in the proposed rule, as outlined in Table 2 of this preamble.

TABLE 2—SUMMARY OF TECHNICAL CORRECTIONS AND CLARIFICATIONS SINCE FEBRUARY 17, 2015, PROPOSAL

Section of subpart UUUUU (40 CFR part 63)	Description of correction (40 CFR part 63)
40 CFR 63.10000(a)	Revise this paragraph by adding "items 3 and 4" to clarify which items in Table 3 must be met.
40 CFR 63.10000(f)	Revise this paragraph to add "Except as provided under paragraph (n) of this section" due to the addition of paragraph (n) clarifying the applicability of a permanent conversion to natural gas or biomass.
40 CFR 63.10000(g)	Revise this paragraph to add "Except as provided under paragraph (n) of this section" due to the addition of paragraph (n) clarifying the applicability of a permanent conversion to natural gas or biomass.
40 CFR 63.10000(i)(1)	Revise this paragraph to clarify that an EGU, no longer subject to MATS, must be in compliance with applicable CAA section 112 or 129 standards consistent with paragraphs (g) and (n).
40 CFR 63.10005(a)	Revise this paragraph to replace the terms "electrical" and "electrical load" with the terms "gross" and "gross output," respectively, to be consistent with the proposed changes to other sections.
40 CFR 63.10005(a)(2)(ii)	Revise this paragraph to replace the terms "electrical" and "electrical load" with the terms "gross" and "gross output," respectively, to be consistent with the proposed changes to other sections.
40 CFR 63.10005(b)(4)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
40 CFR 63.10005(f)	Revise to be consistent with EPA's intent, as explained in the preamble to the proposed rule, to only clarify the timing of initial and subsequent tune-ups. Revise since specifying the date is problematic for sources that have been granted a compliance extension.
40 CFR 63.10005(h)(3)(i)(D)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
40 CFR 63.10005(h)(3)(iii)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
40 CFR 63.10007(f)(2)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
40 CFR 63.10009(e) and (j)(2)	Revise since specifying the date is problematic for sources that have been granted a compliance extension.
40 CFR 63.10010(f)(4)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
40 CFR 63.10021(h)(1)	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.
Table 5	Revise this table to replace the term "electrical" with the term "gross" to be consistent with the proposed changes to other sections.
Paragraph 7.1.8.5 of appendix A	Revise this paragraph to replace the term "electrical load" with the term "gross output" to be consistent with the proposed changes to other sections.

IV. Affirmative Defense for Violation of Emission Standards During Malfunction

The EPA received numerous comments on the affirmative defense to civil penalties for violations caused by malfunctions that the EPA proposed to remove in the current rule. Several commenters supported the removal of the affirmative defense for malfunctions. Other commenters opposed the removal of the affirmative defense provision.

As stated in the February 17, 2015, proposal, the United States Court of Appeals for the District of Columbia Circuit vacated an affirmative defense in one of the EPA's CAA section 112(d) regulations. *NRDC* v. *EPA,* No. 10–1371 (D.C. Cir. April 18, 2014) 2014 U.S. App. LEXIS 7281 (vacating affirmative defense provisions in CAA section 112(d) rule establishing emission standards for Portland cement kilns). The court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts in such cases lies exclusively with the courts, not the EPA. Specifically, the court found: ''As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.' '' See *NRDC,* 2014 U.S. App. LEXIS 7281 at *21 (''[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA.''). The EPA is finalizing the proposed removal of the regulatory affirmative defense provision from MATS. In the event that a source fails to comply with an applicable CAA section 112(d) standard as a result of a malfunction event, the EPA's ability to exercise its case-by-case-enforcement discretion to determine an appropriate response provides sufficient flexibility in such circumstances as was explained in the preamble to the proposed rule. Further, as the D.C. Circuit recognized, in an EPA or citizen enforcement action, the court has the discretion to consider any defense raised and determine whether penalties are appropriate. Cf. NRDC, 2014 U.S. App. LEXIS 7281 at *24 (arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same is true for the presiding officer in EPA administrative enforcement actions. For all these reasons, this final rule removes the affirmative defense provisions.

V. Impacts of This Final Rule

This action finalizes certain provisions and makes technical and clarifying corrections, but does not promulgate substantive changes to the February 2012 final MATS (77 FR 9304). Therefore, there are no environmental, energy, or economic impacts associated with this final action. The impacts associated with MATS are discussed in detail in the February 16, 2012, final MATS rule.

VI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations (40 CFR part 63, subpart UUUUU) and has assigned OMB control number 2060–0567. This action is believed to result in no changes to the ICR of the February 2012 final MATS rule, so that the information collection estimate of project cost and hour burden from the final MATS have not been revised.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This action finalizes changes to MATS to correct and clarify implementation issues raised by stakeholders.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This rule promulgates amendments to the February 2012 final MATS, but the amendments are clarifications to existing rule language to aid in implementation. Therefore, the action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. This action clarifies certain components of the February 2012 final MATS. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This action does not involve technical standards from those contained in the February 16, 2012, final rule. Therefore, the EPA did not consider the use of any voluntary consensus standards. *See* 77 FR 9441–9443 for the NTTAA discussion in the February 16, 2012, final rule.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will **not** have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment.

The environmental justice finding in the February 2012 final MATS remains relevant in this action, which finalizes changes to the rule to correct and clarify implementation issues raised by stakeholders.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: March 17, 2016.

Gina McCarthy,

Administrator.

For the reasons discussed in the preamble, the EPA amends 40 CFR parts 60 and 63 as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Section 60.48Da is amended by revising paragraph (f) to read as follows:

§ 60.48Da Compliance provisions.

* * * * *

(f) For affected facilities for which construction, modification, or reconstruction commenced before May 4, 2011, compliance with the applicable daily average PM emissions limit is determined by calculating the arithmetic average of all hourly emission rates each boiler operating day, except for data obtained during startup, shutdown, or malfunction periods. Daily averages are only calculated for boiler operating days that have non-out-of-control data for at least 18 hours of unit operation during which the standard applies. Instead, all of the non-out-of-control hourly emission rates of the operating day(s) not meeting the minimum 18 hours non-out-of-control data daily average requirement are averaged with all of the non-out-of-control hourly emission rates of the next boiler operating day with 18 hours or more of non-out-of-control PM CEMS data to determine compliance. For affected facilities for which construction or reconstruction commenced after May 3, 2011 that elect to demonstrate compliance using PM CEMS, compliance with the applicable PM emissions limit in § 60.42Da is determined on a 30-boiler operating day rolling average basis by calculating the arithmetic average of all hourly PM emission rates for the 30 successive boiler operating days, except for data obtained during periods of startup and shutdown.

* * * * *

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 3. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 4. Section 63.9983 is amended by:

■ a. Revising the section heading and paragraphs (a), (b), and (c); and

■ b. Adding paragraph (e).

The revisions and addition read as follows:

§ 63.9983 Are any fossil fuel-fired electric generating units not subject to this subpart?

* * * * *

(a) Any unit designated as a major source stationary combustion turbine subject to subpart YYYY of this part and any unit designated as an area source stationary combustion turbine, other than an integrated gasification combined cycle (IGCC) unit.

(b) Any electric utility steam generating unit that is not a coal- or oil-fired EGU and that meets the definition of a natural gas-fired EGU in § 63.10042.

(c) Any electric utility steam generating unit that has the capability of combusting more than 25 MW of coal or oil but does not meet the definition of a coal- or oil-fired EGU because it did not fire sufficient coal or oil to satisfy the average annual heat input requirement set forth in the definitions for coal-fired and oil-fired EGUs in § 63.10042. Heat input means heat derived from combustion of fuel in an EGU and does not include the heat derived from preheated combustion air, recirculated flue gases or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and industrial boilers).

* * * * *

(e) Any electric utility steam generating unit that meets the definition of a natural gas-fired EGU under this subpart and that fires at least 10 percent biomass is an industrial boiler subject to standards established under subpart DDDDD of this part, if it otherwise meets the applicability provisions in that rule.

■ 5. Section 63.9991 is amended by revising paragraphs (c)(1) and (2) to read as follows:

§ 63.9991 What emission limitations, work practice standards, and operating limits must I meet?

* * * * *

(c) * * *

(1) Has a system using wet or dry flue gas desulfurization technology and an SO_2 continuous emissions monitoring system (CEMS) installed on the EGU; and

(2) At all times, you operate the wet or dry flue gas desulfurization technology and the SO_2 CEMS installed on the EGU consistent with § 63.10000(b).

■ 6. Section 63.10000 is amended by revising paragraphs (a), (c)(1)(i), (c)(2)(iii), (f), (g), and (i)(1) and adding paragraphs (m) and (n) to read as follows:

§ 63.10000 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times except during periods of startup and shutdown; however, for coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGUs, you are required to meet the work practice requirements, items 3 and 4, in Table 3 to this subpart during periods of startup or shutdown.

* * * * *

(c)(1) * * *

(i) For a coal-fired or solid oil-derived fuel-fired EGU or IGCC EGU, you may conduct initial performance testing in accordance with § 63.10005(h), to determine whether the EGU qualifies as a low emitting EGU (LEE) for one or more applicable emission limits, except as otherwise provided in paragraphs (c)(1)(i)(A) and (B) of this section:

(A) Except as provided in paragraph (c)(1)(i)(C) of this section, you may not pursue the LEE option if your coal-fired, IGCC, or solid oil-derived fuel-fired EGU is equipped with a main stack and a bypass stack or bypass duct configuration that allows the effluent to bypass any pollutant control device.

(B) You may not pursue the LEE option for Hg if your coal-fired, solid oil-derived fuel-fired EGU or IGCC EGU is new.

(C) You may pursue the LEE option provided that:

(*1*) Your EGU's control device bypass emissions are measured in the bypass stack or duct or your control device bypass exhaust is routed through the EGU main stack so that emissions are measured during the bypass event; or

(*2*) Except for hours during which only clean fuel is combusted, you bypass your EGU control device only during emergency periods for no more than a total of 2 percent of your EGU's annual operating hours; you use clean fuels to the maximum extent possible during an emergency period; and you prepare and submit a report describing the emergency event, its cause, corrective action taken, and estimates of emissions released during the emergency event. You must include these emergency emissions along with performance test results in assessing whether your EGU maintains LEE status.

* * * * *

(2) * * *

(iii) If your existing liquid oil-fired unit does not qualify as a LEE for hydrogen chloride (HCl) or for hydrogen fluoride (HF), you may demonstrate initial and continuous compliance through use of an HCl CEMS, an HF CEMS, or an HCl and HF CEMS, installed and operated in accordance with Appendix B to this rule. As an alternative to HCl CEMS, HF CEMS, or HCl and HF CEMS, you may demonstrate initial and continuous compliance through quarterly performance testing and parametric monitoring for HCl and HF. If you choose to use quarterly testing and parametric monitoring, then you must also develop a site-specific monitoring plan that identifies the CMS you will use to ensure that the operations of the EGU remains consistent with those during the performance test. As another alternative, you may measure or obtain, and keep records of, fuel moisture content; as long as fuel moisture does not exceed 1.0 percent by weight, you need not conduct other HCl or HF monitoring or testing.

* * * * *

(f) Except as provided under paragraph (n) of this section, you are subject to the requirements of this subpart for at least 6 months following the last date you met the definition of an EGU subject to this subpart (*e.g.,* 6 months after a cogeneration unit provided more than one third of its potential electrical output capacity and more than 25 megawatts electrical output to any power distributions system for sale). You may opt to remain subject to the provisions of this subpart beyond 6 months after the last date you met the definition of an EGU subject to this subpart, unless your unit is a solid waste incineration unit subject to standards under CAA section 129 (*e.g.,* 40 CFR part 60, subpart CCCC (New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration Units, or subpart DDDD (Emissions Guidelines (EG) for Existing Commercial and Industrial Solid Waste Incineration Units). Notwithstanding the provisions of this subpart, an EGU that starts combusting solid waste is immediately subject to standards under CAA section 129 and the EGU remains subject to those standards until the EGU no longer meets the definition of a solid waste incineration unit consistent with the provisions of the applicable CAA section 129 standards.

(g) Except as provided under paragraph (n) of this section, if your unit no longer meets the definition of an EGU subject to this subpart you must be in compliance with any newly applicable standards on the date you are no longer subject to this subpart. The date you are no longer subject to this subpart is a date selected by you, that must be at least 6 months from the date that your unit last met the definition of an EGU subject to this subpart or the date you begin combusting solid waste, consistent with § 63.9983(d). Your source must remain in compliance with this subpart until the date you select to cease complying with this subpart or the date you begin combusting solid waste, whichever is earlier.

* * * * *

(i)(1) If you own or operate an EGU subject to this subpart and cease to operate in a manner that causes your unit to meet the definition of an EGU subject to this subpart, you must be in compliance with any newly applicable section 112 or 129 standards on the date you selected consistent with paragraphs (g) and (n) of this section.

* * * * *

(m) Should you choose to rely on paragraph (2) of the definition of ''startup'' in § 63.10042 for your EGU, on or before the date your EGU is subject to this subpart, you must install, verify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals controls during startup periods and shutdown periods required to comply with § 63.10020(e).

(1) You may rely on monitoring system specifications or instructions or manufacturer's specifications when installing, verifying, operating, maintaining, and quality assuring each monitoring system.

(2) You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods.

(n) If you have permanently converted your EGU from coal or oil to natural gas or biomass after your compliance date (or, if applicable, after your approved extended compliance date), as demonstrated by being subject to a permit provision or physical limitation (including retirement) that prevents you from operating in a manner that would subject you to this subpart, you are no longer subject to this subpart, notwithstanding the coal or oil usage in the previous calendar years. The date on which you are no longer subject to this subpart is the date on which you converted to natural gas or biomass firing; it is also the date on which you must be in compliance with any newly applicable standards.

§ 63.10001 [Removed and Reserved]

■ 7. Section 63.10001 is removed and reserved.

■ 8. Section 63.10005 is amended by:

■ a. Revising paragraphs (a) introductory text, (a)(2) introductory text, (a)(2)(i) and (ii), and (b)(4);

■ b. Adding paragraph (b)(6);

■ c. Revising paragraphs (d)(3), (d)(4)(i), (f), (h) introductory text, (h)(3) introductory text, (h)(3)(i)(D), and (h)(3)(iii) introductory text; and

■ d. Removing paragraphs (i)(4)(iii) and (iv).

