Ergon - West Virginia, Inc.
9995 Ohio River Blvd, Post Office Box 356
Newell, West Virginia 26050-0356

February 12, 2020

Bev McKeone, NSR Program Manager
West Virginia Department of Environmental Protection
601-57th Street, SE
Charleston, WV 25304

Tracking Number:

RE: Ergon-West Virginia Inc. - Newell Refinery
Title V Renewal Application

Dear Ms. McKeone:

Ergon-West Virginia Inc. (EWVI) operates a petroleum refinery (Newell Refinery) in Newell, West Virginia that processes crude oil into fuels and other specialty oil and wax products through the use of distillation and chemical reaction processes. The facility is located at 9995 Ohio River Blvd. in Newell, Hancock County, West Virginia. The facility currently operates under West Virginia Department of Environmental Protection (WVDEP) Regulation 13 Permit No. R13-2334AD issued on October 11, 2019 and Title V operating permit R30-02900008-2015 (MM05/MM06), as most recently modified on January 27, 2020.

The current Title V permit expires on August 18, 2020. EWVI is submitting this timely and complete permit renewal application by the renewal submission deadline of February 18, 2020 (i.e., six months before the expiration of the current permit) in accordance with Series 30, Section 4.1.a.3 of the West Virginia Department of Environmental Protection Division of Air Quality Code of State Rules (C.S.R.). Presuming WVDEP finds this application administratively complete, EWVI may continue to operate the Newell Refinery under an application shield in accordance with the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date.

Enclosed please find two (2) electronic copies of the complete permit application package on CDs as well as hard copies of the required signatory pages. If you have any questions or comments about the attached information or have additional information requirements, please contact me at (304) 387-7046 or Jack.Azar@ergon.com.

Sincerely,

Jack Azar
ESHT Manager

cc: Jake Neihaus—Corporate
Katelan Crain—Corporate

TITLE V PERMIT APPLICATION CHECKLIST
FOR ADMINISTRATIVE COMPLETENESS

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a Title V permit application. Any submittal will be considered incomplete if the required information is not included.*	
☒	Two signed copies of the application (at least one must contain the original "*Certification*" page signed and dated in blue ink)
☒	Correct number of copies of the application on separate CDs or diskettes, (i.e. at least one disc per copy)
☒	*Table of Contents (needs to be included but not for administrative completeness)
☒	Facility information
☒	Description of process and products, including NAICS and SIC codes, and including alternative operating scenarios
☒	Area map showing plant location
☒	Plot plan showing buildings and process areas
☒	Process flow diagram(s), showing all emission units, control equipment, emission points, and their relationships
☒	Identification of all applicable requirements with a description of the compliance status, the methods used for demonstrating compliance, and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the source is not in compliance
☒	Listing of all active permits and consent orders (if applicable)
☒	Facility-wide emissions summary
☒	Identification of Insignificant Activities
☒	ATTACHMENT D - Title V Equipment Table completed for all emission units at the facility except those designated as insignificant activities
☒	ATTACHMENT E - Emission Unit Form completed for each emission unit listed in the Title V Equipment Table (ATTACHMENT D) and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the emission unit is not in compliance
☒	ATTACHMENT G - Air Pollution Control Device Form completed for each control device listed in the Title V Equipment Table (ATTACHMENT D)
☒	ATTACHMENT H – Compliance Assurance Monitoring (CAM) Plan Form completed for each control device for which the "Is the device subject to CAM?" question is answered "Yes" on the Air Pollution Control Device Form (ATTACHMENT G)
☒	General Application Forms signed by a Responsible Official
☐	Confidential Information submitted in accordance with 45CSR31

TITLE V PERMIT RENEWAL APPLICATION

Ergon West Virginia, Inc.

Newell Refinery

Permit No. R30-2900008-2015 (MM05/MM06)

Prepared By:

TRINITY CONSULTANTS
4500 Brooktree Road
Suite 103
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February 2020

Project 153901.0036

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Ergon-West Virginia Inc. (EWVI) operates a petroleum refinery (Newell Refinery) in Newell, West Virginia that processes crude oil into fuels and other specialty oil and wax products through the use of distillation and chemical reaction processes. The facility is located at 9995 Ohio River Blvd. in Newell, Hancock County, West Virginia. The facility currently operates under West Virginia Department of Environmental Protection (WVDEP) Regulation 13 Permit No. R13-2334AD issued on October 11, 2019 and Title V operating permit R30-02900008-2015 (MM05/MM06), as most recently modified on January 27, 2020.

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1.1. FACILITY DESCRIPTION

The Newell Refinery processes crude oil into fuels and other specialty oil and wax products through the use of distillation and chemical reaction processes. The facility is classified under North American Industry Classification System (NAICS) Code 324110 since the facility is primarily engaged in refining crude petroleum into refined petroleum. The station has the potential to operate 24 hours per day, 7 days per week.

A description of each source category is included below. A process flow diagram is included in Attachment A.

1.1.1. Process Units

The refinery operates a crude distillation unit (CDU), which separates the crude/feedstock into several fractions. Downstream refining units include a unifiner/reformer, diesel hydrotreater (DHT), a lube oil hydrotreater (HPU), a solvent dewaxing unit (MEK-TOL), a lube oil vacuum fractionation unit (VFU), and a propane deresinating unit (PDR). Emissions points associated with the refining units include fuel gas[1] and/or natural gas process heaters as well as fugitive components such as valves, pumps, compressor, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service (EQLEAKS).

1.1.2. Storage Tanks

The refinery includes a number of storage tanks containing raw materials, intermediates, and refinery products. The tanks are grouped in to five (5) categories: Crude Oil; Light Crude Oil with a Vapor Pressure up to 11.0 psia; Gasoline/Ethanol; Heavy Products or Kerosene; and Heavy Products. Tank designs vary based on material stored but include fixed roof tanks as well as tanks equipped with either an internal floating roof or an external floating roof.

[1] Fuel gas is a blend of treated refinery gas and natural gas.

1.1.3. Unloading and Loading Operations

Crude and feedstocks are received via barge, truck, or pipeline. Additionally, the facility has recently been approved to unload crude/feedstock via railcar (RAIL-UL).[2] The facility operates a loading rack (T LOAD) where gasoline, diesel, lube oils, and waxes are loaded into trucks for transportation off-site. Loading of gasoline is controlled by a thermal oxidizer (OXIDIZER). Heavy products such as lube oil and resin are shipped via truck or rail car. The marine barge dock (MLD) is used for loading/unloading of crude oil, refinery intermediates, or finished products. Barge loading of gasoline, naphtha, or light crude is controlled by the marine thermal oxidizer (MLDOX).

1.1.4. Support Operations

The facility operates a number of support units as discussed below:

- Utilities that provide steam to operate the units. Steam is generated in three (3) fuel gas and natural gas fired boilers. The refinery is also serviced by a recirculating cooling water system.
- Two (2) hydrogen plants to provide hydrogen to refinery hydrotreaters. Each hydrogen plant includes a natural gas fired heater (H-441 and H-1101).
- Wastewater treatment plant (WWTP). Refinery waste water is treated in the WWTP which includes the following sources: diverter box, storm water tanks, API separators, DAF units, equalization, aeration tanks, clarifiers, and sand filters.
- Main flare. The refinery is equipped with a flare gas recovery (FGR) system that recovers gases from process units for treatment and use as fuel in heaters and boilers. The main flare is also used to control periods of excess fuel gas.
- Sour gas flare (control device for the sour water unit).
- Dehydration Unit. The glycol dehydration unit still (STILL) removes moisture from the fuel gas stream. The unit also includes a heater for regenerating the rich glycol (DEHY HTR).
- Ammonia Destruction Unit (ADU). Overhead stream from the sour water stripper is first routed to the ADU for treatment. The ADU consists of a caustic scrubber, ammonia stripper, a thermal oxidizer (NH3OX), and other supporting exchangers and instrumentations.
- Two (2) internal combustion engine driven fire pumps.

1.2. REQUESTED CHANGES

The facility's Regulation 13 Permit has undergone several revisions and therefore any references to R13-2334 in this renewal application are referring to version R13-2334AD, issued October 11, 2019. Table 1-1 below identifies the R13 permit and a brief description of the associated physical change or modification that have occurred at the Newell Refinery during the existing permit term. Based on the recent issuance of the a modified Title V permit MM05/MM06 on January 27, 2020, the terms of the listed R13 permit changes should be incorporated.

Table 1-1. Facility Changes

R13 Permit	Description
R13-2334Y issue date 1/8/16	Modification for the installation of new equipment and an increase of throughputs in the catalytic reforming (platformer) unit.
R13-2334Z issue date 11/30/16	Revisions to requirements relating to the main flare and sour gas flare.
R13-2334AA issue date 1/5/17	Addition of a new 126,000 gallon bio-diesel storage tank.

[2] Construction has not yet commenced on the railcar unloading project.

R13-2234AB issue date 1/16/18	Addition of new gasoline, ethanol, and feedstock tanks. Proposed modification of three existing gasoline storage tanks. [3]
R13-2234AC issue date 5/8/19	Addition of new crude/feedstock railcar unloading facility. (see footnote 2)
R13-2334AD issue date 10/11/2019	Addition of fuel gas system piping to route vapors from the NGL bullet tanks to the fuel gas system.

Additionally, as a part of this renewal application, EWVI is requesting the following changes be made to the existing Title V permit to more clearly document applicability/compliance with the following regulations. A detailed discussion of the applicability is provided in Section 2 of this report.

- 40 CFR 63, Subpart Y (NESHAP Y) Marine Loading – EPA revised 40 CFR 63 Subpart Y to delete the exclusion for marine vessel loading at petroleum refineries. Removing the exclusion requires small marine vessel loading operations (i.e., operations with HAP emissions less than 10/25 tpy) to use submerged filling per Coast Guard regulations.[4] See discussion in section 2.5.

- 40 CFR 60, Subpart XX (NSPS XX) and 40 CFR 63, Subpart BBBBBB (NESHAP 6B) Bulk Gasoline Terminal – EWVI's current permit includes conditions based on 40 CFR 63, Subpart R (NESHAP R) requiring control and continuous monitoring for the gasoline truck loading at the facility. With this application, EWVI requests that these conditions be replaced with the applicable provisions of NSPS XX and NESHAP 6B. These standards were listed as non-applicable in the current title V permit based on the facility not meeting the definition of a 'bulk gasoline terminal'. However, EPA guidance has clarified that piping system connecting a refinery with an on-site bulk gasoline terminal[5] is considered a "pipeline". As such, EWVI requests that the NESHAP R requirements be replaced with NSPS XX/NESHAP 6B. See discussion in sections 2.3 and 2.5.

- 40 CFR 60, Subpart Ja for H-101R Fuel Gas Combustion Devices – Although this rule is correctly identified as applicable to heater H-101R; the compliance option detailed in the permit should be updated from compliance with the mass based limit to compliance with the concentration based limit. See discussion in section 2.3.

- 40 CFR 64 Compliance Assurance Monitoring (CAM) Thermal Oxidizers – Although the current Title V already contains a provision for continuous parametric monitoring for the thermal oxidizers at the Newell Refinery, EWVI would like to correct the applicability language associated with 40 CFR 64. In addition, Ergon has included two CAM plans to formalize the details of the continuous temperature monitoring that is performed. See discussion in section 2.6.