The revisions and additions read as follows:

§ 63.10005 What are my initial compliance requirements and by what date must I conduct them?

(a) *General requirements.* For each of your affected EGUs, you must demonstrate initial compliance with each applicable emissions limit in Table 1 or 2 of this subpart through performance testing. Where two emissions limits are specified for a particular pollutant (*e.g.,* a heat input-based limit in lb/MMBtu and a gross output-based limit in lb/MWh), you may demonstrate compliance with either emission limit. For a particular compliance demonstration, you may be required to conduct one or more of the following activities in conjunction with performance testing: collection of data, *e.g.,* hourly gross output data (megawatts); establishment of operating limits according to § 63.10011 and Tables 4 and 7 to this subpart; and CMS performance evaluations. In all cases, you must demonstrate initial compliance no later than the date in paragraph (f) of this section for tune-up work practices for existing EGUs; the date that compliance must be demonstrated, as given in § 63.9984 for other requirements for existing EGUs; and in paragraph (g) of this section for all requirements for new EGUs.

* * * * *

(2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.,* an Hg, HCl, or HF CEMS, or a sorbent trap monitoring system) or an SO_2 or PM CEMS, the initial performance test shall consist of 30- or, for certain coal-fired existing EGUs that use emissions averaging for Hg, 90-boiler operating days. If the CMS is certified prior to the compliance date (or, if applicable, the approved extended compliance date), the test shall begin with the first operating day on or after that date, except as otherwise provided in paragraph (b) of this section. If the CMS is not certified prior to the compliance

date, the test shall begin with the first operating day after certification testing is successfully completed. In all cases, the initial 30- or 90- operating day averaging period must be completed on or before the date that compliance must be demonstrated (*i.e.,* 180 days after the applicable compliance date).

(i) The CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO_2 emissions limit in Table 1 or 2 to this subpart.

(ii) You must collect hourly data from auxiliary monitoring systems (*i.e.,* stack gas flow rate, CO_2, O_2, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with a gross output-based emission limit, you must also collect hourly gross output data during the performance test period.

* * * * *

(b) * * *

(4) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (*e.g.,* stack flow rate, diluent gas concentrations, hourly gross outputs) is available for the entire performance test period; and

* * * * *

(6) For performance stack test data that are collected prior to the date that compliance must be demonstrated and are used to demonstrate initial compliance with applicable emissions limits, the interval for subsequent stack tests begins on the date that compliance must be demonstrated.

* * * * *

(d) * * *

(3) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or 2 of this subpart using Hg CEMS or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in § 63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30- (or 90-) boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to this subpart), meets the applicable Hg emission limit in Table 1 or 2 to this subpart.

(4) * * *

(i) You must demonstrate initial compliance no later than the applicable date specified in § 63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs.

* * * * *

(f) For an existing EGU without a neural network, a tune-up, following the procedures in § 63.10021(e), must occur within 6 months (180 days) after April 16, 2015. For an existing EGU with a neural network, a tune-up must occur within 18 months (545 days) after April 16, 2016. If a tune-up occurs prior to April 16, 2015, you must keep records showing that the tune-up met all rule requirements.

* * * * *

(h) *Low emitting EGUs.* The provisions of this paragraph (h) apply to pollutants with emissions limits from new EGUs except Hg and to all pollutants with emissions limits from existing EGUs. You may pursue this compliance option unless prohibited pursuant to § 63.10000(c)(1)(i).

* * * * *

(3) For Hg, you must conduct a 30- (or 90-) boiler operating day performance test using Method 30B in appendix A–8 to part 60 of this chapter to determine whether a unit qualifies for LEE status. Locate the Method 30B sampling probe tip at a point within 10 percent of the duct area centered about the duct's centroid at a location that meets Method 1 in appendix A–1 to part 60 of this chapter and conduct at least three nominally equal length test runs over the 30- (or 90-) boiler operating day test period. You may use a pair of sorbent traps to sample the stack gas for a period consistent with that given in section 5.2.1 of appendix A to this subpart. Collect Hg emissions data continuously over the entire test period (except when changing sorbent traps or performing required reference method QA procedures). As an alternative to constant rate sampling per Method 30B, you may use proportional sampling per section 8.2.2 of Performance Specification 12 B in appendix B to part 60 of this chapter.

(i) * * *

(D) Hourly gross output data (megawatts), from facility records.

* * * * *

(iii) Calculate the average Hg concentration, in µg/m³ (dry basis), for the 30- (or 90-) boiler operating day performance test, as the arithmetic average of all Method 30B sorbent trap results. Also calculate, as applicable, the average values of CO_2 or O_2 concentration, stack gas flow rate, stack gas moisture content, and gross output for the test period. Then:

* * * * *

■ 9. Section 63.10006 is amended by revising paragraph (f) and removing paragraph (j) to read as follows:

§ 63.10006 When must I conduct subsequent performance tests or tune-ups?

* * * * *

(f) *Time between performance tests.* (1) Notwithstanding the provisions of § 63.10021(d)(1), the requirements listed in paragraphs (g) and (h) of this section, and the requirements of paragraph (f)(3) of this section, you must complete performance tests for your EGU as follows:

(i) At least 45 calendar days, measured from the test's end date, must separate performance tests conducted every quarter;

(ii) For annual testing:

(A) At least 320 calendar days, measured from the test's end date, must separate performance tests;

(B) At least 320 calendar days, measured from the test's end date, must separate annual sorbent trap mercury testing for 30-boiler operating day LEE tests;

(C) At least 230 calendar days, measured from the test's end date, must separate annual sorbent trap mercury testing for 90-boiler operating day LEE tests; and

(iii) At least 1,050 calendar days, measured from the test's end date, must separate performance tests conducted every 3 years.

(2) For units demonstrating compliance through quarterly emission testing, you must conduct a performance test in the 4th quarter of a calendar year if your EGU has skipped performance tests in the first 3 quarters of the calendar year.

(3) If your EGU misses a performance test deadline due to being inoperative and if 168 or more boiler operating hours occur in the next test period, you must complete an additional performance test in that period as follows:

(i) At least 15 calendar days must separate two performance tests conducted in the same quarter.

(ii) At least 107 calendar days must separate two performance tests conducted in the same calendar year.

(iii) At least 350 calendar days must separate two performance tests conducted in the same 3 year period.

* * * * *

■ 10. Section 63.10007 is amended by revising paragraph (f)(2) to read as follows:

§ 63.10007 What methods and other procedures must I use for the performance tests?

* * * * *

(f) * * *

(2) *Default gross output.* If you use CEMS to continuously monitor Hg, HCl, HF, SO_2, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default value is available for use in the emission rate calculations during startup periods or shutdown periods (as defined in § 63.10042). For the purposes of this subpart, this default value is not considered to be substitute data. For a startup or shutdown hour in which there is heat input to an affected EGU but zero gross output, you must calculate the pollutant emission rate using a value equivalent to 5% of the maximum sustainable gross output, expressed in megawatts, as defined in section 6.5.2.1(a)(1) of appendix A to part 75 of this chapter. This default gross output is either the nameplate capacity of the EGU or the highest gross output observed in at least four representative quarters of EGU operation. For a monitored common stack, the default gross output is used only when all EGUs are operating (*i.e.,* combusting fuel) are in startup or shutdown mode, and have zero electrical generation. Under those conditions, a default gross output equal to 5% of the combined maximum sustainable gross output of the EGUs that are operating but have a total of zero gross output must be used to calculate the hourly gross output-based pollutant emissions rate.

* * * * *

■ 11. Section 63.10009 is amended by revising paragraphs (a)(2) introductory text, (a)(2)(i), (b)(1) through (3), (e), (f) introductory text, (f)(2), (g), (j)(1)(ii), and (j)(2) introductory text to read as follows:

§ 63.10009 May I use emissions averaging to comply with this subpart?

(a) * * *

(2) You may demonstrate compliance by emissions averaging among the existing EGUs in the same subcategory, if your averaged Hg emissions for EGUs in the ''unit designed for coal ≥8,300 Btu/lb'' subcategory are equal to or less than 1.2 lb/TBtu or 1.3E–2 lb/GWh on a 30-boiler operating day basis or if your averaged emissions of individual, other pollutants from other subcategories of such EGUs are equal to or less than the applicable emissions limit in Table 2 to this subpart, according to the procedures in this section. Note that except for the alternate Hg emissions limit from EGUs in the ''unit designed for coal ≥ 8,300 Btu/lb'' subcategory, the averaging time for emissions averaging for pollutants is 30 days (rolling daily) using data from CEMS or a combination of data from CEMS and manual performance (LEE) testing. The averaging time for emissions averaging for the alternate Hg limit (equal to or less than 1.0 lb/TBtu or 1.1E–2 lb/GWh) from EGUs in the ''unit designed for coal ≥ 8,300 Btu/lb'' subcategory is 90-boiler operating days (rolling daily) using data from CEMS, sorbent trap monitoring, or a combination of monitoring data and data from manual performance (LEE) testing. For the purposes of this paragraph, 30- (or 90-) group boiler operating days is defined as a period during which at least one unit in the emissions averaging group operates on each of the 30 or 90 days. You must calculate the weighted average emissions rate for the group in accordance with the procedures in this paragraph using the data from all units in the group including any that operate fewer than 30 (or 90) days during the preceding 30 (or 90) group boiler days.

(i) You may choose to have your EGU emissions averaging group meet either the heat input basis (MMBtu or TBtu, as appropriate for the pollutant) or gross output basis (MWh or GWh, as appropriate for the pollutant).

* * * * *

(b) * * *

(1) *Group eligibility equations.*

$$WAER_m = \frac{\left[\sum_{j=1}^{p} Herm_j \times Rmm_j\right] + \sum_{k=1}^{m} Ter_k \times Rmt_k}{\left(\sum_{j=1}^{p} Rmm_j\right) + \sum_{k=1}^{m} Rmt_k} \qquad (Eq. 1a)$$

Where:

$WAER_m$ = Maximum Weighted Average Emission Rate in terms of lb/heat input or lb/gross output,

$Herm_{i,j}$ = hourly emission rate (*e.g.,* lb/MMBtu, lb/MWh) from CEMS or sorbent trap monitoring as determined during the initial compliance determination from EGU j,

Rmm_j = Maximum rated heat input, MMBtu/h, or maximum rated gross output, MWh/h, for EGU j,

p = number of EGUs in emissions averaging group that rely on CEMS,

Ter_k = Emissions rate (lb/MMBTU or lb/MWh) as determined during the initial compliance determination of EGU k,

Rmt_k = Maximum rated heat input, MMBtu/h, or maximum rated gross output, MWh/h, for EGU k, and

m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAER_m = \frac{\Sigma \left[\left(\sum_{j=1}^{p} Herm_{i,j}\right) \times Smm_j \times Cfm_{j_j}\right] + \sum_{k=1}^{m} Ter_k \times Smt_k \times Cft_k}{\Sigma \left[\sum_{j=1}^{p} Smm_j \times Cfm_j\right] + \sum_{k=1}^{m} Smt_k \times Cft_k} \qquad (Eq. 1b)$$

Where:

Variables with the similar names share the descriptions for Equation 1a of this section,

Smm_j = maximum steam generation, lb_{steam}/h or lb/gross output, for EGU j,

Cfm_j = conversion factor, calculated from the most recent compliance test results, in terms units of heat output or gross output per pound of steam generated (MMBtu/lb_{steam} or MWh/lb_{steam}) from EGU j,

Smt_k = maximum steam generation, lb_{steam}/h or lb/gross output, for EGU k, and

Cfm_k = conversion factor, calculated from the most recent compliance test results, in terms units of heat output or gross output per pound of steam generated (MMBtu/lb_{steam} or MWh/lb_{steam}) from EGU k.

(2) Weighted 30-boiler operating day rolling average emissions rate equations for pollutants other than Hg. Use Equation 2a or 2b of this section to calculate the 30 day rolling average emissions daily.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Rm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times Rt_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Rm_i)\right]_p + \sum_{i=1}^{m}Rt_i} \quad (Eq.2a)$$

Where:

Her_i = hourly emission rate (*e.g.,* lb/MMBtu, lb/MWh) from unit i's CEMS for the preceding 30-group boiler operating days,
Rm_i = hourly heat input or gross output from unit i for the preceding 30-group boiler operating days,
p = number of EGUs in emissions averaging group that rely on CEMS or sorbent trap monitoring,
n = number of hours that hourly rates are collected over 30-group boiler operating days,
Ter_i = Emissions rate from most recent emissions test of unit i in terms of lb/heat input or lb/gross output,
Rt_i = Total heat input or gross output of unit i for the preceding 30-boiler operating days, and
m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times St_i \times Cft_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}St_i \times Cft_i} \quad (Eq.2b)$$

Where:

variables with similar names share the descriptions for Equation 2a of this section,
Sm_i = steam generation in units of pounds from unit i that uses CEMS for the preceding 30-group boiler operating days,
Cfm_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross output per pound of steam generated, from unit i that uses CEMS from the preceding 30 group boiler operating days,
St_i = steam generation in units of pounds from unit i that uses emissions testing, and
Cft_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross output per pound of steam generated, from unit i that uses emissions testing.

(3) Weighted 90-boiler operating day rolling average emissions rate equations for Hg emissions from EGUs in the ''coal-fired unit not low rank virgin coal'' subcategory. Use Equation 3a or 3b of this section to calculate the 90-day rolling average emissions daily.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Rm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times Rt_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Rm_i)\right]_p + \sum_{i=1}^{m}Rt_i} \quad (Eq.3a)$$

Where:

Her_i = hourly emission rate from unit i's CEMS or Hg sorbent trap monitoring system for the preceding 90-group boiler operating days,
Rm_i = hourly heat input or gross output from unit i for the preceding 90-group boiler operating days,
p = number of EGUs in emissions averaging group that rely on CEMS,
n = number of hours that hourly rates are collected over the 90-group boiler operating days,
Ter_i = Emissions rate from most recent emissions test of unit i in terms of lb/heat input or lb/gross output,
Rt_i = Total heat input or gross output of unit i for the preceding 90-boiler operating days, and
m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times St_i \times Cft_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}St_i \times Cft_i} \quad (Eq.3b)$$

Where:

variables with similar names share the descriptions for Equation 2a of this section,
Sm_i = steam generation in units of pounds from unit i that uses CEMS or a Hg sorbent trap monitoring for the preceding 90-group boiler operating days,
Cfm_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross output per pound of steam generated, from unit i that uses CEMS or sorbent trap monitoring from the preceding 90-group boiler operating days,
St_i = steam generation in units of pounds from unit i that uses emissions testing, and
Cft_i = conversion factor, calculated from the most recent emissions test results, in units of heat input per pound of steam generated or gross output per pound of steam generated, from unit i that uses emissions testing.

* * * * *

(e) The weighted-average emissions rate from the existing EGUs participating in the emissions averaging option must be in compliance with the limits in Table 2 to this subpart at all times following the date that you begin emissions averaging.

(f) Emissions averaging group eligibility demonstration. You must demonstrate the ability for the EGUs included in the emissions averaging group to demonstrate initial compliance according to paragraph (f)(1) or (2) of this section using the maximum rated heat input or gross output over a 30- (or 90-) boiler operating day period of each EGU and the results of the initial performance tests. For this demonstration and prior to preparing your emissions averaging plan, you must conduct required emissions monitoring for 30- (or 90-) days of boiler operation and any required manual performance testing to calculate maximum weighted average emissions rate in accordance with this section. If, before the start of your initial compliance demonstration, the Administrator becomes aware that you intend to use emissions averaging for that demonstration, or if your initial Notification of Compliance Status (NOCS) indicates that you intend to implement emissions averaging at a future date, the Administrator may require you to submit your proposed emissions averaging plan and supporting data for approval. If the Administrator requires approval of your plan, you may not begin using emissions averaging until the Administrator approves your plan.

* * * * *

(2) If you are not capable of monitoring heat input or gross output, and the EGU generates steam for purposes other than generating electricity, you may use Equation 1b of paragraph (b) of this section as an alternative to using Equation 1a of paragraph (b) of this section to demonstrate that the maximum weighted average emissions rates of filterable PM, HF, SO_2, HCl, non-Hg HAP metals, or Hg emissions from the existing units participating in the emissions averaging group do not exceed the emission limits in Table 2 to this subpart.

(g) You must determine the weighted average emissions rate in units of the applicable emissions limit on a 30 group boiler operating day rolling average basis (or, if applicable, on a 90 group boiler operating day rolling average basis for Hg) according to paragraphs (g)(1) and (2) of this section. The first averaging period ends on the 30th (or, if applicable, 90th for the alternate Hg emission limit) group boiler operating day after the date that you begin emissions averaging.

(1) You must use Equation 2a or 3a of paragraph (b) of this section to calculate the weighted average emissions rate using the actual heat input or gross output for each existing unit participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input or gross output, you may use Equation 2b or 3b of paragraph (b) of this section as an alternative to using Equation 2a of paragraph (b) of this section to calculate the average weighted emission rate using the actual steam generation from the units participating in the emissions averaging option.

* * * * *

(j) * * *

(1) * * *

(ii) The process weighting parameter (heat input, gross output, or steam generated) that will be monitored for each averaging group;

* * * * *

(2) If, as described in paragraph (f) of this section, the Administrator requests you to submit the averaging plan for review and approval, you must receive approval before initiating emissions averaging.

* * * * *

■ 12. Section 63.10010 is amended by revising paragraphs (a)(4), (f)(3) and (4), (h)(6)(i) and (ii), (i)(5)(i)(A) and (B), (j)(1)(i), (j)(4)(i)(A) and (B), and (l) to read as follows:

§ 63.10010 What are my monitoring, installation, operation, and maintenance requirements?

(a) * * *

(4) *Unit with a main stack and a bypass stack that exhausts to the atmosphere independent of the main stack.* If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, you shall install CEMS on both the main stack and the bypass stack. If it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, you shall:

(i) Route the exhaust from the bypass through the main stack and its monitoring so that bypass emissions are measured; or

(ii) Install a CEMS only on the main stack and count hours that the bypass stack is in use as hours of deviation from the monitoring requirements.

* * * * *

(f) * * *

(3) Calculate and record a 30-boiler operating day rolling average SO_2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all of the valid hourly SO_2 emission rates in the 30 boiler operating day period.

(4) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in § 63.10042) the default gross output and the diluent cap are available for use in the hourly SO_2 emission rate calculations, as described in § 63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default gross output is used to calculate the SO_2 emission rate for any of these hours.

* * * * *

(h) * * *

(6) * * *

(i) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of output data from the PM CPMS. You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of § 63.10031(b);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any such periods in your annual deviation report;

* * * * *

(i) * * *

(5) * * *

(i) * * *

(A) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of emissions (*e.g.,* calibrations, certain audits). You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of § 63.10031(b);

(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any such periods in your annual deviation report;

* * * * *

(j) * * *

(1)(i) Install, calibrate, operate, and maintain your HAP metals CEMS according to your CMS quality control program, as described in § 63.8(d)(2). The reportable measurement output from the HAP metals CEMS must be expressed in units of the applicable emissions limit (*e.g.,* lb/MMBtu, lb/MWh) and in the form of a 30-boiler operating day rolling average.

* * * * *

(4) * * *

(i) * * *

(A) Any data collected during periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities that temporarily interrupt the measurement of emissions (*e.g.,* calibrations, certain audits). You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of § 63.10031(b);

(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods. You must report any monitoring system malfunctions or out of control periods in your annual deviation reports. You must report any monitoring system quality assurance or quality control activities per the requirements of § 63.10031(b);

* * * * *

(l) Should you choose to rely on paragraph (2) of the definition of ''startup'' in § 63.10042 for your EGU, you must install, verify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the PM or non-mercury metals work practice standards required to comply with § 63.10020(e).

(1) You shall develop a site-specific monitoring plan for PM or non-mercury metals work practice monitoring during startup periods.

(2) You shall submit the site-specific monitoring plan upon request by the Administrator.

(3) The provisions of the monitoring plan must address the following items:

(i) Monitoring system installation;

(ii) Performance and equipment specifications;

(iii) Schedule for initial and periodic performance evaluations;

(iv) Performance evaluation procedures and acceptance criteria;

(v) On-going operation and maintenance procedures; and

(vi) On-going recordkeeping and reporting procedures.

(4) You may rely on monitoring system specifications or instructions or manufacturer's specifications to address paragraphs (l)(3)(i) through (vi) of this section.

(5) You must operate and maintain the monitoring system according to the site-specific monitoring plan.

■ 13. Section 63.10011 is amended by revising paragraphs (b), (c), (e), and (g) to read as follows:

§ 63.10011 How do I demonstrate initial compliance with the emissions limits and work practice standards?

* * * * *

(b) If you are subject to an operating limit in Table 4 to this subpart, you demonstrate initial compliance with HAP metals or filterable PM emission limit(s) through performance stack tests and you elect to use a PM CPMS to demonstrate continuous performance, or if, for a liquid oil-fired EGU, and you use quarterly stack testing for HCl and HF plus site-specific parameter monitoring to demonstrate continuous performance, you must also establish a site-specific operating limit, in accordance with § 63.10007 and Table 6 to this subpart. You may use only the parametric data recorded during successful performance tests (*i.e.,* tests that demonstrate compliance with the applicable emissions limits) to establish an operating limit.

(c)(1) If you use CEMS or sorbent trap monitoring systems to measure a HAP (*e.g.,* Hg or HCl) directly, the initial performance test, shall consist of a 30-boiler operating day (or, for certain coal-fired, existing EGUs that use emissions averaging for Hg, a 90-boiler operating day) rolling average emissions rate obtained with a certified CEMS or sorbent trap system, expressed in units of the standard. If the monitoring system is certified prior to the applicable compliance date, the initial averaging period shall either begin with: The first boiler operating day on or after the compliance date; or 30 (or, if applicable, 90) boiler operating days prior to that date, as described in § 63.10005(b). In all cases, the initial 30- or 90-boiler operating day averaging period must be completed on or before the date that compliance must be demonstrated, in accordance with § 63.9984(f). Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to this subpart.

(2) For an EGU that uses a CEMS to measure SO_2 or PM emissions for initial compliance, the initial performance test shall consist of a 30-boiler operating day average emission rate obtained with certified CEMS, expressed in units of the standard. If the monitoring system is certified prior to the applicable compliance date, the initial averaging period shall either begin with: The first boiler operating day on or after the compliance date; or 30 boiler operating days prior to that date, as described in § 63.10005(b). In all cases, the initial 30-boiler operating day averaging period must be completed on or before the date that compliance must be demonstrated, in accordance with § 63.9984(f). Initial compliance is demonstrated if the results of the performance test meet the applicable SO_2 or PM emission limit in Table 1 or 2 to this subpart.

* * * * *

(e) You must submit a Notification of Compliance Status containing the results of the initial compliance demonstration, in accordance with § 63.10030(e).

* * * * *

(g) You must follow the startup or shutdown requirements as established in Table 3 to this subpart for each coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU.

(1) You may use the diluent cap and default gross output values, as described in § 63.10007(f), during startup periods or shutdown periods.

(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.

(3) You must report the information as required in § 63.10031.

(4) If you choose to use paragraph (2) of the definition of ''startup'' in § 63.10042 and you find that you are unable to safely engage and operate your particulate matter (PM) control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel, you may choose to rely on paragraph (1) of definition of ''startup'' in § 63.10042 or you may submit a request to use an alternative non-opacity emissions standard, as described below.

(i) As mentioned in § 63.6(g)(1), your request will be published in the **Federal Register** for notice and comment rulemaking. Until promulgation in the **Federal Register** of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of ''startup'' in § 63.10042. You shall not implement the alternative non-opacity emissions standard until promulgation in the **Federal Register** of the final alternative non-opacity emission standard.

(ii) Your request need not address the items contained in § 63.6(g)(2).

(iii) Your request shall provide evidence of a documented manufacturer-identified safety issue.

(iv) Your request shall provide information to document that the PM control device is adequately designed and sized to meet the PM emission limit applicable to the EGU.

(v) In addition, your request shall contain documentation that:

(A) Your EGU is using clean fuels to the maximum extent possible, taking into account considerations such as not compromising boiler or control device integrity, to bring your EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in your EGU;

(B) You have followed explicitly your EGU manufacturer's procedures to alleviate or prevent the identified safety issue; and

(C) You have identified with specificity the details of your EGU manufacturer's statement of concern.

(vi) Your request shall specify the other work practice standards you will take to limit HAP emissions during startup periods and shutdown periods to ensure a control level consistent with the work practice standards of the final rule.

(vii) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

■ 14. Section 63.10020 is amended by revising paragraph (e) to read as follows:

§ 63.10020 How do I monitor and collect data to demonstrate continuous compliance?

* * * * *

(e) Additional requirements during startup periods or shutdown periods if you choose to rely on paragraph (2) of the definition of "startup" in § 63.10042 for your EGU.

(1) During each period of startup, you must record for each EGU:

(i) The date and time that clean fuels being combusted for the purpose of startup begins;

(ii) The quantity and heat input of clean fuel for each hour of startup;

(iii) The gross output for each hour of startup;

(iv) The date and time that non-clean fuel combustion begins; and

(v) The date and time that clean fuels being combusted for the purpose of startup ends.

(2) During each period of shutdown, you must record for each EGU:

(i) The date and time that clean fuels being combusted for the purpose of shutdown begins;

(ii) The quantity and heat input of clean fuel for each hour of shutdown;

(iii) The gross output for each hour of shutdown;

(iv) The date and time that non-clean fuel combustion ends; and

(v) The date and time that clean fuels being combusted for the purpose of shutdown ends.

(3) For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.10010(l).

(i) Except for an EGU that uses PM CEMS or PM CPMS to demonstrate compliance with the PM emissions limit, or that has LEE status for filterable PM or total non-Hg HAP metals for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), or individual non-mercury metals CEMS, you must:

(A) Record temperature and combustion air flow or calculated flow as determined from combustion equations of post-combustion (exhaust) gas, as well as amperage of forced draft fan(s), upstream of the filterable PM control devices during each hour of startup.

(B) Record temperature and flow of exhaust gas, as well as amperage of any induced draft fan(s), downstream of the filterable PM control devices during each hour of startup.

(C) For an EGU with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(D) For an EGU with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(E) For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to flue gas ratio and the pressure drop across the scrubber during each hour of startup.

(ii) [Reserved]

■ 15. Section 63.10021 is amended by revising paragraphs (d)(3), (e) introductory text, (e)(9), and (h)(1) to read as follows:

§ 63.10021 How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?

* * * * *

(d) * * *

(3) Must conduct site-specific monitoring using CMS to demonstrate compliance with the site-specific monitoring requirements in Table 7 to this subpart pertaining to HCl and HF emissions from a liquid oil-fired EGU to ensure compliance with the HCl and HF emission limits in Tables 1 and 2 to this subpart, in accordance with the requirements of § 63.10000(c)(2)(iii). The monitoring must meet the general operating requirements provided in § 63.10020.

(e) Conduct periodic performance tune-ups of your EGU(s), as specified in paragraphs (e)(1) through (9) of this section. For your first tune-up, you may perform the burner inspection any time prior to the tune-up or you may delay the first burner inspection until the next scheduled EGU outage provided you meet the requirements of § 63.10005. Subsequently, you must perform an inspection of the burner at least once every 36 calendar months unless your EGU employs neural network combustion optimization during normal operations in which case you must perform an inspection of the burner and combustion controls at least once every 48 calendar months. If your EGU is offline when a deadline to perform the tune-up passes, you shall perform the tune-up work practice requirements within 30 days after the re-start of the affected unit.

* * * * *

(9) Report the dates of the initial and subsequent tune-ups in hard copy, as specified in § 63.10031(f)(5), until April 16, 2017. After April 16, 2017, report the date of all tune-ups electronically, in accordance with § 63.10031(f). The tune-up report date is the date when tune-up requirements in paragraphs (e)(6) and (7) of this section are completed.

* * * * *

(h) * * *

(1) You may use the diluent cap and default gross output values, as described in § 63.10007(f), during startup periods or shutdown periods.