[3] EWVI elected not to proceed with the proposed modifications to the three gasoline tanks (i.e., tank shell extensions). As such, the regulatory applicability of the tanks remains as it were prior to the issuance of R13-2234AB.
[4] Federal Register /Vol. 80, No. 230 /Tuesday, December 1, 2015
[5] *Bulk gasoline terminal* means any gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day (~19,997.82 gallons). Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State or local law and discoverable by the Administrator and any other person. [40 CFR 60.501]

1.3. TITLE V RENEWAL APPLICATION ORGANIZATION

This Title V permit renewal application is organized as follows:

- Section 1 – Process Description and Requested Changes
- Section 2 contains an overview of regulatory applicability for the Newell Refinery;
- Section 3 contains sample emission source calculations;
- Section 4 contains the required Title V Permit Application Renewal form
- Attachment A – Area Map
- Attachment B – Plot Plan
- Attachment C – Process Flow Diagram
- Attachment D – Title V Equipment Table
- Attachment E – Emission Unit Forms
- Attachment F – Schedule of Compliance Form
- Attachment G – Air Pollution Control Device Forms
- Attachment H – Compliance Assurance Monitoring (CAM) Plan Forms
- Attachment I – Approved Regulation 2 Plan and Regulation 10 Plan

2. REGULATORY APPLICABILITY

A key objective of a Title V operating permit application is to compile all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as: (1) emission limits and work practice standards; and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to the Newell Refinery are also identified in the "*Applicable Requirements*" forms provided by the WVDEP in Section 6.

Additional details on applicability for several regulations are presented in this section. Specifically, the remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Newell Refinery. Applicability or non-applicability of the following regulatory programs are addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Acid Rain Program;
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP);
- Stratospheric Ozone Protection;
- West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to EWVI. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Newell Refinery. Regulations that are categorically non-applicable are not discussed (e.g., NSPS *Subpart Q Standards of Performance for Primary Zinc Smelters*).

2.1. PREVENTION OF SIGNIFICANT DETERIORATION SOURCE CLASSIFICATION

Federal construction permitting programs regulate new sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a new major stationary source is constructed or when a major modification of an existing major stationary source occurs (e.g., such as installing new equipment or modifying existing equipment where a significant increase in emissions results from the change).

Since the Newell Refinery is a major source with respect to the New Source Review (NSR) program, the facility may be subject to NSR permit requirements when undertaking modifications in the future. Because the Title V permit renewal process is not intended to accommodate any changes or modifications to the facility that are not currently permitted at the facility, NSR/PSD permitting is not triggered by this activity but could be by future

activities at the site. Since the issuance of the current Title V permit, there have been no significant modifications, to the Newell Refinery, that were subject the NSR program. .

2.2. TITLE V OPERATING PERMIT PROGRAM

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in 45 CSR 30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single hazardous air pollutant (HAP), 25 tpy of any combination of HAPs, and 100 tpy of all other regulated pollutants. Additionally, Title V major source thresholds have been established for greenhouse gases (GHG) as 100,000 tpy of carbon dioxide equivalents (CO_2e). The potential emissions of at least one regulated pollutant exceed the corresponding threshold(s) at this facility; therefore, the Newell Refinery is classified as a major source for Title V purposes. The Newell Refinery currently operates under Title V Operating Permit No. R30-02900008-2015 (MM05/MM06), which expires on August 18, 2020. EWVI is submitting this timely and complete permit renewal application by the renewal submission deadline of February 18, 2020 (i.e., six months before the expiration of the current permit) in accordance with 45 CSR 30 Section 4.1.a.3. With the timely and complete submittal of this renewal application, EWVI specifically requests that the refinery be authorized to continue operation under an application shield in accordance with the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date [45CSR§30-6.3.c. and Title V Condition 2.3.4].

2.3. NEW SOURCE PERFORMANCE STANDARDS

New Source Performance Standards (NSPS), located in 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the Newell Refinery.

2.3.1. NSPS Subpart J and Ja – Petroleum Refineries[6] (Applicable)

40 CFR 60, Subpart J (NSPS J) applies to affected facilities in petroleum refineries, including but not limited to fuel gas combustion devices that commenced construction, reconstruction, or modification after June 11, 1973 and on or before May 14, 2007. Fuel gas combustion devices that are flares for which construction, reconstruction, or modification commenced after June 11, 1973 and on or before June 24, 2008 are subject to NSPS J.[7]

40 CFR 60, Subpart Ja (NSPS Ja) applies to affected facilities in petroleum refineries including but not limited to fuel gas combustion devices and flares. Fuel gas combustion devices are subject to this subpart for units which construction, reconstruction, or modification commenced after May 2007 or if compliance with this subpart was elected in lieu of complying with the provisions in subpart J. Flares for which construction, modification, or reconstruction commenced after June 24, 2008 are subject to this subpart.

Fuel gas combustion devices and flares currently installed at the Newell Refinery and their rule applicability is summarized in the table below.

[6] The Newell Refinery does not include the following: fluid catalytic cracking units (FCCU) catalyst regenerator; Claus sulfur recovery plants; fluid coking unit (FCU), delayed coking unit; or a sulfur recovery plant.
[7] EWVI can choose to comply with applicable provisions of NSPS Ja to satisfy the requirements of NSPS J.

Table 2-1. Summary of NSPS J/Ja Applicability

Source	Maximum Rating (mmBtu/hr)	Year Installed / Modified	Rule
H-101R	54.5	2012	NSPS Ja
H-102R	39.2	2012/TBD	NSPS Ja
H-201	6.6	1972	NSPS J
H-500S[a]	59.6, combined	1972/2013/2015	NSPS J/Ja
H-501R	11.5	2013	NSPS Ja
H-600S[b]	41.6, combined	1972	NSPS J
H-701	12.1	1983/2010[e]	NSPS Ja
Main Flare F1[c]	--	1972[f]	NSPS Ja
Sour Gas Flare F2[d]	--	1972	NSPS J
NH3OX	--	2014	NSPS Ja
H-901	27.5	2005	NSPS J
Boiler A	159.50	1971	NA
Boiler B	159.50	1971	NA
Boiler C	95	2000/2010[e]	NSPS Ja
H-1011	38.8	2005	NA
H-441	12.3	1972	NA
Dehy Htr	0.59	1991	NA

[a] H-500S is a series of 5 heaters vented to a common stack (rating shown is the combined rating H-502 to H-506). H-505 was replaced with H-505R (8.745 MMBtu/hr; R13-2334Y dated Jan 8, 2016). H-502, H-503, H-504, and H-506 remain subject to NSPS J.

[b] H600S is a series of 4 heaters vented to a common stack (rating shown is the combined rating).

[c] F1 is a modified flare according to NSPS Ja since modification to the flares took place after June 24, 2008.

[d] F2 is subject to NSPS J based on the 2003 consent decree.

[e] H-701 and Boiler C were authorized to fire fuel gas by R13-2334O issued on March 18, 2010. Based on the modification definition the SO_2/H_2S provisions of NSPS Ja are applicable (i.e., no increase in NO_x triggering modification).

[f] As detailed in submittals dated July 19, 2017 and Sept 8, 2017, the main flare tip/pilots were replaced and the molecular flare seal was replaced with a velocity seal.

Under NSPS J, fuel gas combustion devices (including flares) are subject to hydrogen sulfide (H_2S) limitation of 230 mg/dscm (0.10 gr/dscf) which is equivalent to 162 ppmv, as a 3-hour rolling average. For the NSPS J Sour Gas flare, combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limitation. The key requirements of NSPS Ja for fuel gas combustion devices are as follows:

- Monitor the fuel gas H_2S composition combusted in process heaters. [§60.107a(a)(2)]
- Maintain fuel gas H_2S records. [§60.108a(c)]
- Submit excess emissions reports. [§60.107a(i) and §60.108a(d)]

Under NSPS Ja, fuel gas combustion devices (excluding flares) are subject to either the SO_2 or H_2S limitation of 40 CFR §60.102a(g)(1). EWVI complies with the H_2S fuel gas concentration limit (162 ppmv 3-hour rolling average basis and 60 ppmv 365 successive calendar day rolling average basis). The key requirements of NSPS Ja for fuel gas combustion devices are as follows:

- Monitor the fuel gas H_2S composition. [§60.107a(a)(2)]

- Maintain fuel gas H_2S records. [§60.108a(c)]
- Submit excess emissions reports. [§60.107a(i) and §60.108a(d)]

Under NSPS Ja, flares are subject to an H_2S limitation of 162 ppmv 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit. The key requirements of NSPS Ja for the Main Flare are:

- Develop and implement a written flare management. [§60.103a(a)&(b)]
- Conduct a root cause analysis when the SO_2 or flow thresholds are triggered. [§60.103a(c)&(d)]
- Implement corrective actions from root cause analysis. [.§60.103a(e)]
- Comply with the flare H_2S limitation of 162 ppmv (3-hour rolling average basis). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit. [§60.103a(h)]
- Monitor fuel gas to flare and flow to flare. [§60.107a(a)(2) and 40 FR §60.107a(f)]
- Maintain records. [§60.108a(c)]
- Submit excess emissions reports. [§60.107a(i) and §60.108a(d)]

Under NSPS Ja, one process heater (H-101R) has a maximum rating above 40.0 mmBtu/hr. As such, that process heater is subject to the NO_x limitation of §60.102a(g)(2)(i)(A) for natural draft process heaters. The key requirements of NSPS Ja for H-101R are as follows:

- Limit emissions to not exceed 40 ppmv (dry basis, corrected) determined daily on a 30-day rolling average basis [§60.102a(g)(2)(i)(A)]
- Perform biennial performance test in accordance with methodologies in §60.104a(i). [§60.107a(c)(6)]
- Establish a maximum excess O_2 operating limit during the performance test [§60.104a(i)(6)]
- Install, operate, calibrate, and maintain an O_2 continuous monitoring system [§60.107a(c)(3) to (5)]
- Submit excess emissions reports. [§60.107a(i) and §60.108a(d)]

2.3.2. NSPS Subparts D, Da, Db, and Dc – Steam Generating Units (Not Applicable)

These subparts apply to steam generating units of various sizes constructed, reconstructed, or modified during various time periods. Subpart D applies to electric steam generating units capable of combusting more than 250 MMBtu/hr heat input of fossil fuel for which construction, modification, or reconstruction commenced after August 17, 1971. Subpart Da applies to electric utility steam generating units which are capable of combusting greater than 250 MMBtu/hr heat input of fossil fuel which commenced construction after September 18, 1978. EWVI does not operate steam generating units with a capacity of more than 250 MMBtu/hr, therefore, Subpart D and Subpart Da do not apply.

Subpart Db applies to industrial, commercial, and institutional steam generating units which are capable of combusting greater than 100 MMBtu/hr heat input of fossil fuel which commenced construction or modification after June 19, 1984. EWVI operates two (2) steam generating units, Boiler A and Boiler B, with a design capacity of 159.5 MMBtu/hr. However, Boiler A and Boiler B were constructed in 1972 and have not been modified as defined by the NSPS, therefore, Subpart Db does not apply to the operations at the Newell Refinery.

Subpart Dc applies to small industrial, commercial, and institutional steam generating units capable of combusting greater than 10 MMBtu/hr but less than 100 MMBtu/hr which commenced construction or modification after June 9, 1989. EWVI operates one (1) steam generating unit (Boiler C) with a heat input design capacity of 95 MMBtu/hr which is subject to NSPS Subpart Dc. As Boiler C combusts only gaseous fuels, EWVI will comply with NSPS Dc by maintaining records of fuel combusted (§60.48c(g)) for a period of at least two

years (§60.48c(i)). Notification of the date of construction and actual startup (§60.48c(a) and §60.7) were submitted. Renotification will be made if modifications are made. [Title V Condition 4.5.5].