* * * * *

■ 16. Section 63.10023 is amended by removing and reserving paragraph (b)(1) and revising paragraph (b)(2) introductory text to read as follows:

§ 63.10023 How do I establish my PM CPMS operating limit and determine compliance with it?

* * * * *

(b) * * *

(2) Determine your operating limit as follows:

* * * * *

■ 17. Section 63.10030 is amended by:

■ a. Revising paragraphs (e)(1) and (e)(7)(i);

■ b. Adding paragraph (e)(7)(iii);

■ c. Revising paragraph (e)(8); and

■ d. Adding paragraph (f).

The revisions and additions read as follows:

§ 63.10030 What notifications must I submit and when?

* * * * *

(e) * * *

(1) A description of the affected source(s), including identification of the subcategory of the source, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a

petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test.

* * * * *

(7) * * *

(i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting stack tests once every 3 years consistent with § 63.10005(h)(1)(i), the date of each stack test conducted during the previous 3 years, a comparison of emission level you achieved in each stack test conducted during the previous 3 years to the 50 percent emission limit threshold required in § 63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions.

* * * * *

(iii) For each of your existing EGUs, identification of each emissions limit as specified in Table 2 to this subpart with which you plan to comply.

(A) You may switch from a mass per heat input to a mass per gross output limit (or vice-versa), provided that:

(*1*) You submit a request that identifies for each EGU or EGU emissions averaging group involved in the proposed switch both the current and proposed emission limit;

(*2*) Your request arrives to the Administrator at least 30 calendar days prior to the date that the switch is proposed to occur;

(*3*) Your request demonstrates through performance stack test results completed within 30 days prior to your submission, compliance for each EGU or EGU emissions averaging group with both the mass per heat input and mass per gross output limits;

(*4*) You revise and submit all other applicable plans, *e.g.,* monitoring and emissions averaging, with your request; and

(*5*) You maintain records of all information regarding your choice of emission limits.

(B) You begin to use the revised emission limits starting in the next reporting period, after receipt of written acknowledgement from the Administrator of the switch.

(C) From submission of your request until start of the next reporting period after receipt of written acknowledgement from the Administrator of the switch, you demonstrate compliance with both the mass per heat input and mass per gross output emission limits for each pollutant for each EGU or EGU emissions averaging group.

(8) Identification of whether you plan to rely on paragraph (1) or (2) of the definition of ''startup'' in § 63.10042.

(i) Should you choose to rely on paragraph (2) of the definition of ''startup'' in § 63.10042 for your EGU, you shall include a report that identifies:

(A) The original EGU installation date;

(B) The original EGU design characteristics, including, but not limited to, fuel mix and PM controls;

(C) Each design PM control device efficiency established during performance testing or while operating in periods other than startup and shutdown periods;

(D) The design PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds PM per hour established during performance testing or while operating in periods other than startup and shutdown periods;

(E) The design time from start of fuel combustion to necessary conditions for each PM control device startup;

(F) Each design PM control device efficiency upon startup of the PM control device, if different from the efficiency provided in paragraph (e)(8)(i)(C) of this section;

(G) Current EGU PM producing characteristics, including, but not limited to, fuel mix and PM controls, if different from the characteristics provided in paragraph (e)(8)(i)(B) of this section;

(H) Current PM control device efficiency from each PM control device, if different from the efficiency provided in paragraph (e)(8)(i)(C) of this section;

(I) Current PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds per hour, if different from the rate provided in paragraph (e)(8)(i)(D) of this section;

(J) Current time from start of fuel combustion to conditions necessary for each PM control device startup, if different from the time provided in paragraph (e)(8)(i)(E) of this section; and

(K) Current PM control device efficiency upon startup of each PM control device, if different from the efficiency provided in paragraph (e)(8)(i)(H) of this section.

(ii) The report shall be prepared, signed, and sealed by a professional engineer licensed in the state where your EGU is located.

(iii) You may switch from paragraph (1) of the definition of ''startup'' in § 63.10042 to paragraph (2) of the definition of ''startup'' (or vice-versa), provided that:

(A) You submit a request that identifies for each EGU or EGU emissions averaging group involved in the proposed switch both the current definition of ''startup'' relied on and the proposed definition you plan to rely on;

(B) Your request arrives to the Administrator at least 30 calendar days prior to the date that the switch is proposed to occur;

(C) You revise and submit all other applicable plans, *e.g.,* monitoring and emissions averaging, with your submission;

(D) You maintain records of all information regarding your choice of the definition of ''startup''; and

(E) You begin to use the revised definition of ''startup'' in the next reporting period after receipt of written acknowledgement from the Administrator of the switch.

(f) You must submit the notifications in § 63.10000(h)(2) and (i)(2) that may apply to you by the dates specified.

■ 18. Section 63.10031 is amended by revising paragraphs (c) introductory text and (c)(4) and (5) and adding paragraphs (c)(6), (7), (8), and (9) to read as follows:

§ 63.10031 What reports must I submit and when?

* * * * *

(c) The compliance report must contain the information required in paragraphs (c)(1) through (9) of this section.

* * * * *

(4) Include the date of the most recent tune-up for each EGU. The date of the tune-up is the date the tune-up provisions specified in § 63.10021(e)(6) and (7) were completed.

(5) Should you choose to rely on paragraph (2) of the definition of ''startup'' in § 63.10042 for your EGU, for each instance of startup or shutdown you shall:

(i) Include the maximum clean fuel storage capacity and the maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of § 63.10032(f).

(ii) Include the information required to be monitored, collected, or recorded according to the requirements of § 63.10020(e).

(iii) If you choose to use CEMS to demonstrate compliance with numerical limits, include hourly average CEMS values and hourly average flow values during startup periods or shutdown periods. Use units of milligrams per cubic meter for PM CEMS values, micrograms per cubic meter for Hg CEMS values, and ppmv for HCl, HF, or

SO_2 CEMS values. Use units of standard cubic meters per hour on a wet basis for flow values.

(iv) If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration values in terms of micrograms per cubic meter.

(v) If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation.

(6) You must report emergency bypass information annually from EGUs with LEE status.

(7) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during the test, if applicable. If you are conducting stack tests once every 3 years to maintain LEE status, consistent with § 63.10006(b), the date of each stack test conducted during the previous 3 years, a comparison of emission level you achieved in each stack test conducted during the previous 3 years to the 50 percent emission limit threshold required in § 63.10005(h)(1)(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions.

(8) A certification.

(9) If you have a deviation from any emission limit, work practice standard, or operating limit, you must also submit a brief description of the deviation, the duration of the deviation, emissions point identification, and the cause of the deviation.

* * * * *

■ 19. Section 63.10032 is amended by revising paragraph (f) to read as follows:

§ 63.10032 What records must I keep?

* * * * *

(f) Regarding startup periods or shutdown periods:

(1) Should you choose to rely on paragraph (1) of the definition of ‘‘startup’’ in § 63.10042 for your EGU, you must keep records of the occurrence and duration of each startup or shutdown.

(2) Should you choose to rely on paragraph (2) of the definition of ‘‘startup’’ in § 63.10042 for your EGU, you must keep records of:

(i) The determination of the maximum possible clean fuel capacity for each EGU;

(ii) The determination of the maximum possible hourly clean fuel heat input and of the hourly clean fuel heat input for each EGU; and

(iii) The information required in § 63.10020(e).

* * * * *

■ 20. Section 63.10042 is amended by:

■ a. Revising the definitions of ‘‘Coal-fired electric utility steam generating unit,’’ ‘‘Coal refuse,’’ ‘‘Fossil fuel-fired,’’ ‘‘Integrated gasification combined cycle electric utility steam generating unit or IGCC,’’ ‘‘Limited-use liquid oil-fired subcategory,’’ and ‘‘Natural gas-fired electric utility steam generating unit’’;

■ b. Adding, in alphabetical order, definition of ‘‘Neural network or neural net’’; and

■ c. Revising the definition of ‘‘Oil-fired electric utility steam generating unit.’’

The revisions and additions read as follows:

§ 63.10042 What definitions apply to this subpart?

* * * * *

Coal-fired electric utility steam generating unit means an electric utility steam generating unit meeting the definition of ‘‘fossil fuel-fired’’ that burns coal for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in § 63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections. After the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the three previous calendars years on an annual rolling basis.

Coal refuse means waste products of coal mining, physical coal cleaning, and coal preparation operations (*e.g.* culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

* * * * *

Fossil fuel-fired means an electric utility steam generating unit (EGU) that is capable of producing more than 25 MW of electrical output from the combustion of fossil fuels. To be ‘‘capable of combusting’’ fossil fuels, an EGU would need to have these fuels allowed in its operating permit and have the appropriate fuel handling facilities on-site or otherwise available (*e.g.,* coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired means any EGU that fired fossil fuels for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in § 63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections. After the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the three previous calendars years on an annual rolling basis.

* * * * *

Integrated gasification combined cycle electric utility steam generating unit or *IGCC* means an electric utility steam generating unit meeting the definition of ‘‘fossil fuel-fired’’ that burns a synthetic gas derived from coal and/or solid oil-derived fuel for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in § 63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years in a combined-cycle gas turbine. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections. No solid coal or solid oil-derived fuel is directly burned in the unit during operation. After the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the three previous calendars years on an annual rolling basis.

* * * * *

Limited-use liquid oil-fired subcategory means an oil-fired electric utility steam generating unit with an annual capacity factor when burning oil of less than 8 percent of its maximum or nameplate heat input, whichever is greater, averaged over a 24-month block contiguous period commencing on the first of the month following the compliance date specified in § 63.9984.

* * * * *

Natural gas-fired electric utility steam generating unit means an electric utility steam generating unit meeting the definition of ‘‘fossil fuel-fired’’ that is not a coal-fired, oil-fired, or IGCC electric utility steam generating unit and that burns natural gas for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in § 63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections.

* * * * *

Neural network or *neural net* for purposes of this rule means an automated boiler optimization system. A neural network typically has the ability to process data from many inputs to develop, remember, update, and enable algorithms for efficient boiler operation.

* * * * *

Oil-fired electric utility steam generating unit means an electric utility steam generating unit meeting the definition of ''fossil fuel-fired'' that is not a coal-fired electric utility steam generating unit and that burns oil for more than 10.0 percent of the average annual heat input during the 3 previous calendar years after the compliance date for your facility in § 63.9984 or for more than 15.0 percent of the annual heat input during any one of those calendar years. EGU owners and operators must estimate coal, oil, and natural gas usage for the first 3 calendar years after the applicable compliance date and they are solely responsible for assuring compliance with this final rule or other applicable standard based on their fuel usage projections. After the first 3 years of compliance, EGUs are required to evaluate applicability based on coal or oil usage from the three previous calendars years on an annual rolling basis.

* * * * *

■ 21. Revise Table 1 to subpart UUUUU of part 63 to read as follows:

TABLE 1 TO SUBPART UUUUU OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED EGUs

[As stated in § 63.9991, you must comply with the following applicable emission limits:]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
1. Coal-fired unit not low rank virgin coal.	a. Filterable particulate matter (PM).	9.0E-2 lb/MWh[1]	Collect a minimum of 4 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	6.0E-2 lb/GWh	Collect a minimum of 4 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E-3 lb/GWh	
	Arsenic (As)	3.0E-3 lb/GWh	
	Beryllium (Be)	6.0E-4 lb/GWh	
	Cadmium (Cd)	4.0E-4 lb/GWh	
	Chromium (Cr)	7.0E-3 lb/GWh	
	Cobalt (Co)	2.0E-3 lb/GWh	
	Lead (Pb)	2.0E-2 lb/GWh	
	Manganese (Mn)	4.0E-3 lb/GWh	
	Nickel (Ni)	4.0E-2 lb/GWh	
	Selenium (Se)	5.0E-2 lb/GWh	
	b. Hydrogen chloride (HCl)	1.0E-2 lb/MWh	For Method 26A at appendix A–8 to part 60 of this chapter, collect a minimum of 3 dscm per run. For ASTM D6348–03[2] or Method 320 at appendix A to part 63 of this chapter, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2)[3]	1.0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	3.0E-3 lb/GWh	Hg CEMS or sorbent trap monitoring system only.
2. Coal-fired units low rank virgin coal.	a. Filterable particulate matter (PM).	9.0E-2 lb/MWh[1]	Collect a minimum of 4 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	6.0E-2 lb/GWh	Collect a minimum of 4 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E-3 lb/GWh	
	Arsenic (As)	3.0E-3 lb/GWh	
	Beryllium (Be)	6.0E-4 lb/GWh	
	Cadmium (Cd)	4.0E-4 lb/GWh	
	Chromium (Cr)	7.0E-3 lb/GWh	
	Cobalt (Co)	2.0E-3 lb/GWh	
	Lead (Pb)	2.0E-2 lb/GWh	
	Manganese (Mn)	4.0E-3 lb/GWh	
	Nickel (Ni)	4.0E-2 lb/GWh	
	Selenium (Se)	5.0E-2 lb/GWh	
	b. Hydrogen chloride (HCl)	1.0E-2 lb/MWh	For Method 26A, collect a minimum of 3 dscm per run For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
	OR		

TABLE 1 TO SUBPART UUUUU OF PART 63—EMISSION LIMITS FOR NEW OR RECONSTRUCTED EGUS—Continued

[As stated in § 63.9991, you must comply with the following applicable emission limits:]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
	Sulfur dioxide (SO_2)[3]	1.0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	4.0E-2 lb/GWh	Hg CEMS or sorbent trap monitoring system only.
3. IGCC unit	a. Filterable particulate matter (PM).	7.0E-2 lb/MWh[4] 9.0E–2 lb/MWh[5].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	4.0E-1 lb/GWh	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 2 dscm per run.
	Antimony (Sb)	2.0E-2 lb/GWh	
	Arsenic (As)	2.0E-2 lb/GWh	
	Beryllium (Be)	1.0E-3 lb/GWh	
	Cadmium (Cd)	2.0E-3 lb/GWh	
	Chromium (Cr)	4.0E-2 lb/GWh	
	Cobalt (Co)	4.0E-3 lb/GWh	
	Lead (Pb)	9.0E-3 lb/GWh	
	Manganese (Mn)	2.0E-2 lb/GWh	
	Nickel (Ni)	7.0E-2 lb/GWh	
	Selenium (Se)	3.0E-1 lb/GWh	
	b. Hydrogen chloride (HCl)	2.0E-3 lb/MWh	For Method 26A, collect a minimum of 1 dscm per run; for Method 26 at appendix A–8 to part 60 of this chapter, collect a minimum of 120 liters per run. For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2)[3]	4.0E-1 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	3.0E-3 lb/GWh	Hg CEMS or sorbent trap monitoring system only.
4. Liquid oil-fired unit—continental (excluding limited-use liquid oil-fired subcategory units).	a. Filterable particulate matter (PM).	3.0E-1 lb/MWh[1]	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total HAP metals	2.0E-4 lb/MWh	Collect a minimum of 2 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 2 dscm per run.
	Antimony (Sb)	1.0E-2 lb/GWh	
	Arsenic (As)	3.0E-3 lb/GWh	
	Beryllium (Be)	5.0E-4 lb/GWh	
	Cadmium (Cd)	2.0E-4 lb/GWh	
	Chromium (Cr)	2.0E-2 lb/GWh	
	Cobalt (Co)	3.0E-2 lb/GWh	
	Lead (Pb)	8.0E-3 lb/GWh	
	Manganese (Mn)	2.0E-2 lb/GWh	
	Nickel (Ni)	9.0E-2 lb/GWh	
	Selenium (Se)	2.0E-2 lb/GWh	
	Mercury (Hg)	1.0E-4 lb/GWh	For Method 30B at appendix A–8 to part 60 of this chapter sample volume determination (Section 8.2.4), the estimated Hg concentration should nominally be < ½ the standard.
	b. Hydrogen chloride (HCl)	4.0E-4 lb/MWh	For Method 26A, collect a minimum of 3 dscm per run. For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
	c. Hydrogen fluoride (HF)	4.0E-4 lb/MWh	For Method 26A, collect a minimum of 3 dscm per run. For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
5. Liquid oil-fired unit—non-continental (excluding limited-use liquid oil-fired subcategory units).	a. Filterable particulate matter (PM).	2.0E–1 lb/MWh[1]	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total HAP metals	7.0E-3 lb/MWh	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.