2.3.3. NSPS Subparts K, Ka, and Kb – Storage Vessels (Applicable)

These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods as follows:

- Subpart K applies to petroleum liquid storage tanks with a capacity greater than 246,052 liters (65,000 gallons) that commenced construction, reconstruction, or modification after June 11, 1973 and prior to May 19, 1978
- Subpart K also applies to petroleum liquid storage vessels with a capacity greater than 151, 416 liters (40,000 gallons), but not exceeding 246,052 liters (65,000 gallons) that commenced construction, reconstruction, or modification after March 8, 1974, and prior to May 19, 1978.
- Subpart Ka applies to petroleum liquid storage tanks with a capacity greater than 151,416 liters (40,000 gallons) that commenced construction, reconstruction, or modification after May 18, 1978 and prior to July 23, 1984.
- Subpart Kb applies to volatile organic liquid (VOL) storage tanks that commenced construction, reconstruction, or modification after July 23, 1984 with a capacity equal to or greater than 75 m3 (~19,813 gallons).

Based on the wide range of construction dates, storage tank capacities, and true vapor pressures, many tanks are subject to NSPS Subparts K, Ka, or Kb. A summary of the NSPS tank requirements and EWVI applicability to each Subpart is summarized in the table below.

Tanks 4004, 4005, and 4006 were installed in 1971 (pre-NSPS). R13-2334AB issued on October 16, 2018 authorized EWVI to modify Tanks 4004, 4005, 4006 with shell extensions. EWVI has elected not to proceed with this modification.

Table 2-2. Summary of NSPS K/Ka/Kb Applicability

Tanks	Rule	Design	Summary of Applicable Requirements
4036, 4037, 4038, and 4039	K	Fixed Roof	• Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period
4035, 4040, 4042, 4043, 4044, 4045, 4046	Ka	Fixed Roof	• Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period
4000 and 4071	Kb	External Floating Roof	• Secondary seal gap measurement every 12 months. • Primary seal gap measurement every 5 years. • Visual inspection of roof, seals and fittings each time a tank is emptied and degassed. • The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

4050, 4060, 4061, 4062, 4063, 4070	Kb	Internal Floating Roof	• Visual inspection through manholes/roof hatches every 12 months. • Inspection each time a tank is emptied and degassed, at least once every 5/10 years. • When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
4034, 4047, 4048, 4051, 4054, 4055, 4056, 4057, and 4073	Kb	Fixed Roof	• Maintain records of the dimension and capacity of the storage vessel; • Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.
Bullet Tanks	Kb	Pressurized tanks to fuel gas piping	• See Consolidated Air Rule discussion in Section 2.4

2.3.4. NSPS GGGa - Petroleum Refineries (Applicable)

40 CFR 60, Subpart GGGa (NSPS GGGa) applies to affected facilities that commenced construction, reconstruction, or modification after November 7, 2006. The affected facilities under this rules are:

- Compressors[8]; and
- Group of all equipment within a process unit.

The process units at the Newell Refinery are subject to NSPS Subpart GGGa; thus, applicable existing and new equipment leak components are monitored according to §§60.482-1a to §60.482-10a except as specified by NSPS GGGa.

In accordance with 40 CFR §60.590a(e), the definition of "process unit" has been stayed and owners or operators should use the following definition: Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

2.3.5. NSPS VVa – Equipment Leaks (Applicable)

40 CFR 60, Subpart VVa (NSPS VVa) contains the standards for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry (SOCMI) for which construction, reconstruction, or modification commenced after November 7, 2006. The Newell Refinery is not a SOCMI facility; however, the following applicable standard incorporates sections of NSPS VVa by reference:

- NSPS Subpart GGGa - §§60.482-1a to §60.482-10a, §60.485a, §60.486a, and §60.487a

The plant is required to comply with the requirements of 40 CFR 60, Subpart VVa for equipment leaks from equipment that contains or contacts a process fluid that is in VOC service (i.e., at least 10% VOC by weight) and

[8] Compressors in hydrogen service are exempt from the requirements of §60.592a if an owner or operator demonstrates that a compressor is in hydrogen service. [60.593a(b)(1)]

operates 300 hours per year or more. The following types of equipment, which meet these requirements, are subject to the facilities LDAR program:

- Pumps,
- Valves,
- Compressors,
- Pressure relief devices,
- Sampling connection systems,
- Open-ended valves or lines,
- Flanges or other connectors[9], and
- Closed vent systems and control devices used to comply with the provisions of NSPS VVa.

In accordance with 40 CFR §60.593a(b), compressors in hydrogen service are exempt if demonstrated that a compressor is in hydrogen service as specified in the rule.

In accordance with 40 CFR §60.593a(g), Connectors in gas/vapor or light liquid service are exempt from the requirements in §60.482-11a (i.e., Method 21 monitoring of Connectors in gas/vapor and LL service), provided the owner or operator complies with §60.482-8a (i.e., repair if observed leaking by AVO) for all connectors, not just those in heavy liquid service. However, the requirements of §60.482-11a have been stayed for reconsideration by EPA.

2.3.6. NSPS QQQ - Petroleum Refinery Wastewater Systems (Applicable)

Subpart QQQ applies to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987. The affected facilities under this rules are:

- Individual drain systems;
- Oil-water separators; and
- Aggregate facility (an individual drain system together with ancillary downstream sewer lines and oil-water separators, down to and including the secondary oil-water separator, as applicable).

The key requirements for NSPS QQQ affected facilities at the Newell Refinery are as follows:

- Drains are equipped with plugs or water seal controls (e.g., p-leg trap). Inspected monthly to verify water seal (except where a cap or plug is installed, semiannual inspection to verify cap/plug).
- Junction boxes are equipped with covers. Inspected semiannually to verify cover and seal.
- Sewer lines cannot be open to atmosphere. Aboveground sewer lines are subject to periodic inspection. The Newel Refinery does not have above ground sewer lines.
- Oil water separators (API Separators) at the Newell Refinery are controlled with external floating roofs. Semiannual inspection of seals, access doors, and openings.
- Closed vent system and carbon canister control reducing VOC by 95% from the sump prior to the API separators is monitored continuously for organics in the exhaust gases (3-hour average lower explosive

[9] *Connector* means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, glass, or glass-lined.

Screwed Connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

limit (LEL) at outlet of control). Existing carbon is replaced with fresh carbon immediately when carbon breakthrough is indicated
- Aggregate facility fugitive equipment leak components are monitored according to §§60.692-2 and §60.692-3.

2.3.7. NSPS XX - Bulk Gasoline Terminals (Applicable)

40 CFR 60, Subpart XX (NSPS XX) applies to affected facility loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks and were constructed or modified after December 17, 1980. The gasoline truck loading rack at the Newell Refinery commenced construction prior to December 17, 1980. The gasoline truck loading rack was modified after the applicability date. As such, the key requirements of NSPS XX applicable to the loading rack are as follows:

- Loading of liquid products is limited to vapor tight gasoline tank trucks (tested according to 63.425(e)) and a record of the truck vapor tightness documentation must be maintained. [§60.502(e)(1)]
- Gasoline loading rack must be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading. [§60.502(a)]
- Gasoline loading rack must be designed and operated to prevent gauge pressure in the delivery tank from exceeding 450 mm of water during product loading. [§60.502(h)]
- Monthly visual inspection of the vapor collection system, the vapor processing system, and gasoline loading rack during the loading of gasoline tank trucks for liquid or vapor leaks. [§60.502(j)]
- Emissions from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 mg/L TOC. [§60.502(b)]
- Initial performance test. [§60.503(b)]

The current Title V permit lists 40 CFR 63, Subpart R as applicable and lists 40 CFR 60, Subpart XX as not applicable. EWVI would like to correct the rule applicability in the Title V renewal. A NSPS XX performance test was conducted on November 16, 2000 and the results submitted to the WVDEP demonstrating compliance with the 35 mg/L standard.

2.3.8. NSPS Subpart IIII – Internal Combustion Engines (Not Applicable)

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, applies to manufacturers, owners and operators of stationary compression ignition engines that meet the following criteria:

> *(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:*
> *(i) Manufactured after April 1, 2006, and are not fire pump engines, or*
> *(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.*
> *(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.*
> *(4) The provisions of § §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.*

The two fire pump engines at the facility are compression ignition engines; however, they do not meet the above criteria as they are certified NFPA fire pump engines that were manufactured prior to July 1, 2006. As such, NSPS IIII does not apply to the Newell Refinery.

2.3.9. Non-Applicability of All Other NSPS

NSPS are developed for particular industrial source categories. Other than NSPS discussed above, the applicability of a particular NSPS to the Newell Refinery can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to the refinery.

2.4. CONSOLIDATED AIR RULE – NGL STORAGE TANKS

For the two Y-grade NGL bullet tanks, EWVI complies with NSPS Kb using the Alternative Means of Compliance option of 40 CFR §60.110b(e) which allows operators to comply with 40 CFR Part 65, Subpart C (the consolidated air rule CAR)) to satisfy 40 CFR Part 60, Subpart Kb. Under the CAR, EWVI complies with 40 CFR §65.42(b)(6) and 40 CFR §65.142(a)(3) by routing vapors from the bullet tanks to the existing fuel gas system. The applicable requirements of 40 CFR 65 are summarized below.

General Requirements

- Route the emissions to a fuel gas system as specified in §65.142(a)(3). Whenever the owner or operator bypasses the fuel gas system or process, the owner or operator shall comply with the recordkeeping requirement in §65.163(b)(3). [§65.42(a)(6)]
- If emissions from the bullet tanks bypass the fuel gas system, one or more of the following conditions must be met [§65.42(b)(6)(i) to (iii)]:
    - The liquid level in the storage vessel is not increased;
    - The emissions are routed through a closed vent system to a control device (i.e., flare) complying with 40 CFR 65.42(b)(4); or
    - The total aggregate amount of time during which the emissions bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except startups/shutdowns/malfunctions or periods when the storage vessel has been emptied and degassed), does not exceed 240 hours.
- EWVI must meet the applicable requirements in §65.144 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of 40 CFR 65 Subpart G apply to storage vessel emissions being routed to a fuel gas system. [§65.142(a)(3)]
- Except during periods of startup, shutdown, and malfunction as specified in 40 CFR 65.3(a), the fuel gas system shall be operating at all times when regulated vapors from the NGL bullet tanks are routed to it. [§65.144(a)(1)]
- If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation. [§65.144(b)]

Startup, Shutdown, and Malfunctions (SSM) Plan

- If a SSM does not affect the ability of a particular emission point to comply with routing the bullet tanks to fuel gas system requirements, then EWVI shall still be required to comply during the startup, shutdown, malfunction, or period of nonoperation. Additionally during SSM events, to the extent reasonably available, EWVI shall take measures to prevent or minimize emissions in excess of those that would have occurred if there were no SSM. Malfunctions shall be corrected as soon as practical after their occurrence. [§65.3(a)]
- EWVI shall develop, implement, and revise (as necessary) a SSM Plan for the operation and routing of venting emissions from NGL bullet tanks to the fuel gas system. The SSM Plan is to develop a protocol for minimizing emissions that occur during periods of startup, shutdown, or malfunction. [§65.6]

Recordkeeping Requirements

- EWVI shall keep copies of all applicable records, notifications, and reports. [§40 CFR 65.4]
- EWVI shall keep a record of the vessel dimensions and capacity for the lifetime of the vessel. [§65.47(b)]
- If the vapors from the NGL bullet tanks bypass the fuel gas system, EWVI shall maintain the following records [§65.42(b)(6) and §65.163(b)(3)]:
    - The reason it was necessary to bypass the fuel gas system;
    - The duration of the period when the fuel gas system was bypassed;
    - Documentation or certification of compliance with the applicable provisions of 40 CFR 65.42(b)(6).
- Regulated source and control equipment startup, shutdown and malfunction records [40 CFR 163(c)]:
    - EWVI must maintain records of the occurrence and duration of each SSM of process equipment or of air pollution control equipment used to comply with 40 CFR 65 Subpart G during which excess emissions (as defined in §65.3(a)(4)) occur.
    - For each SSM during which excess emissions occur, EWVI must maintain records whether the procedures specified in their SSM Plan were followed, and a description of actions taken to minimize emissions. These records may take the form of a checklist or other form of recordkeeping that confirms conformance with the SSM Plan for the event.