Table 1 to Subpart UUUUU of Part 63—Emission Limits for New or Reconstructed EGUs—Continued

[As stated in § 63.9991, you must comply with the following applicable emission limits:]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
	Antimony (Sb)	8.0E-3 lb/GWh	
	Arsenic (As)	6.0E-2 lb/GWh	
	Beryllium (Be)	2.0E-3 lb/GWh	
	Cadmium (Cd)	2.0E-3 lb/GWh	
	Chromium (Cr)	2.0E-2 lb/GWh	
	Cobalt (Co)	3.0E-1 lb/GWh	
	Lead (Pb)	3.0E-2 lb/GWh	
	Manganese (Mn)	1.0E-1 lb/GWh	
	Nickel (Ni)	4.1E0 lb/GWh	
	Selenium (Se)	2.0E-2 lb/GWh	
	Mercury (Hg)	4.0E-4 lb/GWh	For Method 30B sample volume determination (Section 8.2.4), the estimated Hg concentration should nominally be < ½ the standard.
	b. Hydrogen chloride (HCl)	2.0E-3 lb/MWh	For Method 26A, collect a minimum of 1 dscm per run;for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
	c. Hydrogen fluoride (HF)	5.0E-4 lb/MWh	For Method 26A, collect a minimum of 3 dscm per run.For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
6. Solid oil-derived fuel-fired unit.	a. Filterable particulate matter (PM).	3.0E-2 lb/MWh[1]	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	6.0E-1 lb/GWh	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E–3 lb/GWh	
	Arsenic (As)	3.0E-3 lb/GWh	
	Beryllium (Be)	6.0E-4 lb/GWh	
	Cadmium (Cd)	7.0E-4 lb/GWh	
	Chromium (Cr)	6.0E-3 lb/GWh	
	Cobalt (Co)	2.0E-3 lb/GWh	
	Lead (Pb)	2.0E-2 lb/GWh	
	Manganese (Mn)	7.0E-3 lb/GWh	
	Nickel (Ni)	4.0E-2 lb/GWh	
	Selenium (Se)	6.0E-3 lb/GWh	
	b. Hydrogen chloride (HCl)	4.0E-4 lb/MWh	For Method 26A, collect a minimum of 3 dscm per run. For ASTM D6348–03[2] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2)[3]	1.0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	2.0E-3 lb/GWh	Hg CEMS or Sorbent trap monitoring system only.

[1] Gross output.

[2] Incorporated by reference, see § 63.14.

[3] You may not use the alternate SO_2 limit if your EGU does not have some form of FGD system (or, in the case of IGCC EGUs, some other acid gas removal system either upstream or downstream of the combined cycle block) and SO_2 CEMS installed.

[4] Duct burners on syngas; gross output.

[5] Duct burners on natural gas; gross output.

■ 22. Revise Table 2 to subpart UUUUU of part 63 to read as follows:

Table 2 to Subpart UUUUU of Part 63—Emission Limits for Existing EGUs

[As stated in § 63.9991, you must comply with the following applicable emission limits:[1]]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
1. Coal-fired unit not low rank virgin coal.	a. Filterable particulate matter (PM).	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	5.0E-5 lb/MMBtu or 5.0E-1 lb/GWh.	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh	
	Arsenic (As)	1.1E0 lb/TBtu or 2.0E-2 lb/GWh	
	Beryllium (Be)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh	
	Cadmium (Cd)	3.0E-1 lb/TBtu or 3.0E-3 lb/GWh	
	Chromium (Cr)	2.8E0 lb/TBtu or 3.0E-2 lb/GWh	
	Cobalt (Co)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh	
	Lead (Pb)	1.2E0 lb/TBtu or 2.0E-2 lb/GWh	
	Manganese (Mn)	4.0E0 lb/TBtu or 5.0E-2 lb/GWh	
	Nickel (Ni)	3.5E0 lb/TBtu or 4.0E-2 lb/GWh	
	Selenium (Se)	5.0E0 lb/TBtu or 6.0E-2 lb/GWh	
	b. Hydrogen chloride (HCl)	2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh.	For Method 26A at appendix A–8 to part 60 of this chapter, collect a minimum of 0.75 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320 at appendix A to part 63 of this chapter, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2)[4]	2.0E-1 lb/MMBtu or 1.5E0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	1.2E0 lb/TBtu or 1.3E-2 lb/GWh	LEE Testing for 30 days with a sampling period consistent with that given in section 5.2.1 of appendix A to this subpart per Method 30B at appendix A–8 to part 60 of this chapter run or Hg CEMS or sorbent trap monitoring system only.
		OR.	
		1.0E0 lb/TBtu or 1.1E-2 lb/GWh	LEE Testing for 90 days with a sampling period consistent with that given in section 5.2.1 of appendix A to this subpart per Method 30B run or Hg CEMS or sorbent trap monitoring system only.
2. Coal-fired unit low rank virgin coal.	a. Filterable particulate matter (PM).	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR.	
	Total non-Hg HAP metals	5.0E-5 lb/MMBtu or 5.0E-1 lb/GWh.	Collect a minimum of 1 dscm per run.
	OR	OR.	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh	
	Arsenic (As)	1.1E0 lb/TBtu or 2.0E-2 lb/GWh	
	Beryllium (Be)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh	
	Cadmium (Cd)	3.0E-1 lb/TBtu or 3.0E-3 lb/GWh	
	Chromium (Cr)	2.8E0 lb/TBtu or 3.0E-2 lb/GWh	
	Cobalt (Co)	8.0E-1 lb/TBtu or 8.0E-3 lb/GWh	
	Lead (Pb)	1.2E0 lb/TBtu or 2.0E-2 lb/GWh	
	Manganese (Mn)	4.0E0 lb/TBtu or 5.0E-2 lb/GWh	
	Nickel (Ni)	3.5E0 lb/TBtu or 4.0E-2 lb/GWh	
	Selenium (Se)	5.0E0 lb/TBtu or 6.0E-2 lb/GWh	

TABLE 2 TO SUBPART UUUUU OF PART 63—EMISSION LIMITS FOR EXISTING EGUs—Continued

[As stated in § 63.9991, you must comply with the following applicable emission limits: [1]]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
	b. Hydrogen chloride (HCl)	2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh.	For Method 26A, collect a minimum of 0.75 dscm per run; for Method 26 at appendix A–8 to part 60 of this chapter, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2)[4]	2.0E-1 lb/MMBtu or 1.5E0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	4.0E0 lb/TBtu or 4.0E-2 lb/GWh	LEE Testing for 30 days with a sampling period consistent with that given in section 5.2.1 of appendix A to this subpart per Method 30B run or Hg CEMS or sorbent trap monitoring system only.
3. IGCC unit	a. Filterable particulate matter (PM).	4.0E-2 lb/MMBtu or 4.0E-1 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	6.0E-5 lb/MMBtu or 5.0E-1 lb/GWh.	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 2 dscm per run.
	Antimony (Sb)	1.4E0 lb/TBtu or 2.0E-2 lb/GWh	
	Arsenic (As)	1.5E0 lb/TBtu or 2.0E-2 lb/GWh	
	Beryllium (Be)	1.0E-1 lb/TBtu or 1.0E-3 lb/GWh	
	Cadmium (Cd)	1.5E-1 lb/TBtu or 2.0E-3 lb/GWh	
	Chromium (Cr)	2.9E0 lb/TBtu or 3.0E-2 lb/GWh	
	Cobalt (Co)	1.2E0 lb/TBtu or 2.0E-2 lb/GWh	
	Lead (Pb)	1.9E+2 lb/TBtu or 1.8E0 lb/GWh	
	Manganese (Mn)	2.5E0 lb/TBtu or 3.0E-2 lb/GWh	
	Nickel (Ni)	6.5E0 lb/TBtu or 7.0E-2 lb/GWh	
	Selenium (Se)	2.2E+1 lb/TBtu or 3.0E-1 lb/GWh	
	b. Hydrogen chloride (HCl)	5.0E-4 lb/MMBtu or 5.0E-3 lb/MWh.	For Method 26A, collect a minimum of 1 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 1 hour.
	c. Mercury (Hg)	2.5E0 lb/TBtu or 3.0E-2 lb/GWh	LEE Testing for 30 days with a sampling period consistent with that given in section 5.2.1 of appendix A to this subpart per Method 30B run or Hg CEMS or sorbent trap monitoring system only.
4. Liquid oil-fired unit—continental (excluding limited-use liquid oil-fired subcategory units).	a. Filterable particulate matter (PM).	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total HAP metals	8.0E-4 lb/MMBtu or 8.0E-3 lb/MWh.	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 1 dscm per run.
	Antimony (Sb)	1.3E+1 lb/TBtu or 2.0E-1 lb/GWh	
	Arsenic (As)	2.8E0 lb/TBtu or 3.0E-2 lb/GWh	
	Beryllium (Be)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh	
	Cadmium (Cd)	3.0E-1 lb/TBtu or 2.0E-3 lb/GWh	
	Chromium (Cr)	5.5E0 lb/TBtu or 6.0E-2 lb/GWh	
	Cobalt (Co)	2.1E+1 lb/TBtu or 3.0E-1 lb/GWh	
	Lead (Pb)	8.1E0 lb/TBtu or 8.0E-2 lb/GWh	
	Manganese (Mn)	2.2E+1 lb/TBtu or 3.0E-1 lb/GWh	
	Nickel (Ni)	1.1E+2 lb/TBtu or 1.1E0 lb/GWh	

Table 2 to Subpart UUUUU of Part 63—Emission Limits for Existing EGUs—Continued

[As stated in § 63.9991, you must comply with the following applicable emission limits:[1]]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
	Selenium (Se)	3.3E0 lb/TBtu or 4.0E-2 lb/GWh	
	Mercury (Hg)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh	For Method 30B sample volume determination (Section 8.2.4), the estimated Hg concentration should nominally be < ½ the standard.
	b. Hydrogen chloride (HCl)	2.0E-3 lb/MMBtu or 1.0E-2 lb/MWh.	For Method 26A, collect a minimum of 1 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 1 hour.
	c. Hydrogen fluoride (HF)	4.0E-4 lb/MMBtu or 4.0E-3 lb/MWh.	For Method 26A, collect a minimum of 1 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 1 hour.
5. Liquid oil-fired unit—non-continental (excluding limited-use liquid oil-fired subcategory units).	a. Filterable particulate matter (PM).	3.0E-2 lb/MMBtu or 3.0E-1 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total HAP metals	6.0E-4 lb/MMBtu or 7.0E-3 lb/MWh.	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 2 dscm per run.
	Antimony (Sb)	2.2E0 lb/TBtu or 2.0E-2 lb/GWh	
	Arsenic (As)	4.3E0 lb/TBtu or 8.0E-2 lb/GWh	
	Beryllium (Be)	6.0E-1 lb/TBtu or 3.0E-3 lb/GWh	
	Cadmium (Cd)	3.0E-1 lb/TBtu or 3.0E-3 lb/GWh	
	Chromium (Cr)	3.1E+1 lb/TBtu or 3.0E-1 lb/GWh	
	Cobalt (Co)	1.1E+2 lb/TBtu or 1.4E0 lb/GWh	
	Lead (Pb)	4.9E0 lb/TBtu or 8.0E-2 lb/GWh	
	Manganese (Mn)	2.0E+1 lb/TBtu or 3.0E-1 lb/GWh	
	Nickel (Ni)	4.7E+2 lb/TBtu or 4.1E0 lb/GWh	
	Selenium (Se)	9.8E0 lb/TBtu or 2.0E-1 lb/GWh	
	Mercury (Hg)	4.0E-2 lb/TBtu or 4.0E-4 lb/GWh	For Method 30B sample volume determination (Section 8.2.4), the estimated Hg concentration should nominally be < ½ the standard.
	b. Hydrogen chloride (HCl)	2.0E-4 lb/MMBtu or 2.0E-3 lb/MWh.	For Method 26A, collect a minimum of 1 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 2 hours.
	c. Hydrogen fluoride (HF)	6.0E-5 lb/MMBtu or 5.0E-4 lb/MWh.	For Method 26A, collect a minimum of 3 dscm per run. For ASTM D6348–03[3] or Method 320, sample for a minimum of 2 hours.
6. Solid oil-derived fuel-fired unit	a. Filterable particulate matter (PM).	8.0E-3 lb/MMBtu or 9.0E-2 lb/MWh[2].	Collect a minimum of 1 dscm per run.
	OR	OR	
	Total non-Hg HAP metals	4.0E-5 lb/MMBtu or 6.0E-1 lb/GWh.	Collect a minimum of 1 dscm per run.
	OR	OR	
	Individual HAP metals:		Collect a minimum of 3 dscm per run.
	Antimony (Sb)	8.0E-1 lb/TBtu or 7.0E-3 lb/GWh	
	Arsenic (As)	3.0E-1 lb/TBtu or 5.0E-3 lb/GWh	
	Beryllium (Be)	6.0E-2 lb/TBtu or 5.0E-4 lb/GWh	

TABLE 2 TO SUBPART UUUUU OF PART 63—EMISSION LIMITS FOR EXISTING EGUS—Continued

[As stated in § 63.9991, you must comply with the following applicable emission limits: [1]]

If your EGU is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .	Using these requirements, as appropriate (*e.g.,* specified sampling volume or test run duration) and limitations with the test methods in Table 5 to this Subpart . . .
	Cadmium (Cd)	3.0E-1 lb/TBtu or 4.0E-3 lb/GWh	
	Chromium (Cr)	8.0E-1 lb/TBtu or 2.0E-2 lb/GWh	
	Cobalt (Co)	1.1E0 lb/TBtu or 2.0E-2 lb/GWh	
	Lead (Pb)	8.0E-1 lb/TBtu or 2.0E-2 lb/GWh	
	Manganese (Mn)	2.3E0 lb/TBtu or 4.0E-2 lb/GWh	
	Nickel (Ni)	9.0E0 lb/TBtu or 2.0E-1 lb/GWh	
	Selenium (Se)	1.2E0 lb/Tbtu or 2.0E-2 lb/GWh	
	b. Hydrogen chloride (HCl)	5.0E-3 lb/MMBtu or 8.0E-2 lb/MWh.	For Method 26A, collect a minimum of 0.75 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03 [3] or Method 320, sample for a minimum of 1 hour.
	OR		
	Sulfur dioxide (SO_2) [4]	3.0E-1 lb/MMBtu or 2.0E0 lb/MWh	SO_2 CEMS.
	c. Mercury (Hg)	2.0E-1 lb/TBtu or 2.0E-3 lb/GWh	LEE Testing for 30 days with a sampling period consistent with that given in section 5.2.1 of appendix A to this subpart per Method 30B run or Hg CEMS or sorbent trap monitoring system only.

[1] For LEE emissions testing for total PM, total HAP metals, individual HAP metals, HCl, and HF, the required minimum sampling volume must be increased nominally by a factor of two.

[2] Gross output.

[3] Incorporated by reference, see § 63.14.

[4] You may not use the alternate SO_2 limit if your EGU does not have some form of FGD system and SO_2 CEMS installed.

■ 23. Revise Table 3 to subpart UUUUU of part 63 to read as follows:

TABLE 3 TO SUBPART UUUUU OF PART 63—WORK PRACTICE STANDARDS

[As stated in § 63.9991, you must comply with the following applicable work practice standards:]

If your EGU is . . .	You must meet the following . . .
1. An existing EGU	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in § 63.10021(e).
2. A new or reconstructed EGU.	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in § 63.10021(e).
3. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during startup.	a. You have the option of complying using either of the following work practice standards: (1) If you choose to comply using paragraph (1) of the definition of ''startup'' in § 63.10042, you must operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, you must use clean fuels as defined in § 63.10042 for ignition. Once you convert to firing coal, residual oil, or solid oil-derived fuel, you must engage all of the applicable control technologies except dry scrubber and SCR. You must start your dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation. You must comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in this subpart. You must keep records during startup periods. You must provide reports concerning activities and startup periods, as specified in § 63.10011(g) and § 63.10021(h) and (i). (2) If you choose to comply using paragraph (2) of the definition of ''startup'' in § 63.10042, you must operate all CMS during startup. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of startup. For startup of an EGU, you must use one or a combination of the clean fuels defined in § 63.10042 to the maximum extent possible, taking into account considerations such as boiler or control device integrity, throughout the startup period. You must have sufficient clean fuel capacity to engage and operate your PM control device within one hour of adding coal, residual oil, or solid oil-derived fuel to the unit. You must meet the startup period work practice requirements as identified in § 63.10020(e). Once you start firing coal, residual oil, or solid oil-derived fuel, you must vent emissions to the main stack(s). You must comply with the applicable emission limits beginning with the hour after startup ends. You must engage and operate your particulate matter control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel.

TABLE 3 TO SUBPART UUUUU OF PART 63—WORK PRACTICE STANDARDS—Continued

[As stated in § 63.9991, you must comply with the following applicable work practice standards:]

If your EGU is . . .	You must meet the following . . .
	You must start all other applicable control devices as expeditiously as possible, considering safety and manufacturer/supplier recommendations, but, in any case, when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart that require operation of the control devices. b. Relative to the syngas not fired in the combustion turbine of an IGCC EGU during startup, you must either: (1) Flare the syngas, or (2) route the syngas to duct burners, which may need to be installed, and route the flue gas from the duct burners to the heat recovery steam generator. c. If you choose to use just one set of sorbent traps to demonstrate compliance with the applicable Hg emission limit, you must comply with the limit at all times; otherwise, you must comply with the applicable emission limit at all times except for startup and shutdown periods. d. You must collect monitoring data during startup periods, as specified in § 63.10020(a) and (e). You must keep records during startup periods, as provided in §§ 63.10032 and 63.10021(h). You must provide reports concerning activities and startup periods, as specified in §§ 63.10011(g), 63.10021(i), and 63.10031.
4. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during shutdown.	You must operate all CMS during shutdown. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of shutdown for those pollutants for which a CMS is used. While firing coal, residual oil, or solid oil-derived fuel during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal, residual oil, or solid oil-derived fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns. In any case, you must operate your controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart and that require operation of the control devices. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in § 63.10042 and must be used to the maximum extent possible, taking into account considerations such as not compromising boiler or control device integrity. Relative to the syngas not fired in the combustion turbine of an IGCC EGU during shutdown, you must either: (1) Flare the syngas, or (2) route the syngas to duct burners, which may need to be installed, and route the flue gas from the duct burners to the heat recovery steam generator. You must comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time you must meet this work practice. You must collect monitoring data during shutdown periods, as specified in § 63.10020(a). You must keep records during shutdown periods, as provided in §§ 63.10032 and 63.10021(h). Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. You must provide reports concerning activities and shutdown periods, as specified in §§ 63.10011(g), 63.10021(i), and 63.10031.

■ 24. Revise Table 4 to subpart UUUUU of part 63 to read as follows:

TABLE 4 TO SUBPART UUUUU OF PART 63 — OPERATING LIMITS FOR EGUS

[As stated in § 63.9991, you must comply with the applicable operating limits:]

If you demonstrate compliance using . . .	You must meet these operating limits . . .
PM CPMS	Maintain the 30-boiler operating day rolling average PM CPMS output determined in accordance with the requirements of § 63.10023(b)(2) and obtained during the most recent performance test run demonstrating compliance with the filterable PM, total non-mercury HAP metals (total HAP metals, for liquid oil-fired units), or individual non-mercury HAP metals (individual HAP metals including Hg, for liquid oil-fired units) emissions limitation(s).

■ 25. Revise Table 5 to subpart UUUUU of part 63 to read as follows:

TABLE 5 TO SUBPART UUUUU OF PART 63—PERFORMANCE TESTING REQUIREMENTS

[As stated in § 63.10007, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources: [1]]

To conduct a performance test for the following pollutant . . .	Using . . .	You must perform the following activities, as applicable to your input- or output-based emission limit . . .	Using . . .[2]
1. Filterable Particulate matter (PM).	Emissions Testing	a. Select sampling ports location and the number of traverse points.	Method 1 at appendix A–1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A–1 or A–2 to part 60 of this chapter.

TABLE 5 TO SUBPART UUUUU OF PART 63—PERFORMANCE TESTING REQUIREMENTS—Continued

[As stated in § 63.10007, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources: [1]]

To conduct a performance test for the following pollutant . . .	Using . . .	You must perform the following activities, as applicable to your input- or output-based emission limit . . .	Using . . .[2]
		c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B at appendix A–2 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981.[3]
		d. Measure the moisture content of the stack gas.	Method 4 at appendix A–3 to part 60 of this chapter.
		e. Measure the filterable PM concentration.	Method 5 at appendix A–3 to part 60 of this chapter. For positive pressure fabric filters, Method 5D at appendix A–3 to part 60 of this chapter for filterable PM emissions. Note that the Method 5 front half temperature shall be 160° ± 14° C (320° ± 25° F).
		f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR.	
	PM CEMS	a. Install, certify, operate, and maintain the PM CEMS.	Performance Specification 11 at appendix B to part 60 of this chapter and Procedure 2 at appendix F to part 60 of this chapter.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems.	Part 75 of this chapter and § 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
2. Total or individual non-Hg HAP metals.	Emissions Testing	a. Select sampling ports location and the number of traverse points..	Method 1 at appendix A–1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A–1 or A–2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B at appendix A–2 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981.[3]
		d. Measure the moisture content of the stack gas.	Method 4 at appendix A–3 to part 60 of this chapter.
		e. Measure the HAP metals emissions concentrations and determine each individual HAP metals emissions concentration, as well as the total filterable HAP metals emissions concentration and total HAP metals emissions concentration.	Method 29 at appendix A–8 to part 60 of this chapter. For liquid oil-fired units, Hg is included in HAP metals and you may use Method 29, Method 30B at appendix A–8 to part 60 of this chapter; for Method 29, you must report the front half and back half results separately. When using Method 29, report metals matrix spike and recovery levels.
		f. Convert emissions concentrations (individual HAP metals, total filterable HAP metals, and total HAP metals) to lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
3. Hydrogen chloride (HCl) and hydrogen fluoride (HF).	Emissions Testing	a. Select sampling ports location and the number of traverse points..	Method 1 at appendix A–1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A–1 or A–2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B at appendix A–2 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981.[3]
		d. Measure the moisture content of the stack gas.	Method 4 at appendix A–3 to part 60 of this chapter.

TABLE 5 TO SUBPART UUUUU OF PART 63—PERFORMANCE TESTING REQUIREMENTS—Continued

[As stated in § 63.10007, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources: [1]]

To conduct a performance test for the following pollutant . . .	Using . . .	You must perform the following activities, as applicable to your input- or output-based emission limit . . .	Using . . .[2]
		e. Measure the HCl and HF emissions concentrations.	Method 26 or Method 26A at appendix A–8 to part 60 of this chapter or Method 320 at appendix A to part 63 of this chapter or ASTM 6348–03 [3] with (1) the following conditions when using ASTM D6348–03: (A) The test plan preparation and implementation in the Annexes to ASTM D6348–03, Sections A1 through A8 are mandatory; (B) For ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (see Equation A5.5); (C) For the ASTM D6348–03 test data to be acceptable for a target analyte, %R must be 70% ≥ R ≤ 130%; and

3.e.1(D) The %R value for each compound must be reported in the test report and all field measurements corrected with the calculated %R value for that compound using the following equation:

$$\text{Reported Result} = \frac{(\text{Measured Concentration in Stack})}{\%R} x\, 100$$

and

To conduct a performance test for the following pollutant . . . (cont'd)	Using . . . (cont'd)	You must perform the following activities, as applicable to your input- or output-based emission limit . . . (cont'd)	Using . . .[2] (cont'd)
	....	....	(2) spiking levels nominally no greater than two times the level corresponding to the applicable emission limit. Method 26A must be used if there are entrained water droplets in the exhaust stream.
	....	f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR.	
	HCl and/or HF CEMS	a. Install, certify, operate, and maintain the HCl or HF CEMS.	Appendix B of this subpart.
	....	b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems.	Part 75 of this chapter and § 63.10010(a), (b), (c), and (d).
	....	c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
4. Mercury (Hg)	Emissions Testing	a. Select sampling ports location and the number of traverse points.	Method 1 at appendix A–1 to part 60 of this chapter or Method 30B at Appendix A–8 for Method 30B point selection.
	....	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A–1 or A–2 to part 60 of this chapter.
	....	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B at appendix A–1 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981.[3]

To conduct a performance test for the following pollutant . . . (cont'd)	Using . . . (cont'd)	You must perform the following activities, as applicable to your input- or output-based emission limit . . . (cont'd)	Using . . .[2] (cont'd)
		d. Measure the moisture content of the stack gas.	Method 4 at appendix A–3 to part 60 of this chapter.
		e. Measure the Hg emission concentration.	Method 30B at appendix A–8 to part 60 of this chapter, ASTM D6784,[3] or Method 29 at appendix A–8 to part 60 of this chapter; for Method 29, you must report the front half and back half results separately.
		f. Convert emissions concentration to lb/TBtu or lb/GWh emission rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR.	
	Hg CEMS	a. Install, certify, operate, and maintain the CEMS.	Sections 3.2.1 and 5.1 of appendix A of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems.	Part 75 of this chapter and § 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates.	Section 6 of appendix A to this subpart.
	OR	OR.	
	Sorbent trap monitoring system.	a. Install, certify, operate, and maintain the sorbent trap monitoring system.	Sections 3.2.2 and 5.2 of appendix A to this subpart.
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems.	Part 75 of this chapter and § 63.10010(a), (b), (c), and (d).
		c. Convert emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates.	Section 6 of appendix A to this subpart.
	OR	OR.	
	LEE testing	a. Select sampling ports location and the number of traverse points.	Single point located at the 10% centroidal area of the duct at a port location per Method 1 at appendix A–1 to part 60 of this chapter or Method 30B at Appendix A–8 for Method 30B point selection.
		b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2A, 2C, 2F, 2G, or 2H at appendix A–1 or A–2 to part 60 of this chapter or flow monitoring system certified per appendix A of this subpart.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B at appendix A–1 to part 60 of this chapter, or ANSI/ASME PTC 19.10–1981,[3] or diluent gas monitoring systems certified according to part 75 of this chapter.
		d. Measure the moisture content of the stack gas.	Method 4 at appendix A–3 to part 60 of this chapter, or moisture monitoring systems certified according to part 75 of this chapter.
		e. Measure the Hg emission concentration.	Method 30B at appendix A–8 to part 60 of this chapter; perform a 30 operating day test, with a maximum of 10 operating days per run (*i.e.,* per pair of sorbent traps) or sorbent trap monitoring system or Hg CEMS certified per appendix A of this subpart.
		f. Convert emissions concentrations from the LEE test to lb/TBtu or lb/GWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
		g. Convert average lb/TBtu or lb/GWh Hg emission rate to lb/year, if you are attempting to meet the 29.0 lb/year threshold.	Potential maximum annual heat input in TBtu or potential maximum electricity generated in GWh.