Reporting Requirements

- All reports must contain the general information referenced in 40 CFR 65.5(f) according to the procedures of 40 CFR 65.5(g).
- Notification of Initial Startup - EWVI shall submit a Notification of Initial Startup identifying the storage vessels, capacity, and types of regulated materials stored. [§65.48(a) and §65.5(b)]
- Initial Compliance Status Report - EWVI is required to submit as part of the Initial Compliance Status Report a statement of connection to fuel gas system report for fuel gas systems specified in 40 CFR 65.165(a)(2). [§65.144(c), §65.165(a)(2) and §65.5(d)]
- Periodic Report – For storage vessels routing to a fuel gas system, the semiannual reporting requirements include identification of SSM events resulting in excess emissions and the required information (how long these events lasted and a statement of whether the SSM plan was followed). [§65.6(c)]
- Periodic Report - In accordance with 40 CFR 65.5(h), EWVI requests to adjust the schedule for submittal of the periodic reports to align with the Title V reporting schedule:
    - Reporting period of January through June – report due September 15
    - Reporting period of July through December – report due March 15
- Per 40 CFR 65.166(d), periodic reports are required for storage vessels; however, none of the listed reporting elements will apply to a storage tank to a fuel gas system. As such, EWVI's periodic reports will only be required to include the SSM information described above.

2.5. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

National Emissions Standards for Hazardous Air Pollutants (NESHAP) are generally applicable to major HAP sources and certain area HAP sources. A major HAP source is defined as having potential emissions in excess of 25 tpy for total HAPs and/or potential emissions in excess of 10 tpy for any individual HAP. NESHAP apply in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type.

The Newell Refinery is an area HAP source as specified in the Title V permit. In addition to the general provisions of 40 CFR 63 Subpart A, the NESHAP that could potentially apply to the Newell Refinery are detailed below.

2.5.1. 40 CFR 61 Subpart FF - Benzene Waste Operations (Applicable)

Part 61 NESHAP Subpart FF applies to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries and is applicable to the Newel Refinery.

Facilities with a total annual benzene (TAB) quantity greater than 10 Mg/yr are subject to benzene emission control standards. Facilities with a TAB less than 10 Mg/yr are exempt from the benzene emission control standards of Subpart FF. The TAB is the sum of the annual benzene quantity from each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent, or is mixed with water or other waste that has a water content greater than 10 percent. Waste in the form of gases or vapors that is emitted from process fluids and waste that is contained in a segregated stormwater sewer system are exempt from the requirements of Subpart FF.

Since the Newell Refinery TAB quantity from facility waste is greater than 1.0 megagrams per year (Mg/yr) but less than 10 Mg/yr, the facility is subject to limited monitoring, recordkeeping, and reporting requirements as specified by §61.357(c) of Subpart FF.

2.5.2. 40 CFR 63 Subpart Y - Marine Tank Vessel Loading Operations (Applicable)

NESHAP Y contains MACT and reasonably available control technology (RACT) level requirements. The MACT standards apply to affected sources at new and existing major HAP facilities as well as new affected sources at area HAP facilities. Existing sources with emissions less than 10 and 25 tons must comply only with the submerged fill requirements in 46 CFR 153.282 as referenced in 63.560(a)(4) . [§63.560(e)(1)(iv)]

46 CFR §153.282 includes the standards for cargo filling lines. The rule requires that the discharge point of a cargo tank filling line must be no higher above the bottom of the cargo tank or sump than 10 cm (approx. 4 in.) or the radius of the filling line, whichever is greater.

NESHAP Y also includes RACT standards that apply to sources loading more than 10 milling barrels of gasoline or 200 barrels of crude (12-month annual average or 24-month annual average). The throughput limitations for loading gasoline and crude at the Newell Refinery are well below these thresholds; therefore, the NESHAP Y RACT standards don't apply.

2.5.3. 40 CFR 63 Subpart ZZZZ – Reciprocating Internal Combustion Engines (Applicable)

40 CFR 63, Subpart ZZZZ (commonly referred to as the RICE MACT), applies to existing, new, reconstructed reciprocating internal combustion engines (RICE). The Newell Refinery operates two fire pump engines as identified below:

FWPUMP1
River Dock (P-4033)
Date of Manufacture 2005
210 HP

FWPUMP2
Boiler House (P-4102B)
Date of Manufacture 1993
265 HP

Stationary RICE located at an area source of HAP emissions is classified as "existing" if construction or reconstruction commenced before June 12, 2006. As such, the engines are classified as "existing" non-emergency engines located at an area HAP facility. Regulatory applicability for the engines is discussed below:

- Comply with the requirements in NESHAP ZZZZ Table 2d and the operating limitations in Table 2b, as applicable. [§63.6603(a)]
- Use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. [§63.6604(b)]
- Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [§6625(e)]
- Since the engines are not subject to numerical emissions limitations, EWVI is not required to submit the listed notifications. [§63.6645(a)(5)]
- Table 2d requires the following work practice standards be followed:
  - During periods of startup - Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
  - Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
  - Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
  - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

2.5.4. 40 CFR 63 Subpart BBBBBB – Bulk Gasoline Terminal (Applicable)

40 CFR 63, Subpart BBBBBB or 6B applies to source pipeline pumping stations, and bulk gasoline plants, pipeline breakout stations, and bulk gasoline terminals that are not subject to the control requirements of 40 CFR part 63, subpart R or 40 CFR part 63, subpart CC. The current Title V permit lists 40 CFR 63, Subpart R as applicable and does not cite 40 CFR 63, Subpart 6B as not applicable. EWVI would like to correct the rule applicability in the Title V renewal. The key requirements of the rule are listed below. NESHAP 6B incorporates by reference provisions from NSPS XX for loading racks and NSPS Kb for storage tanks. EWVI has demonstrated compliance with the gasoline loading emissions limit of the rule (e.g., < 80 mg/L) via performance test and the parametric monitoring requirement (e.g., temperature monitoring of the Oxidizer). However, EWVI is also including a Schedule of Compliance in Attachment F of this this Title V renewal application to conduct an assessment of current practices for gasoline loading and additional requirements such as recordkeeping and reporting.

- Gasoline Loading Rack emission limit: 80 mg/l of gasoline loaded.
  - Per §63.11092, a more stringent limit in an enforceable air permit demonstrates compliance with this NESHAP 6B limit. As the T Load source at EWVI is limited to loading 134,904,000 gallons of gasoline and a total VOC emissions rate from the oxidizer of 18.17; the equivalent limit from the air permit (32.28 mg/l) is well below the 80 mg/l NESHAP limit. EWVI performed a NSPS XX compliant stack test on the gasoline truck loading oxidizer in November 2000 demonstrating emissions less than 10 mg/L and an oxidizer control efficiency of more than 99%.
  - As with NSPS XX, NESHAP 6B requires EWVI load only vapor tested gasoline cargo trucks. EWVI operates an electronic fuel loading management system with interlocks that prevent loading to any truck without a valid leak test.

- Gasoline Loading Rack Monitoring: parametric monitoring to ensure control device operation.
  - In accordance with 63.11092(b)(1)(iii), for thermal oxidizers, a continuous parametric monitoring system shall be in firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs. A temperature monitoring system is installed and operated continuously in compliance with this requirement.

- Gasoline Storage Tanks: External floating roof control with periodic seal gap inspections
  - For a gasoline storage tank equipped with an external floating roof, compliance is demonstrated through the design and periodic inspections of the floating roof. Secondary seal gap measurements are required annually with primary seal gap measurements every 5 years. EWVI performs annual inspections of the floating roof and seal gaps as a best practice. Documentation of the inspections and reporting of inspections will be evaluated to determine if any gaps exist.

- Equipment in Gasoline Service: fugitive emissions inspections.
  - NESHAP 6B requires, monthly sight, sound, and smell leak detection inspections. Repair program with first attempt in 5 days and final repair in 15 days (unless component is on delay of repair).

2.5.5. 40 CFR 63 Subpart JJJJJJ – Industrial, Commercial, and Institutional Boilers (Not Applicable)

This subpart (NESHAP 6J) applies to each new, reconstructed, or existing industrial, commercial, or institutional boiler an area source of hazardous air pollutants (HAP). Process heaters are categorically not affected facilities under NESHAP 6J.[10] 40 CFR 63.11195 contains a list of sources (e.g., boilers) not subject to NESHAP 6J including "a gas-fired boiler as defined in this subpart". The boilers at the plant are gas-fired boilers as confirmed by the following definitions from the rule:

- *Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.[11]
- *Gaseous fuels* includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

As the Newell Refinery exclusively operates gas-fired boilers and process heaters, NESHAP 6J does not apply.

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[10] Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

[11] Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

2.6. COMPLIANCE ASSURANCE MONITORING

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V operating permit application. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices.

Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V operating permit program. 40 CFR 64 also contains several exemptions. As presented in previous Title V applications and the permit, CAM is not applicable as described below:

CAM potentially applies on a Pollutant Specific Emission Unit (PSEU) basis at emission units located at a major source for purposes of Title V permitting. CAM rules codified in 40 CFR Part 64 apply if:

1) The PSEU is subject to an emission limit or standard;
2) The PSEU uses an add-on control device to achieve compliance with the emission limitation or standard;
3) The PSEU has pre-control emissions greater than the Title V major source thresholds for the applicable pollutant; or
4) The PSEU is not an exempt back-up utility power emissions unit that is municipally owned.

CAM also contains several exemptions. In particular, emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act are exempt from CAM. Section 111 and 112 of the Act refer to 40 CFR Part 60 (NSPS) and 40 CFR Parts 61 and 63 (NESHAP).

At the EWVI refinery, the emission units potentially subject to CAM are:

- Truck loading rack (TLOAD) controlled by the thermal oxidizer (OXIDIZER);
- Marine loading dock (MLD) controlled by the marine thermal oxidizer (MLDOX); and
- Ammonia Destruction Unit (ADU) controlled by a thermal oxidizer (NH3OX).

Loading of gasoline at the TLOAD is subject to a VOC emissions limitation met by use of the OXIDIZER. WVDEP exempted the OXIDIZER from CAM in the current Title V permit based on monitoring conducted consistent with section 111/112 standards. Further, since the TLOAD loading rack is subject to 40 CFR 63, Subpart 6B and 40 CFR Part 60 Subpart XX, the monitoring included for these standards (i.e., NESHAP/MACT/NSPS promulgated after November 15, 1990) is presumptively acceptable as CAM. EWVI continuously monitors and records the OXIDIZER temperature as well as reports deviations from the minimum temperature established during the performance test.