To conduct a performance test for the following pollutant . . . (cont'd)	Using . . . (cont'd)	You must perform the following activities, as applicable to your input- or output-based emission limit . . . (cont'd)	Using . . .[2] (cont'd)
5. Sulfur dioxide (SO_2)	SO_2 CEMS	a. Install, certify, operate, and maintain the CEMS.	Part 75 of this chapter and § 63.10010(a) and (f).
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems.	Part 75 of this chapter and § 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates.	Method 19 F-factor methodology at appendix A–7 to part 60 of this chapter, or calculate using mass emissions rate and gross output data (see § 63.10007(e)).

[1] Regarding emissions data collected during periods of startup or shutdown, see §§ 63.10020(b) and (c) and 63.10021(h).
[2] See Tables 1 and 2 to this subpart for required sample volumes and/or sampling run times.
[3] Incorporated by reference, see § 63.14.

■ 26. Revise Table 6 to subpart UUUUU of part 63 to read as follows:

TABLE 6 TO SUBPART UUUUU OF PART 63—ESTABLISHING PM CPMS OPERATING LIMITS

[As stated in § 63.10007, you must comply with the following requirements for establishing operating limits:]

If you have an applicable emission limit for . . .	And you choose to establish PM CPMS operating limits, you must . . .	And . . .	Using . . .	According to the following procedures . . .
Filterable Particulate matter (PM), total non-mercury HAP metals, individual non-mercury HAP metals, total HAP metals, or individual HAP metals for an EGU.	Install, certify, maintain, and operate a PM CPMS for monitoring emissions discharged to the atmosphere according to § 63.10010(h)(1).	Establish a site-specific operating limit in units of PM CPMS output signal (*e.g.,* milliamps, mg/acm, or other raw signal).	Data from the PM CPMS and the PM or HAP metals performance tests.	1. Collect PM CPMS output data during the entire period of the performance tests. 2. Record the average hourly PM CPMS output for each test run in the performance test. 3. Determine the PM CPMS operating limit in accordance with the requirements of § 63.10023(b)(2) from data obtained during the performance test demonstrating compliance with the filterable PM or HAP metals emissions limitations.

■ 27. Revise Table 8 to subpart UUUUU of part 63 to read as follows:

TABLE 8 TO SUBPART UUUUU OF PART 63—REPORTING REQUIREMENTS

[As stated in § 63.10031, you must comply with the following requirements:]

You must submit a	The report must contain . . .	You must submit the report . . .
1. Compliance report.	a. Information required in § 63.10031(c)(1) through (9); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and. c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in § 63.10031(d). If there were periods during which the CMSs, including continuous emissions monitoring systems and continuous parameter monitoring systems, were out-of-control, as specified in § 63.8(c)(7), the report must contain the information in § 63.10031(e)..	Semiannually according to the requirements in § 63.10031(b).

■ 28. Revise Table 9 to subpart UUUUU of part 63 to read as follows:

TABLE 9 TO SUBPART UUUUU OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART UUUUU

[As stated in § 63.10040, you must comply with the applicable General Provisions according to the following:]

Citation	Subject	Applies to subpart UUUUU
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in § 63.10042.
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements.	Yes.
§ 63.6(a), (b)(1) through (5), (b)(7), (c), (f)(2) and (3), (h)(2) through (9), (i), (j).	Compliance with Standards and Maintenance Requirements.	Yes.
§ 63.6(e)(1)(i)	General Duty to minimize emissions	No. See § 63.10000(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(3)	SSM Plan requirements	No.
§ 63.6(f)(1)	SSM exemption	No.
§ 63.6(h)(1)	SSM exemption	No.
§ 63.6(g)	Compliance with Standards and Maintenance Requirements, Use of an alternative nonopacity emission standard.	Yes. See §§ 63.10011(g)(4) and 63.10021(h)(4) for additional requirements.
§ 63.7(e)(1)	Performance testing	No. See § 63.10007.
§ 63.8	Monitoring Requirements	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation.	No. See § 63.10000(b) for general duty requirement.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for last sentence, which refers to an SSM plan. SSM plans are not required.
§ 63.9	Notification Requirements	Yes, except (1) for the 60-day notification prior to conducting a performance test in § 63.9(e); instead use a 30-day notification period per § 63.10030(d), (2) the notification of the CMS performance evaluation in § 63.9(g)(1) is limited to RATAs, and (3) the information required per § 63.9(h)(2)(i); instead provide the information required per § 63.10030(e)(1) through (e)(6) and (e)(8).
§ 63.10(a), (b)(1), (c), (d)(1) and (2), (e), and (f)	Recordkeeping and Reporting Requirements	Yes, except for the requirements to submit written reports under § 63.10(e)(3)(v).
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns.	No.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See § 63.10001 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
§ 63.10(b)(2)(iii)	Maintenance records	Yes.
§ 63.10(b)(2)(iv)	Actions taken to minimize emissions during SSM.	No.
§ 63.10(b)(2)(v)	Actions taken to minimize emissions during SSM.	No.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§ 63.10(b)(2)(vii) through (ix)	Other CMS requirements	Yes.
§ 63.10(b)(3) and (d)(3) through (5)		No.
§ 63.10(c)(7)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions.	Yes.
§ 63.10(c)(8)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions.	Yes.
§ 63.10(c)(10)	Recording nature and cause of malfunctions	No. See § 63.10032(g) and (h) for malfunctions recordkeeping requirements.
§ 63.10(c)(11)	Recording corrective actions	No. See § 63.10032(g) and (h) for malfunctions recordkeeping requirements.
§ 63.10(c)(15)	Use of SSM Plan	No.
§ 63.10(d)(5)	SSM reports	No. See § 63.10021(h) and (i) for malfunction reporting requirements.
§ 63.11	Control Device Requirements	No.
§ 63.12	State Authority and Delegation	Yes.
§§ 63.13 through 63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions.	Yes.

TABLE 9 TO SUBPART UUUUU OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART UUUUU—Continued

[As stated in § 63.10040, you must comply with the applicable General Provisions according to the following:]

Citation	Subject	Applies to subpart UUUUU
§§ 63.1(a)(5),(a)(7) through (9), (b)(2), (c)(3) and (4), (d), 63.6(b)(6), (c)(3) and (4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2) through (4), (c)(9)..	Reserved	No.

■ 29. Appendix A to subpart UUUUU of part 63 is amended by revising paragraphs 3.2.1.2.1, 4.1.1.1, and 4.1.1.3, table A–1, paragraphs 4.1.1.5, 4.1.1.5.2, 5.1.2.1, and 5.1.2.3, table A–2, and paragraphs 5.2.1, 6.2.2.3, and 7.1.8.5 and adding paragraph 7.1.2.6 to read as follows:

Appendix A to Subpart UUUUU of Part 63—Hg Monitoring Provisions

* * * * *

3. Mercury Emissions Measurement Methods

* * * * *

3.2.1.2.1 *NIST Traceability.* Only NIST-certified or NIST-traceable calibration gas standards and reagents (as defined in paragraphs 3.1.4 and 3.1.5 of this appendix), and including, but not limited to, Hg gas generators and Hg gas cylinders, shall be used for the tests and procedures required under this subpart. Calibration gases with known concentrations of Hg^0 and $HgCl_2$ are required. Special reagents and equipment may be needed to prepare the Hg^0 and $HgCl_2$ gas standards (*e.g.,* NIST-traceable solutions of $HgCl_2$ and gas generators equipped with mass flow controllers).

* * * * *

4. Certification and Recertification Requirements

* * * * *

4.1.1.1 *7-Day Calibration Error Test.* Perform the 7-day calibration error test on 7 consecutive source operating days, using a zero-level gas and either a high-level or a mid-level calibration gas standard (as defined in paragraphs 3.1.8, 3.1.10, and 3.1.11 of this appendix). Use a NIST-traceable elemental Hg gas standard (as defined in paragraphs 3.1.4 of this appendix) for the test. If your Hg CEMS lacks an integrated elemental Hg gas generator, you may continue to use NIST-traceable oxidized Hg gases for the 7-day calibration error test (or the daily calibration error check) until such time as NIST-traceable compressed elemental Hg gas standards, at appropriate concentration levels, are available from gas vendors. If moisture is added to the calibration gas, the dilution effect of the moisture and/or chlorine addition on the calibration gas concentration must be accounted for in an appropriate manner. Operate the Hg CEMS in its normal sampling mode during the test. The calibrations should be approximately 24 hours apart, unless the 7-day test is performed over non-consecutive calendar days. On each day of the test, inject the zero-level and upscale gases in sequence and record the analyzer responses. Pass the calibration gas through all filters, scrubbers, conditioners, and other monitor components used during normal sampling, and through as much of the sampling probe as is practical. Do not make any manual adjustments to the monitor (*i.e.,* resetting the calibration) until after taking measurements at both the zero and upscale concentration levels. If automatic adjustments are made following both injections, conduct the calibration error test such that the magnitude of the adjustments can be determined, and use only the unadjusted analyzer responses in the calculations. Calculate the calibration error (CE) on each day of the test, as described in Table A–1 of this appendix. The CE on each day of the test must either meet the main performance specification or the alternative specification in Table A–1 of this appendix.

* * * * *

4.1.1.3 *Three-Level System Integrity Check.* Perform the 3-level system integrity check using low, mid, and high-level calibration gas concentrations generated by a NIST-traceable source of oxidized Hg. If your Hg CEMS lacks an integrated elemental Hg gas generator, you may continue to use NIST-traceable oxidized Hg gases for the 7-day calibration error test (or the daily calibration error check) until such time as NIST-traceable compressed elemental Hg gas standards, at appropriate concentration levels, are available from gas vendors. Follow the same basic procedure as for the linearity check. If moisture and/or chlorine is added to the calibration gas, the dilution effect of the moisture and/or chlorine addition on the calibration gas concentration must be accounted for in an appropriate manner. Calculate the system integrity error (SIE), as described in Table A–1 of this appendix. The SIE must either meet the main performance specification or the alternative specification in Table A–1 of this appendix.

TABLE A–1—REQUIRED CERTIFICATION TESTS AND PERFORMANCE SPECIFICATIONS FOR H_g CEMS

For this required certification test . . .	The main performance specification [1] is . . .	The alternate performance specification [1] is . . .	And the conditions of the alternate specification are . . .
7-day calibration error test [2,6]	$\lvert R - A \rvert \le 5.0\%$ of span value, for both the zero and upscale gases, on each of the 7 days..	$\lvert R - A \rvert \le 1.0$ µg/scm	The alternate specification may be used on any day of the test.
Linearity check [3,6]	$\lvert R - A_{avg} \rvert \le 10.0\%$ of the reference gas concentration at each calibration gas level (low, mid, or high)..	$\lvert R - A_{avg} \rvert \le 0.8$ µg/scm	The alternate specification may be used at any gas level.
3-level system integrity check [4]	$\lvert R - A_{avg} \rvert \le 10.0\%$ of the reference gas concentration at each calibration gas level..	$\lvert R - A_{avg} \rvert \le 0.8$ µg/scm	The alternate specification may be used at any gas level.

TABLE A–1—REQUIRED CERTIFICATION TESTS AND PERFORMANCE SPECIFICATIONS FOR H_g CEMS—Continued

For this required certification test . . .	The main performance specification [1] is . . .	The alternate performance specification [1] is . . .	And the conditions of the alternate specification are . . .
RATA	20.0% RA	$\lvert RM_{avg} - C_{avg}\rvert + \lvert CC\rvert \leq 0.5$ µg/scm [7].	$RM_{avg} < 2.5$µg/scm
Cycle time test [5]	15 minutes where the stability criteria are readings change by < 2.0% of span *or* by ≤ 0.5 µg/scm, for 2 minutes..		

[1] Note that $\lvert R - A\rvert$ is the absolute value of the difference between the reference gas value and the analyzer reading. $\lvert R - A_{avg}\rvert$ is the absolute value of the difference between the reference gas concentration and the average of the analyzer responses, at a particular gas level.

[2] Use elemental Hg standards; a mid-level or high-level upscale gas may be used.

[3] Use elemental Hg standards.

[4] Use oxidized Hg standards.

[5] Use elemental Hg standards; a high-level upscale gas must be used. The cycle time test is not required for Hg CEMS that use integrated batch sampling; however, those monitoring systems must be capable of recording at least one Hg concentration reading every 15 minutes.

[6] If your Hg CEMS lacks an integrated elemental Hg gas generator, you may continue to use NIST-traceable oxidized Hg gases until such time as NIST-traceable compressed elemental Hg gas standards, at appropriate concentration levels, are available from gas vendors.

[7] Note that $\lvert RM_{avg} - C_{avg}\rvert$ is the absolute difference between the mean reference method value and the mean CEMS value from the RATA; CC is the confidence coefficient from Equation 2–5 of Performance Specification 2 in appendix B to part 60 of this chapter.

* * * * *

4.1.1.5 *Relative Accuracy Test Audit (RATA).* Perform the RATA of the Hg CEMS at normal load. Acceptable Hg reference methods for the RATA include ASTM D6784–02 (Reapproved 2008), ‘‘Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)’’ (incorporated by reference, see § 63.14) and Methods 29, 30A, and 30B in appendix A–8 to part 60 of this chapter. When Method 29 or ASTM D6784–02 is used, paired sampling trains are required and the filterable portion of the sample need not be included when making comparisons to the Hg CEMS results for purposes of a RATA. To validate a Method 29 or ASTM D6784–02 test run, calculate the relative deviation (RD) using Equation A–1 of this section, and assess the results as follows to validate the run. The RD must not exceed 10 percent, when the average Hg concentration is greater than 1.0 µg/dscm. If the RD specification is met, the results of the two samples shall be averaged arithmetically.

$$RD = \frac{|C_a - C_b|}{C_a + C_b} \times 100 \quad (Eq.\ A-1)$$

Where:

RD = Relative Deviation between the Hg concentrations of samples ‘‘a’’ and ‘‘b’’ (percent),

C_a = Hg concentration of Hg sample ‘‘a’’ (µ g/dscm), and

C_b = Hg concentration of Hg sample ‘‘b’’ (µ g/dscm).