Loading of gasoline or crude at the MLD is subject to a VOC emissions limitation met by use of the MLDOX. Uncontrolled VOC emissions are greater than the major source threshold; therefore, CAM is applicable. The MLDOX is equipped with a thermocouple for continuous temperature monitoring of the control device. EWVI conducted performance testing at the MLDOX to establish a minimum temperature during gasoline and crude loading. EWVI continuously monitors and records the MLDOX temperature as well as reports deviations from the minimum temperature established during the performance test.

The ADU is subject to a VOC emissions limitation met by use of the NH3OX. Uncontrolled VOC emissions are greater than the major source threshold; therefore, CAM is applicable. The NH3OX is equipped with a thermocouple for continuous temperature monitoring of the control device. EWVI conducted performance

testing at the NH3OX to establish a minimum temperature during ADU operation. EWVI continuously monitors and records the NH3OX temperature as well as reports deviations from the minimum temperature established during the performance test.

As the MLDOX and NH3OX are subject to 40 CFR 64, CAM must be addressed in this Title V renewal application. CAM Plan is incorporated as Attachment H to this application. EWVI was already performing the CAM monitoring approach under the current Title V permit conditions; as such, no Schedule of Compliance form is needed.

2.7. RISK MANAGEMENT PLAN REGULATIONS

Subpart B of 40 CFR 68 outlines requirements for risk management plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. EWVI has evaluated the amount of Section 112(r) substances stored at the Newell Refinery and has determined that there are three process areas exceeding the threshold: Propane Deresiner, MEK Dewaxer, and NGL Storage. Therefore, the facility is subject to this regulation.

2.8. STRATOSPHERIC OZONE PROTECTOION REGULATIONS

The requirements originating from Title VI of the Clean Air Act, entitled *Protection of Stratospheric Ozone,* are contained in 40 CFR 82. Subparts A through E and Subparts G and H of 40 CFR Part 82 are not applicable to the Newell Refinery. 40 CFR 82 Subpart F, *Recycling and Emissions Reduction*, potentially applies if the facility operates, maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances or non-exempt refrigerants. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified. Contracted certified technicians complete all repairs, service, and disposal of ozone depleting substances from the refrigerant-containing equipment at the Newell Refinery.

2.9. WEST VIRGINIA SIP REGULATIONS

The Newell Refinery is currently permitted under the regulations contained in West Virginia's Title 45 Legislative Rule Department of Environmental Protection Office of Air Quality (WVDEP regulations). A federal operating permit must be issued by the agency upon determination that the facility can reasonably be expected to comply with the WVDEP regulations and all applicable federal requirements. This section of the application highlights specific West Virginia State Implementation Plan (SIP) regulations that apply to the Newell Refinery.

2.9.1. 45 CSR 2: Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

45 CSR 2-3 Visible Emissions (VE): No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average. Compliance with this requirement is determined by the visible emissions monitoring requirements of Condition 4.2.1 of the Title V permit (i.e., monthly Method 22 visible emissions checks with Method 9 observations when visible emissions are observed and not corrected in a timely manner). 40 CSR 2-9 details the startup, shutdown, and malfunction exceptions to this standard. 45 CSR 2-10 contain the variances due to unavoidable fuel shortages.

45 CSR 2-4 Particulate Matter (PM) Limitations: No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined (e.g., for Type "b" fuel burning units, the product of 0.09 and the

total design heat input in mmBtu/hr). Title V Condition 4.1.7 details the PM limitations for the type "b" fuel burning units at the Newell Refinery. Compliance with this requirement is determined by use of gaseous fuels and maintaining records of the date and time of startup/shutdown and quantity of fuel combusted on a monthly basis (as detailed in the facility's Regulation 2 Monitoring Plan). 45 CSR 2-11 exempts fuel burning units of less than 10 mmBtu/hr (i.e., H-201 and Dehy Heater). Units firing only natural gas and units less than 100 mmBtu/hr are not subject to the testing provisions of 45 CSR 2-8, 2A-5, and 2A-6. Additionally, the approved facility Regulation 2 Monitoring Plan, requested an exemption from the testing provisions of 45 CSR 2A based on the use of fuel gas.

45 CSR 2-9 General Requirements: At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

2.9.2. 45 CSR 6: Prevent and Control Air Pollution from Combustion of Refuse

45 CSR 6-3 Open Burning: The facility is subject to the generally applicable prohibition on open burning of refuse (except as noted in 45CSR§6-3.1).

45 CSR 6-4 PM and VE Limitations: The Main Flare, the Sour Gas Flare, the Truck Loading Thermal Oxidizer, the Marine Loading Thermal Oxidizer, and the Ammonia Destruction Unit Thermal Oxidizer are subject to the particulate matter limitation and the visible emission standard of this rule (with exceptions as noted in the regulation):

- PM lb/hr Limit = F Factor * incinerator capacity. [45 CSR 6-4.1]
- No greater than twenty percent (20%) opacity. [45 CSR 6-4.3]
- Design, operate and maintain so as to prevent the emission of objectionable odors. [45 CSR 6-4.6]

2.9.3. 45 CSR 10: Prevent and Control Air Pollution from the Emission of Sulfur Oxides

45 CSR 10-3.1 Fuel Burning Units: For type "b" units in a Priority I area (e.g., Hancock County), no No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the following: the product of 3.1 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour. Compliance with the allowable SO_2 emission limitations from fuel burning units shall be based on a continuous twenty-four (24) hour averaging time (i.e., one calendar day). Fuel burning units less than 10 mmBtu/hr capacity are exempt from this standard. In accordance with the facility's approved Regulation 10 Monitoring Plan and 45 CSR 10A-5.1, EWVI uses the fuel gas H_2S monitoring of NSPS J/Ja as an alternative to weight SO_2 emissions testing.

45 CSR 10-4 Manufacturing Process Source Operations[12]: This rule limits emission into open air from any source operation an in-stack SO_2 concentration exceeding 2000 ppm by volume from existing source operations. As clarified in the Title V permit, "in-stack" concentration as interpreted for a flare means the exhaust

[12] Under this rule, "Manufacturing Process" means any action, operation or treatment embracing chemical, industrial or manufacturing efforts, and employing, for example, heat-treating furnaces, by-product coke plants, core-baking ovens, mixing kettles, cupolas, blast furnaces, open hearth furnaces, heating and reheating furnaces, puddling furnaces, sintering plants, electric steel furnaces, ferrous and non-ferrous foundries, kilns, stills, pipe stills, reformers, furnaces associated with manufacturing processes, driers, crushers, grinders, roasters, and equipment used in connection therewith, and all other methods or forms of manufacturing or processing that may emit sulfur dioxide or other sulfur compounds.

concentration after combustion. This limit is based on a three hour block average. Manufacturing process source operations with the potential to emit less than 500 lbs per year of SO_2 are exempt from the requirements of 45 CSR 10A.

2.9.4. 45 CSR 16: Standard of Performance for New Stationary Sources

This rule adopts by reference the standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act (i.e., NSPS). The applicability of specific NSPS standards is addressed in Section 2.3 above.

2.9.5. 45 CSR 34: Emission Standards for Hazardous Air Pollutants

This rule adopts by reference the standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Part 61, Part 63, and section 112 of the federal Clean Air Act (i.e., NESHAP). The applicability of specific NESHAP standards is addressed in Section 2.5 above. Several standards are excluded from this rule such as 40 CFR 63, Subpart 6B and provisions related to 112(r) Risk Management Plans.

2.9.6. Non-Applicability of Other SIP Rules

Many SIP regulations do not apply or impose additional requirements on operations at the Newell Refinery. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the refinery, which are not necessary to review in detail in this application.

The emissions unit forms in Attachment E specify the calculation methods used. The narrative below provides further discussion of emission calculation methodology used for certain emission sources at the refinery.

3.1. BOILERS AND HEATERS

The combustion sources at EWVI are fueled either by natural gas or fuel gas. Refinery gas refers to the gas that is generated by the refinery process units. At the refinery, this gas is collected and routed to the main plant fuel gas mix drum, where it is mixed with purchased natural gas to produce what is referred to as fuel gas. The fuel gas is then combusted in the facility's boilers and process heaters.

Emissions were estimated using the maximum burner rating at 8,760 hours/year of operation. The emission factors used for the fuel gas-fired units are based on several sources:

- Manufacturer's data for NO_X, CO, and/or VOC, if available.
- For fuel gas-fired units, SO_2 is based on the NSPS Ja fuel gas H_2S limit assuming all H_2S is converted to SO_2.
- AP-42 "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources" (AP-42) was used for emissions of PM (generally assuming PM=PM10=PM2.5) as well as for emissions of NO_X, CO, or VOC when manufacturer's data was not available.
- Emissions factors for HAP pollutants were obtained from AP-42, EPA Emission Estimation Protocol for Petroleum Refineries (May 2011), or California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.

Natural gas only fired units were also calculated using the maximum burner rating at 8,760 hours/year and the following factors:

- AP-42 "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources" (AP-42) was used for emissions of NO_X, CO, VOC, SO_2, and PM (generally assuming PM=PM10=PM2.5).
- Emissions factors for HAP pollutants were obtained from AP-42, EPA Emission Estimation Protocol for Petroleum Refineries (May 2011), or California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.

3.2. PRODUCT LOADING

Product loading at the Newell Refinery occurs at the loading rack (T Load) and the marine loading rack (MLD). Loading of gasoline at T Load is controlled by the OXIDIZER. Loading of gasoline/naphtha or light crude at the MLD is controlled by the MLDOX.

TLoad - Emission calculation methods for product loading were obtained from AP-42 Section 5.2. The emissions of gasoline loading at the Truck Loading area are controlled by a thermal oxidizer. A capture efficiency of 98.7% used for truck loading, as the trucks are tightness tested at least annually. TLoad emissions are the sum of Diesel, Fuel Oil, Kerosene, and Lube Oil loading losses plus 1.3% of gasoline.

- Loading Losses Eqn. L = 12.46(SPM/T)*C)
  S = Saturation factor
  P = True Vapor Pressure of liquid loaded (psia)
  M = Molecular weight of vapors (lb/lb-mole)
  T = Temperature of bulk liquid loaded (R)
  C = control efficiency

MLD - Emission calculation methods for product loading from AP-42 Section 5.2. Barge loading emissions for gasoline are given as 3.9 lb/Mgal transferred to an unclean barge. The gasoline/naphtha and crude loading controlled by a thermal oxidizer. MLD emissions are the Diesel, Kerosene, and Lube Oil loading losses plus 5% of gasoline/naphtha and crude.

- Eqn. L = 12.46(SPM/T)*C
  S = saturation factor (ch. 5.2)
  P = True Vapor Pressure of liquid loaded (psia) (ch 7.1)
  M = molecular weight of vapors (lb/lb-mole) (ch 7.1)
  T = temperature of bulk liquid loaded (R)(average ambient temperature for Pittsburg, PA)
  C = control efficiency

- Eqn. CL = (CA+CG)*C
  CA = arrival emission factor (table 5.2-3)
  CG = generated emission factor
  G = vapor growth factor (given as 1.02 dimensionless)

OXIDIZER and MLDOX - For each thermal oxidizer, the pilots (0.15 mmBtu/hr) are fired with purchased natural gas. Additional enriching gas is based on 0.1 mmBtu/hr. VOC/HAP emissions are calculated based on the destruction efficiency of the oxidizer and the calculated vapor stream vented to the control (e.g., uncombusted loading losses). The vapor stream heating values (Btu/lb) were obtained from Hydrogen Analysis Resource Center: Lower and Higher Heating Values of Hydrogen and Fuels. The emissions factors for the products of combustion such as NO_X and CO were obtained from EPA AP-42, Chapter 13.5 Flares and for PM from EPA AP-42, Chapter 1.4, Natural Gas Combustion. SO_2 emission factors are based on the expected sulfur content of the products combusted.