* * * * *

4.1.1.5.2 *Calculation of RATA Results.* Calculate the relative accuracy (RA) of the monitoring system, on a µ g/scm basis, as described in section 12 of Performance Specification (PS) 2 in appendix B to part 60 of this chapter (see Equations 2–3 through 2–6 of PS2) including the option to substitute the emission limit value (in this case the equivalent concentration) in the denominator of Equation 2–6 in place of the average RM value when the average emissions for the test are less than 50 percent of the applicable emissions limit. For purposes of calculating the relative accuracy, ensure that the reference method and monitoring system data are on a consistent basis, either wet or dry. The CEMS must either meet the main performance specification or the alternative specification in Table A–1 of this appendix.

* * * * *

5. Ongoing Quality Assurance (QA) and Data Validation

* * * * *

5.1.2.1 Calibration error tests of the Hg CEMS are required daily, except during unit outages. Use a NIST-traceable elemental Hg gas standard for these calibrations. If your Hg CEMS lacks an integrated elemental Hg gas generator, you may continue to use NIST-traceable oxidized Hg gases for the 7-day calibration error test (or the daily calibration error check) until such time as NIST-traceable compressed elemental Hg gas standards, at appropriate concentration levels, are available from gas vendors. Both a zero-level gas and either a mid-level or high-level gas are required for these calibrations.

* * * * *

5.1.2.3 Perform a single-level system integrity check weekly, *i.e.,* once every 7 operating days (see the third column in Table A–2 of this appendix).

* * * * *

TABLE A–2—ON-GOING QA TEST REQUIREMENTS FOR H_g CEMS

Perform this type of QA test . . .	At this frequency . . .	With these qualifications and exceptions . . .	Acceptance criteria . . .
Calibration error test[5]	Daily	• Use either a mid- or high-level gas. • Use elemental Hg • Calibrations are not required when the unit is not in operation..	$\|R - A\| \leq 5.0\%$ of span value *or* $\|R - A\| \leq 1.0$ µg/scm.
Single-level system integrity check.	Weekly[1]	• Use oxidized Hg—either mid- or high-level.	$\|R - A_{avg}\| \leq 10.0\%$ of the reference gas value *or* $\|R - A_{avg}\| \leq 0.8$ µg/scm.
Linearity check *or* 3-level system integrity check.	Quarterly[3]	• Required in each "QA operating quarter"[2] and no less than once every 4 calendar quarters. • 168 operating hour grace period available. • Use elemental Hg for linearity check. • Use oxidized Hg for system integrity check.	$\|R - A_{avg}\| \leq 10.0\%$ of the reference gas value, at each calibration gas level *or* $\|R - A_{avg}\| \leq 0.8$ µg/scm.
RATA	Annual[4]	• Test deadline may be extended for "non-QA operating quarters," up to a maximum of 8 quarters from the quarter of the previous test.. • 720 operating hour grace period available.	$\leq 20.0\%$ RA when $C_{avg} \geq 2.5$ µg/scm *or* $\|RM_{avg} - C_{avg}\| + \|CC\| \leq 0.5$ µgµ/scm, if $RM_{avg} < 2.5$ µg/scm.

[1] "Weekly" means once every 7 operating days.

[2] A "QA operating quarter" is a calendar quarter with at least 168 unit or stack operating hours.

[3] "Quarterly" means once every QA operating quarter.

[4] "Annual" means once every four QA operating quarters.

[5] If your Hg CEMS lacks an integrated elemental Hg gas generator, you may continue to use NIST-traceable oxidized Hg gases until such time as NIST-traceable compressed elemental Hg gas standards, at appropriate concentration levels, are available from gas vendors.

* * * * *

5.2.1 Each sorbent trap monitoring system shall be continuously operated and maintained in accordance with Performance Specification (PS) 12B in appendix B to part 60 of this chapter. The QA/QC criteria for routine operation of the system are summarized in Table 12B–1 of PS 12B. Each pair of sorbent traps may be used to sample the stack gas for up to 15 operating days.

* * * * *

6. Data Reductions and Calculations

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6.2.2.3 The applicable gross output-based Hg emission rate limit in Table 1 or 2 to this subpart must be met on a 30- (or 90-) boiler operating day rolling average basis, except as otherwise provided in § 63.10009(a)(2). Use Equation A–5 of this appendix to calculate the Hg emission rate for each averaging period.

$$\overline{E}_o = \frac{\sum_{h=1}^{n} E_{ho}}{n} \quad (Eq.\ A-5)$$

Where:

$\overline{E}_o$ = Hg emission rate for the averaging period (lb/GWh),

E_{ho} = Gross output-based hourly Hg emission rate for unit or stack sampling hour "h" in the averaging period, from Equation A–4 of this appendix (lb/GWh), and

n = Number of unit or stack operating hours in the averaging period in which valid data were obtained for all parameters. **(Note: Do *not* include non-operating hours with zero emission rates in the average).**

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7. Recordkeeping and Reporting

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7.1.2.6 The EGUs that constitute an emissions averaging group.

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7.1.8.5 If applicable, a code to indicate that the default gross output (as defined in § 63.10042) was used to calculate the Hg emission rate.

* * * * *

■ 30. Appendix B to subpart UUUUU of part 63 is amended by:

■ a. Revising paragraphs 2.1 and 2.3;

■ b. Adding paragraphs 2.3.1 and 2.3.2;

■ c. Revising paragraphs 3.1 and 3.2 and adding paragraph 3.3;

■ d. Adding introductory text to section 5;

■ e. Revising paragraphs 5.1, 5.1.2, 5.2, and 5.3;

■ f. Adding paragraphs 5.4, 5.4.1, 5.4.2, 5.4.2.1, 5.4.2.2, 5.4.2.2.1, 5.4.2.2.2, 5.4.2.3, 5.4.2.3.1, 5.4.2.3.2, 5.4.2.3.3, and 5.4.3; and

■ g. Revising section 8 introductory text and paragraph 9.3.2.

The revisions and additions read as follows:

Appendix B to Subpart UUUUU of Part 63—HCl and HF Monitoring Provisions

* * * * *

2. Monitoring of HCl and/or HF Emissions

2.1 *Monitoring System Installation Requirements.* Install HCl and/or HF CEMS and any additional monitoring systems needed to convert pollutant concentrations to units of the applicable emissions limit in accordance with § 63.10010(a) and either Performance Specification 15 (PS 15) of appendix B to part 60 of this chapter for extractive Fourier Transform Infrared Spectroscopy (FTIR) continuous emissions monitoring systems or Performance Specification 18 (PS 18) of appendix B to part 60 of this chapter for HCl CEMS.

* * * * *

2.3 *FTIR Monitoring System Equipment, Supplies, Definitions, and General Operation.* The following provisions apply:

2.3.1 PS 15, Sections 2.0, 3.0, 4.0, 5.0, 6.0, and 10.0 of appendix B to part 60 of this chapter; or

2.3.2 PS 18, Sections 3.0, 6.0, and 11.0 of appendix B to part 60 of this chapter.

3. Initial Certification Procedures

* * * * *

3.1 If you choose to follow PS 15 of appendix B to part 60 of this chapter, then your HCl and/or HF CEMS must be certified according to PS 15 using the procedures for gas auditing and comparison to a reference method (RM) as specified in sections 3.1.1 and 3.1.2 below.

* * * * *

3.2 If you choose to follow PS 18 of appendix B to part 60 of this chapter, then your HCl CEMS must be certified according to PS 18, sections 7.0, 8.0, 11.0, 12.0, and 13.0.

3.3 Any additional stack gas flow rate, diluent gas, and moisture monitoring system(s) needed to express pollutant concentrations in units of the applicable emissions limit must be certified according to part 75 of this chapter.

* * * * *

5. On-Going Quality Assurance Requirements

On-going QA test requirements for HCl and HF CEMS must be implemented as follows:

5.1 If you choose to follow Performance Specification 15 (PS 15) of appendix B to part 60 of this chapter, then the quality assurance/quality control procedures of PS 15 shall apply as set forth in sections 5.1.1 through 5.1.3 and 5.4.2 of this appendix.

* * * * *

5.1.2 On a quarterly basis, you must conduct a gas audit of the HCl and/or HF CEMS as described in section 3.1.1 of this appendix. For the purposes of this appendix, ''quarterly'' means once every ''QA operating quarter'' (as defined in section 3.1.20 of appendix A to this subpart). You have the option to use HCl gas in lieu of HF gas for conducting this audit on an HF CEMS. To the extent practicable, perform consecutive quarterly gas audits at least 30 days apart. The initial quarterly audit is due in the first QA operating quarter following the calendar quarter in which certification testing of the CEMS is successfully completed. Up to three consecutive exemptions from the quarterly audit requirement are allowed for ''non-QA operating quarters'' (*i.e.,* calendar quarters in which there are less than 168 unit or stack operating hours). However, no more than four consecutive calendar quarters may elapse without performing a gas audit, except as otherwise provided in section 5.4.2.2.1 of this appendix.

* * * * *

5.2 If you choose to follow Performance Specification PS 18 of appendix B to part 60 of this chapter, then the quality assurance/quality control procedures in Procedure 6 of appendix F to part 60 of this chapter shall apply. The quarterly and annual QA tests required under Procedure 6 shall be performed, respectively, at the frequencies specified in sections 5.1.2 and 5.1.3 of this appendix.

5.3 Stack gas flow rate, diluent gas, and moisture monitoring systems must meet the applicable on-going QA test requirements of part 75 of this chapter.

* * * * *

5.4 *Data Validation.*

5.4.1 *Out-of-Control Periods.* An HCl or HF CEMS that is used to provide data under this appendix is considered to be out-of-control, and data from the CEMS may not be reported as quality-assured, when any acceptance criteria for a required QA test is not met. The HCl or HF CEMS is also considered to be out-of-control when a required QA test is not performed on schedule or within an allotted grace period. To end an out-of-control period, the QA test that was either failed or not done on time must be performed and passed. Out-of-control periods are counted as hours of monitoring system downtime.

5.4.2 *Grace Periods.* For the purposes of this appendix, a ''grace period'' is defined as a specified number of unit or stack operating hours after the deadline for a required quality-assurance test of a continuous monitor has passed, in which the test may be performed and passed without loss of data.

5.4.2.1 For the monitoring systems described in section 5.3 of this appendix, a 168 unit or stack operating hour grace period is available for quarterly linearity checks, and a 720 unit or stack operating hour grace period is available for RATAs, as provided, respectively, in sections 2.2.4 and 2.3.3 of appendix B to part 75 of this chapter.

5.4.2.2 For the purposes of this appendix, if the deadline for a required gas audit/data accuracy assessment or RATA of an HCl CEMS cannot be met due to circumstances beyond the control of the owner or operator:

5.4.2.2.1 A 168 unit or stack operating hour grace period is available in which to perform the gas audit or other quarterly data accuracy assessment; or

5.4.2.2.2 A 720 unit or stack operating hour grace period is available in which to perform the RATA.

5.4.2.3 If a required QA test is performed during a grace period, the deadline for the next test shall be determined as follows:

5.4.2.3.1 For a gas audit or RATA of the monitoring systems described in sections 5.1 and 5.2 of this appendix, determine the deadline for the next gas audit or RATA (as applicable) in accordance with section 2.2.4(b) or 2.3.3(d) of appendix B to part 75 of this chapter; treat a gas audit in the same manner as a linearity check.

5.4.2.3.2 For the gas audit or other quarterly data accuracy assessment of an HCl or HF CEMS, the grace period test only satisfies the audit requirement for the calendar quarter in which the test was originally due. If the calendar quarter in which the grace period audit is performed is a QA operating quarter, an additional gas audit/data accuracy assessment is required for that quarter.

5.4.2.3.3 For the RATA of an HCl or HF CEMS, the next RATA is due within three QA operating quarters after the calendar quarter in which the grace period test is performed.

5.4.3 *Conditional Data Validation.* For recertification and diagnostic testing of the monitoring systems that are used to provide data under this appendix, the conditional data validation provisions in § 75.20(b)(3)(ii) through (ix) of this chapter may be used to avoid or minimize data loss. The allotted window of time to complete calibration tests and RATAs shall be as specified in § 75.20(b)(3)(iv) of this chapter; the allotted window of time to complete a quarterly gas audit or data accuracy assessment shall be the same as for a linearity check (*i.e.,* 168 unit or stack operating hours).

* * * * *

8. QA/QC Program Requirements

The owner or operator shall develop and implement a quality assurance/quality control (QA/QC) program for the HCl and/or HF CEMS that are used to provide data under this subpart. At a minimum, the program shall include a written plan that describes in detail (or that refers to separate documents containing) complete, step-by-step procedures and operations for the most important QA/QC activities. Electronic storage of the QA/QC plan is permissible, provided that the information can be made available in hard copy to auditors and inspectors. The QA/QC program requirements for the other monitoring systems described in section 5.3 of this appendix are specified in section 1 of appendix B to part 75 of this chapter.

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9. Data Reduction and Calculations

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9.3.2 For gross output-based emission rates, first calculate the HCl or HF mass emission rate (lb/h), using an equation that has the general form of Equation A–2 or A–3 in appendix A to this subpart (as applicable), replacing the value of K with 9.43×10^{-8} lb/scf-ppm (for HCl) or 5.18×10^{-8} (for HF) and defining C_h as the hourly average HCl or HF concentration in ppm. Then, divide the result by the hourly gross output (megawatts) to convert it to units of lb/MWh. If the gross output is zero during a startup or shutdown hour, use the default gross output (as defined in § 63.10042) to calculate the HCl or HF emission rate. The default gross output is not considered to be a substitute data value.

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