3.3. FUGITIVE EMISSIONS

Fugitive emissions were calculated using the Correlation Approach from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995). Petroleum industry leak rate / screening value correlations are presented in Table 2-10 of the document and were implanted as follows:

- The screening value (SV) for each non leaking component was 1 ppm less than the leak definition of 500 ppm for valves and 2,000 ppm for pumps.
- The screening value (SV) for all leaky components was 20,000 ppm (based on 3% leakers)

- The equations listed below were used to calculate the leak rate

  - Leak Rate Valve (kg/hr) = (# of non-leakers) * 2.29E-06*(SV)^0.746 + (# of leakers) * 2.29E-06 * (SV)^0.746
  - Leak Rate Pump kg/hr) = (# of non-leakers) * 5.03E-05*(SV)^0.610 + (# of leakers) * 5.03E-05 * (SV)^0.610
  - Leak Rate Connector (kg/hr) = (# of non-leakers) * 1.53E-06*(SV)^0.735 + (# of leakers) * 1.53E-06 * (SV)^0.735
  - Leak Rate Other (kg/hr) = (# of non-leakers) * 1.36E-05*(SV)^0.589 + (# of leakers) * 1.36E-05 * (SV)^0.589.

3.4. STORAGE TANKS

Actual storage tank emissions for emissions inventory purposes are calculated based on the calculation methodologies of AP-42 Section 7.0 at the time each storage tank was initially permitted. Note that in November of 2019, EPA published a revision to AP-42, Section 7.0. Based on discussions with WVDEP, the agency has not mandated use of the updated Section 7.0 equations. However, EWVI will be evaluating the Section 7.0 revisions and, if needed, will engage WVDEP in further discussions.

Table 3-1. Storage Tank Emissions and Limitations

Tank ID	Raw Material	Throughput (gallons/year)	Emissions TPM	Emissions TPY
4000, 4001, 4060, 4061, and 4072	crude oil	802,264,890	5.79 VOC 0.08 Benzene 0.65 Total HAP	57.85 VOC 0.81 Benzene 6.54 Total HAP
4062, 4063	light crude oil w/vapor pressure up to 11.0 psia	306,600,000		
4004, 4005, 4006, 4012, 4013, 4014, 4015, 4016, 4050, 4052, 4053, 4070, and 4071	gasoline or ethanol	318,034,433		
4002, 4003, 4009, 4011, 4054, 4055, 4056, and 4057	heavy products or kerosene	406,459,760		
4007, 4008, 4010, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4036, 4037, 4038, 4039, 4040, 4041, 4042, 4043, 4044, 4045, 4046, 4047, 4048, 4051, 4103, and 4104	heavy products	550,817,989		
V-4002 and V-4003	Natural Gas Liquids	--	--	--

EWVI also operates several storage tanks not included in the table above (biodiesel tanks TK-4066/4069, MEK tank TK-303, and Toluene tank TK-304).

4. WVDEP APPLICATION FORMS

The WVDEP permit application forms contained in this renewal application include facility-wide and emission source specific forms for the renewal of the Newell Refinery Title V permit.

GENERAL FORMS: TITLE V PERMIT APPLICATION RENEWAL

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):** Ergon – West Virginia, Inc.	**2. Facility Name or Location:** Newell, Hancock County, West Virginia
3. DAQ Plant ID No.: 0 2 9 — 0 0 0 0 8	**4. Federal Employer ID No. (FEIN):** 7 2 1 3 7 5 1 1 4

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence? 04/1972
☒ Permit Renewal — What is the expiration date of the existing permit? 08/18/2020
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☒ Corporation ☐ Governmental Agency ☐ LLC
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☒ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

_____
_____
_____

8. Number of onsite employees:

197

9. Governmental Code:

☒ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☒ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: 9995 Ohio River Blvd.		
City: Newell	**State:** WV	**Zip: 26050**
Telephone Number: (304) 387-4343	**Fax Number:** (304) 387-7006	

12. Facility Location		
Street: 9995 Ohio River Blvd.	**City:** Newell	**County:** Hancock
UTM Easting: 531.25 km	**UTM Northing:** 4,495.35 km	**Zone:** ☒ 17 or ☐ 18
Directions: Two (2) miles south of Newell, WV on State Route 2.		
Portable Source? ☐ Yes ☒ No		
Is facility located within a nonattainment area? ☐ Yes ☒ No		**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☒ Yes ☐ No		**If yes, name the affected state(s).** Ohio Pennsylvania
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☒ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☒ No		**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Doug Burdick		**Title:** Vice President - Refining
Street or P.O. Box: 9995 Ohio River Blvd.		
City: Newell	**State:** WV	**Zip: 26050**
Telephone Number: (304) 387-4343	**Fax Number:** ( ) -	
E-mail address: Doug.Burdick@ergon.com		
Environmental Contact: Jack Azar		**Title:** ESHT Manager
Street or P.O. Box: 9995 Ohio River Blvd.		
City: Newell	**State:** WV	**Zip: 26050**
Telephone Number: (304) 387-7046	**Fax Number:** ( ) -	
E-mail address: Jack.Azar@ergon.com		
Application Preparer: Patty Centofanti		**Title:** Managing Consultant
Company: Trinity Consultants		
Street or P.O. Box: 4500 Brooktree Road, Suite 310		
City: Wexford	**State:** PA	**Zip: 15090**
Telephone Number: (412) 538-8038	**Fax Number:** ( ) -	
E-mail address: pcentofanti@trinityconsultants.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Petroleum Refining	Straight Gasoline, Ultra Low Sulfur Diesel, Lube Oils, Resins, Waxes, and Other Heavy Products	324110	2911

Provide a general description of operations.

Ergon – West Virginia, Inc. (EWVI) owns and operates a petroleum refinery in Newell, West Virginia. The refinery is currently operating West Virginia Department of Environmental Protection (WV DEP) Regulation 13 Permit No. R13-2334AD and Title V Permit No. R30-02900008-2015 MM05/MM06. The refinery processes crude oil, Light Crude Oil, and other feedstocks and produces several petroleum products such as diesel, gasoline, waxes, and lube oils.

An R13 modification permit application is also under review at the WVDEP concurrent with this Title V renewal application.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☒ NESHAP (45CSR34)	☐ Nonattainment NSR (45CSR19)
☒ Section 111 NSPS	☐ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☒ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☒ 45CSR27 State enforceable only rule
☒ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☒ Compliance Assurance Monitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☐ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

40 CFR 60, Subpart D – The boilers at the refinery do not have rated capacities > 250 MMBtu/hr.

40 CFR 60, Subpart Da – The boilers at the refinery are not in electric utility service and do not have rated capacities > 250 MMBtu/hr.

40 CFR 60, Subpart Db – There are no steam generating units that commenced construction, modification, or reconstruction after June, 19, 1984 with a rated capacity of greater than 100 MMBtu/hr.

40 CFR 60, Subpart Ka – Tanks 4044, 4045, and 4046 have capacities greater than 40,000 gallons and were constructed within the applicability dates. However, 40 CFR 60.112a(a) exempts these vessels due to the fact that they contain a petroleum liquid which, as stored, has a true vapor pressure (TVP) less than 10.3 kPa (1.5 psia).

40 CFR 60, Subpart NNN – Subpart NNN applies to distillation units that produces as a product, do-product, by-product, or intermediate a chemical that is listed in 40 CFR 60.667. The Newell Refinery does not produce a listed chemical; therefore, this rule does not apply.

40 CFR 60, Subpart RRR – Subpart RRR applies to reactor processes that produces as a product, do-product, by-product, or intermediate a chemical that is listed in 40 CFR 60.707. The Newell Refinery does not produce a listed chemical; therefore, this rule does not apply.

40 CFR Part 61 Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene. The Newell Refinery does not have any equipment that is "In Benzene Service as that term is defined in 40 CFR 61 Subpart J (*In benzene service* means that a piece of equipment either contains or contacts a fluid (Liquid or gas) that is at least 10 percent benzene by weight as determined according to the provisions of §61.245(d). The provisions of §61.245(d) also specify how to determine that a piece of equipment is not in benzene service.)

40 CFR 61, Subpart V – Due to the fact that the Newell Refinery is not subject to an additional subpart in Part 61, Subpart V does not apply.

40 CFR 63, Subpart H – Due to the fact that the refinery is not subject to an additional subpart of 40 CFR 63, Subpart H is not applicable.

40 CFR 63, Subpart R – Subpart R applies to bulk gasoline terminals located at major sources of HAP. As the Newell Refinery is a minor source of HAP, this rule does not apply.

40 CFR 63, Subpart Y – The facility has existing marine loading operations that began before the final rule was issued in September 1995. Therefore, to be subject to Subpart Y, the hazardous air pollutant (HAP) emissions from the marine tank vessel loading operations must exceed 10 or 25 tons. Marine tank vessel loading operations do not exceed these thresholds.

40 CFR 63, Subpart CC – Subpart CC applies to petroleum refining process units and to related emissions points located at major sources of HAP. As the Newell Refinery is a minor source of HAP, this rule does not apply.

40 CFR 63, Subpart OO – Subpart OO would only apply to the Newell Refinery if it were referenced in another Subpart to which it was subject. Subpart OO is not referenced in any Subpart to which the refinery is subject and therefore it does not apply.

40 CFR 63, Subpart PP – Subpart PP would only apply to the Newell Refinery if it were referenced in another Subpart to which it was subject. Subpart PP is not referenced in any Subpart to which the refinery is subject and therefore it does not apply.

40 CFR 63, Subpart QQ – Subpart QQ would only apply to the Newell Refinery if it were referenced in another Subpart to which it was subject. Subpart QQ is not referenced in any Subpart to which the refinery is subject and therefore it does not apply.

40 CFR 63, Subpart RR – Subpart RR would only apply to the Newell Refinery if it were referenced in another Subpart to which it was subject. Subpart RR is not referenced in any Subpart to which the refinery is subject and therefore it does not apply.

☒ Permit Shield

19. Non Applicability Determinations *(Continued)* - *Attach additional pages as necessary.*

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

40 CFR 63, Subpart VV – Subpart VV would only apply to the Newell Refinery if it were referenced in another Subpart to which it was subject. Subpart VV is not referenced in any Subpart to which the refinery is subject and therefore it does not apply.

40 CFR 63, Subpart UUU – Subpart UUU applies to fluidized catalytic cracking units, catalytic reforming units, and Claus (or other) sulfur recovery units at a major source of HAP. The Newell Refinery does not have Catalytic Cracking Units, Catalytic Reforming Units, or Sulfur Recovery Units.

40 CFR 63, Subpart EEEE – Subpart EEEE applies to organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. As the Newell Refinery is a minor source of HAP, this rule does not apply.

40 CFR 63, Subpart JJJJJJ (6J) – Subpart 6J applies to certain boilers at minor sources of HAP. Gas-fired boilers are exempt from the rule. All the boilers at the Newell Refinery are gas-fired; therefore, this rule does not apply.

40 CFR 63, Subpart DDDDD (5D) – Subpart 5D applies to boilers and process heaters at major sources of HAP. As the Newell Refinery is a minor source of HAP, this rule does not apply.

☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

Open burning – 45 CSR 6-3.1
Open burning exemptions – 45 CSR 6-3.2
Asbestos – 40 CFR 61
Odor – 45 CSR 4-3.1 (state only enforceable)
Permanent shutdown – 45 CSR 13-10.5
Standby plan for reducing emissions - 45 CSR 11-5.2
Emission inventory – W. Va. Code 22-5-4(a)(14)
Ozone-depleting substances – 40 CFR 82, Subpart F
Risk Management Plan – 40 CFR 68
Sulfur Dioxide – CO-SIP-95-1 – Condition IV.1.(SIPed)
Sulfur Dioxide – CO-SIP-95-1 – Condition IV.2.(SIPed)
Operation and Maintenance of Air Pollution Control Equipment – 45 CSR 13 R13-2234: 2.1.5, 4.1.5, 40 CSR 13-5.11
Emission Standards for Hazardous Air Pollutants (as applicable) – 45 CSR 34
Performance Standards for New Stationary Sources (as applicable) - 45 CSR 16
Standards of Performance for Petroleum Refineries - 45 CSR 13
Site Remediation MACT – 40 CFR 63, Subpart GGGGG, 40 CFR 63.7950(b), and 45 CSR 34-2.1
Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries – 40 CFR 60, Subpart GGGa

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring Requirements:
Not Applicable

Testing Requirements:
Stack testing – WV Code 22-5-4(a)(15) and 45 CSR 13

Recordkeeping Requirements:
Monitoring Information – 45 CSR 30.5.1.c.2.A
Retention of Records – 45 CSR 30-5.1.c.2.B
Odors – 45 CSR 30-5.1.c (state only enforceable)
Record of Maintenance of Air Pollution Control Equipment – 45 CSR 13

Reporting Requirements:
Responsible Official – 45 CSR 30-4.4 and 5.1.c.3
Confidential Business Information – 45 CSR 30-5.1.c.3
Submissions
Certified Emissions Statement – 45 CSR 30-8
Compliance Certification – 45 CSR 30-5.3.e
Semi-annual monitoring reports – 45 CSR 30-5.1.c.3.A
Emergencies - 45CSR§30-5.7.
Deviations – 45 CSR 30-5.1.c.3.B and 5.1.c.3.C
New applicable requirements – 45 CSR 30-4.3.h.1.B
Compliance Plan / Schedule of Compliance 45 CSR 30-5.3.d
Permit Shield - 45CSR§30-5.6.a and c

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

20. Facility-Wide Applicable Requirements *(Continued)* - *Attach additional pages as necessary.*

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

☐ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all facility-wide applicable requirements? ☐ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R30-02900008-2015 MM05/MM06	Issued: 08/18/2015 Modified: 1/27/2020	
R13-2334AD	10/11/2019	

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
	MM/DD/YYYY	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]*	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	230
Nitrogen Oxides (NO_X)	206
Lead (Pb)	
Particulate Matter ($PM_{2.5}$)[1]	24.2
Particulate Matter (PM_{10})[1]	24.2
Total Particulate Matter (TSP)	24.2
Sulfur Dioxide (SO_2)	43
Volatile Organic Compounds (VOC)	195
Hazardous Air Pollutants[2]	Potential Emissions
Benzene	1.9
Hexane	4.0
Toluene	8.3
Ethylbenzene	0.7
Xylene	3.3
Regulated Pollutants other than Criteria and HAP	Potential Emissions

[1]$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

**Excludes non-pilot emissions from the Main Flare and Sour Gas Flare.*

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☒	1.	Air compressors and pneumatically operated equipment, including hand tools.
☒	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☒	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☒	4.	Bathroom/toilet vent emissions.
☒	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☒	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☒	8.	Boiler water treatment operations, not including cooling towers.
☒	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☒	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☒	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☒	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☒	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☒	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: Sandblasting – 1 lb/hr and 672 lb/yr

24. Insignificant Activities (Check all that apply)		
☐	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis: _____ _____ _____ _____ _____
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☒	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☒	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☒	26.	Fire suppression systems.
☒	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☒	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☒	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☒	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☒	33.	Hydraulic and hydrostatic testing equipment.
☒	34.	Indoor or outdoor kerosene heaters.
☒	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☒	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☒	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.

24. Insignificant Activities (Check all that apply)		
☒	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
☒	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☒	43.	Process water filtration systems and demineralizers.
☒	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☒	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☒	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☒	50.	Space heaters operating by direct heat transfer.
☒	51.	Steam cleaning operations.
☒	52.	Steam leaks.
☐	53.	Steam sterilizers.
☒	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☒	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☒	57.	Such other sources or activities as the Director may determine.
☒	58.	Tobacco smoking rooms and areas.
☒	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.
26. Emission Units
For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.
For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.
27. Control Devices
For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)	
Name: Doug Burdick	Title: Vice President - Refining

Responsible official's signature:

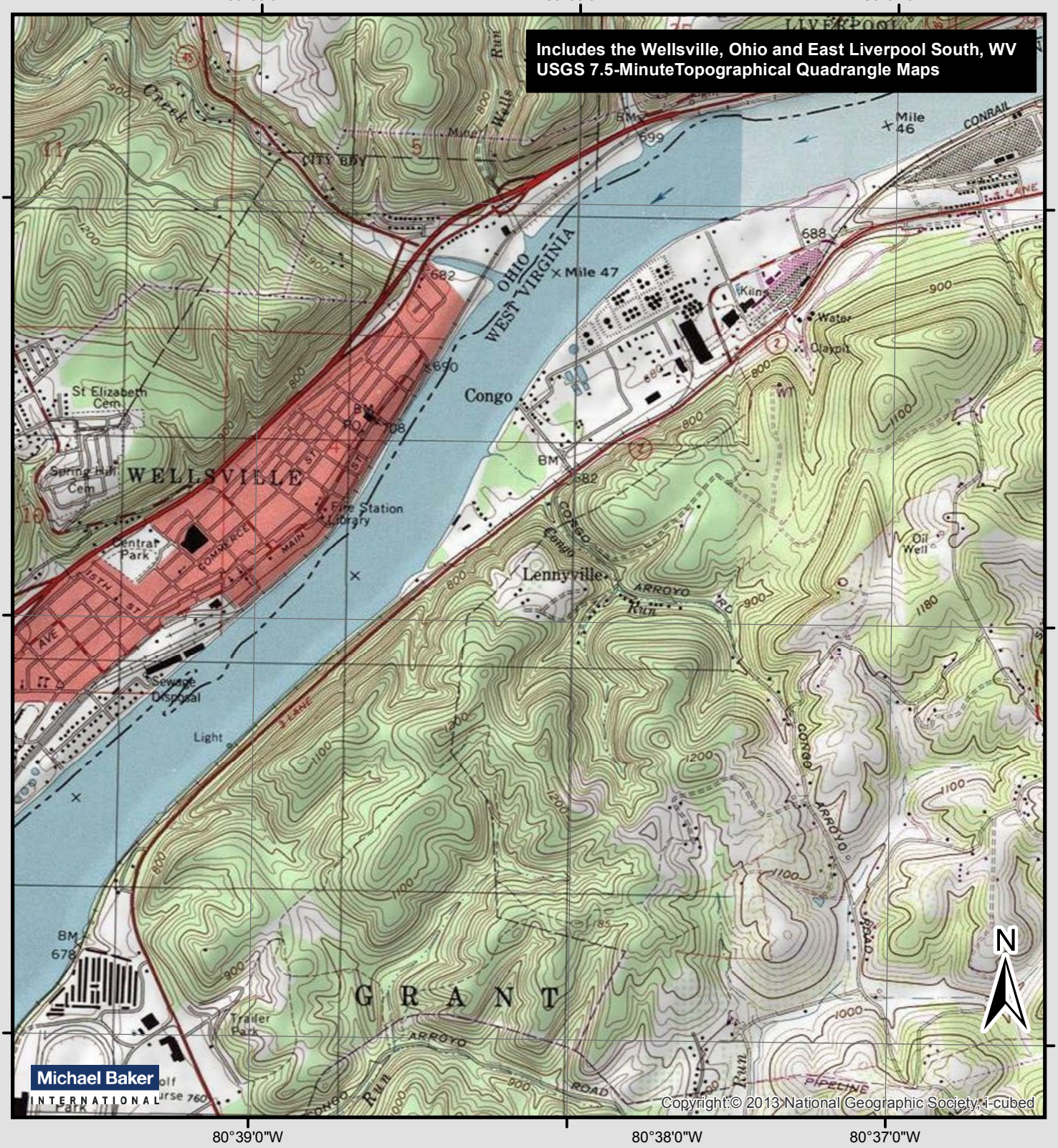
Signature: _____ Signature Date: 2/11/20

(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:	
☒	ATTACHMENT A: Area Map
☒	ATTACHMENT B: Plot Plan(s)
☒	ATTACHMENT C: Process Flow Diagram(s)
☒	ATTACHMENT D: Equipment Table
☒	ATTACHMENT E: Emission Unit Form(s)
☒	ATTACHMENT F: Schedule of Compliance Form(s)
☒	ATTACHMENT G: Air Pollution Control Device Form(s)
☒	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT A: AREA MAP



Legend

0 1,000 2,000 4,000 Feet

Newell Refinery

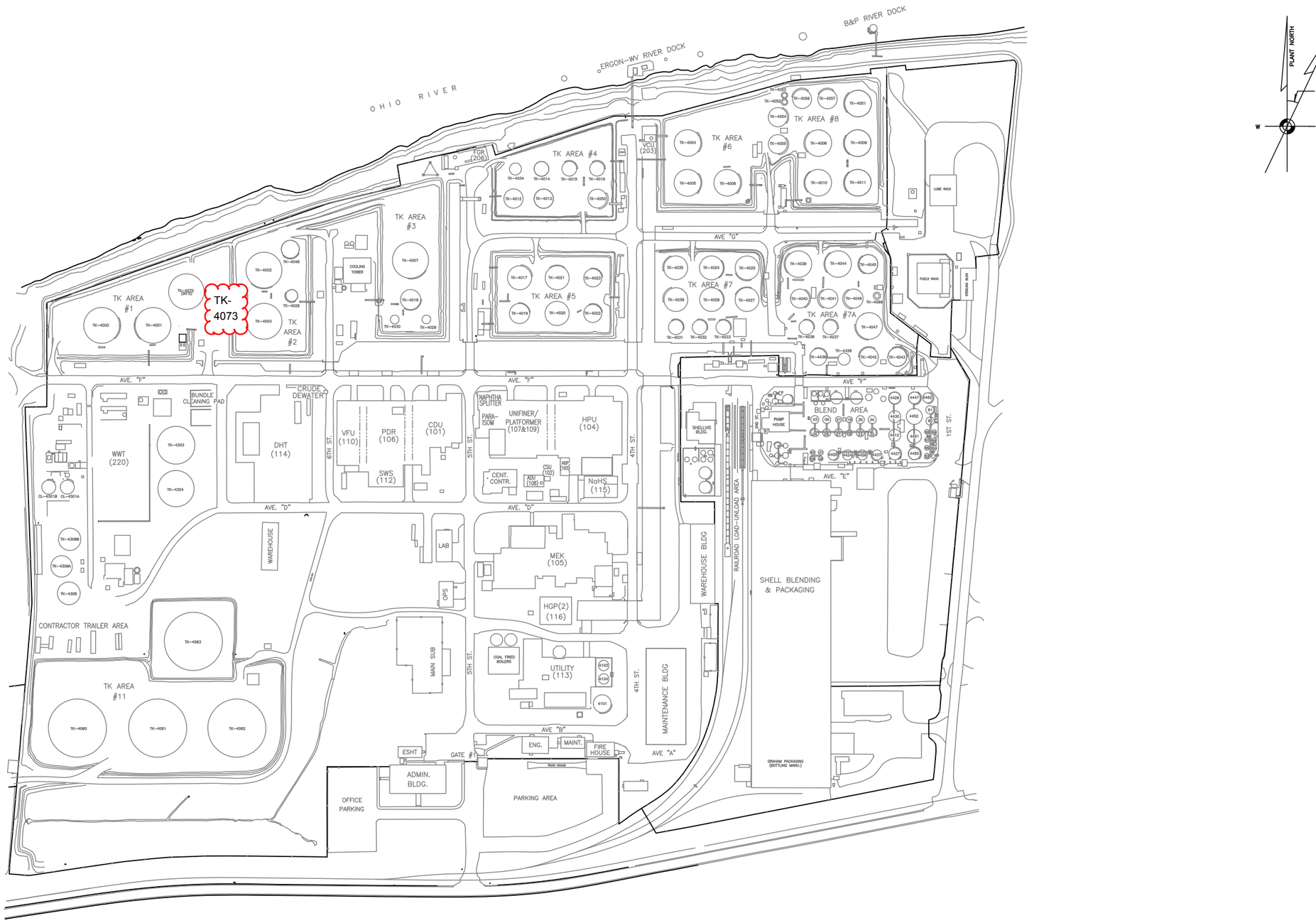
Hancock County, WV
Latitude: 40.605328
Longitude: -80.635180

prepared for

Ergon-West Virginia, Inc.

9995 Ohio River Boulevard
Newell, WV 26050

ATTACHMENT B: PLOT PLAN



SCALE : 1"=120'-0"

NOTICE	NOTES	REFERENCE DRAWINGS
THIS DRAWING IS THE PROPERTY OF ERGON WEST VIRGINIA, INC. AND IS LENT TO RECIPIENT FOR HIS CONFIDENTIAL USE ONLY WITH THE UNDERSTANDING THAT COPIES OR REPRODUCTION OF THE DRAWINGS IN ANY MANNER, IN WHOLE OR IN PART, SHALL NOT BE MADE NOR INFORMATION THEREON PUBLISHED OR USED OTHER THAN AS SPECIFICALLY DIRECTED BY ERGON WITHOUT THE PRIOR WRITTEN PERMISSION OF ERGON. ALL COPIES ARE TO BE RETURNED ON REQUEST OF ERGON WEST VIRGINIA INC.		

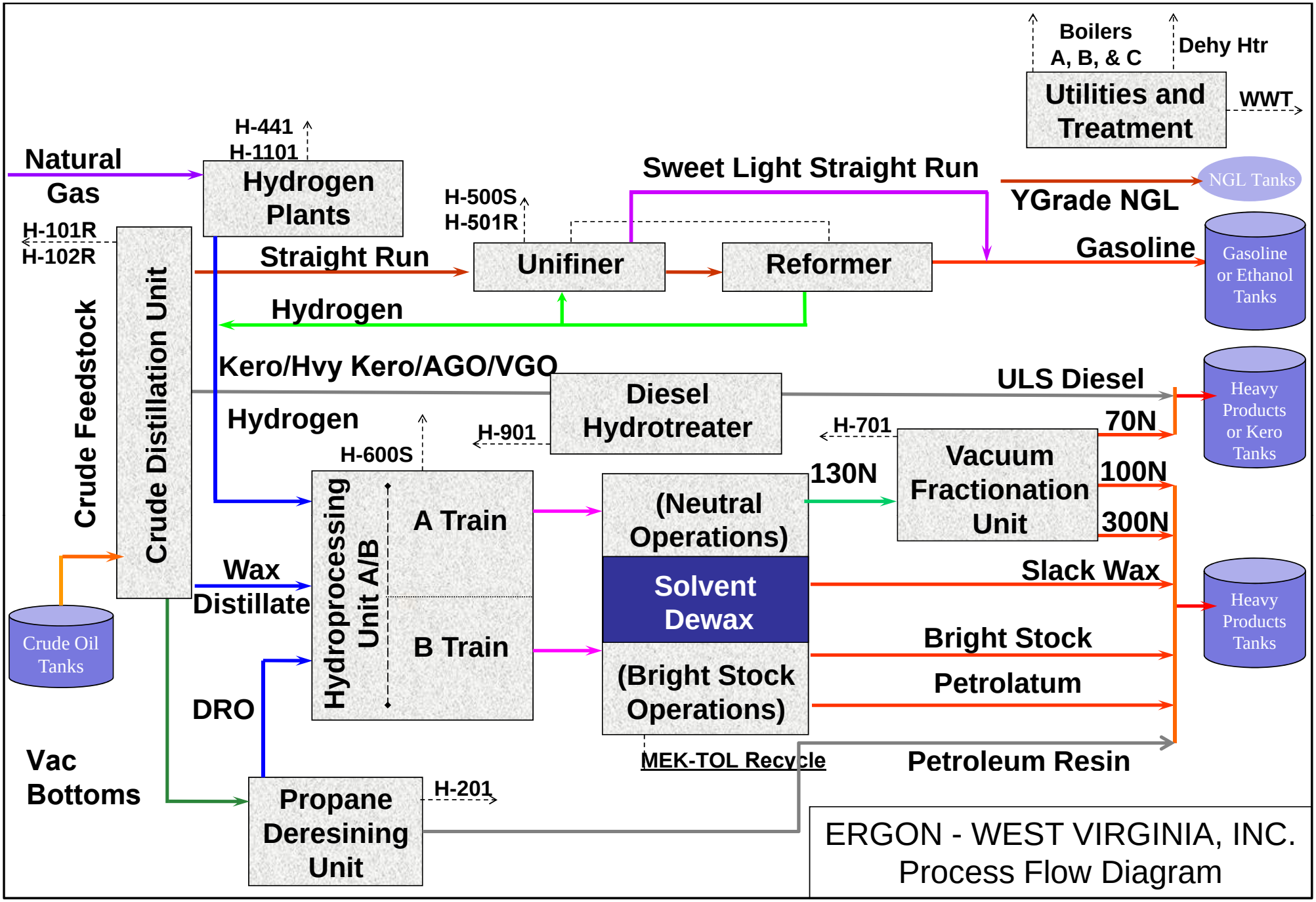
REVISIONS

NO.	DESCRIPTION	BY	DATE	CHK.	DATE	APPR.	DATE
0	ISSUED AS BUILT	JWB	11/6/07			BLJ	11/6/07
1	ADDED FACILITY UPDATES	JWB	10/10/13			BLJ	10/10/13
2	REDRAWN PER DIGITIZED PHOTO 2013	JWB	12/19/14			BLJ	12/19/14

ERGON WEST VIRGINIA, Inc.
Newell, WV

COMPANY			PROJECT
ERGON WEST VIRGINIA, INC.			REFINERY
LOCATION			DRAWING TITLE
NEWELL, WEST VIRGINIA			SITE PLOT PLAN
DRAWN BY	DATE DRAWN	CAD FILE	DRAWING NO. / REV.
JWB	11/6/07	LAA01155	L-100A01-155 / 2

ATTACHMENT C: PROCESS FLOW DIAGRAM


Boilers
A, B, & C
Dehy Htr
Utilities and Treatment
WWT
H-441
H-1101
Natural Gas
Hydrogen Plants
H-500S
H-501R
Sweet Light Straight Run
YGrade NGL
NGL Tanks
H-101R
H-102R
Crude Feedstock
Crude Distillation Unit
Straight Run
Unifiner
Reformer
Gasoline
Gasoline or Ethanol Tanks
Hydrogen
Kero/Hvy Kero/AGO/VGO
Diesel Hydrotreater
ULS Diesel
Heavy Products or Kero Tanks
Hydrogen
H-901
H-701
70N
H-600S
130N
Vacuum Fractionation Unit
100N
300N
Wax Distillate
Hydroprocessing Unit A/B
A Train
B Train
(Neutral Operations)
Solvent Dewax
(Bright Stock Operations)
Slack Wax
Heavy Products Tanks
Bright Stock
Petrolatum
Crude Oil Tanks
DRO
Vac Bottoms
MEK-TOL Recycle
Petroleum Resin
Propane Deresining Unit
H-201
ERGON - WEST VIRGINIA, INC.
Process Flow Diagram

ATTACHMENT D: TITLE V EQUIPMENT TABLE

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
CDU	00A-01	CDU	Crude Distillation Unit	Current: 839,500 bbl/mo Proposed*: 961,775 bbl/mo	1972 / 2012 / 2015
H-101R	N/A	001-01	CDU Atmospheric Heater; Refinery Fuel Gas/Natural Gas Blend	54.5 mmBtu/hr	2012
H-102R	N/A	001-02	CDU Vacuum Heater; Refinery Fuel Gas/Natural Gas Blend	Current: 29.4 mmBtu/hr Proposed: 39.2 mmBtu/hr	2012
H-201	N/A	002-01	PDR Heater; Refinery Fuel Gas/Natural Gas Blend or Fuel Oil	6.6 mmBtu/hr	1905
MEK-TOL	N/A	003-01	Solvent Dewaxing Unit	N/A	1972
H-500S	N/A	004-01	H500 Series Heaters Unifiner/Platformer Unit; Refinery Fuel Gas/Natural Gas Blend	59.6 mmBtu/hr	1972 / 2013 / 2015
H-501R	N/A	004-02	Unifiner Charge Heater	11.5 mmBtu/hr	2013
H-600S	N/A	005-01	H600 Series Heaters, ISOMAX Unit; Refinery Fuel Gas/Natural Gas Blend	41.6 mmBtu/hr	1905
H-441	N/A	005-02	Hydrogen Plant Heater; Natural Gas	12.3 mmBtu/hr	1905
H-701	N/A	006-01	VFU Heater; Refinery Fuel Gas/Natural Gas Blend	12.1 mmBtu/hr	1905
Boiler A	N/A	007-01	Boiler A; Refinery Fuel Gas/Natural Gas Blend	159.50 mmBtu/hr	1905
Boiler B	N/A	007-02	Boiler B; Refinery Fuel Gas/Natural Gas Blend	159.50 mmBtu/hr	1905
Boiler C	N/A	007-03	Boiler C; Refinery Fuel Gas/Natural Gas Blend	95 mmBtu/hr	2000
TLoad	00A-02 OXIDIZER	009-01	Truck Loading	418 MMgal	1905 / 2012 / 2013
Rail-UL	N/A	Rail-UL	Rail Car Unloading	800 gpm	TBD
MLD	00A-04 MLDOX	009-02	Marine Barge Loading	1082 MMgal	1972 / 2012
F1	N/A	00A-01	Main Flare	N/A	1972
F2	N/A	00A-06	Sour Gas Flare	N/A	1972
OXIDIZER	N/A	00A-02	Thermal Oxidizer	17,346 mmBtu/yr 98.7% min efficiency	1994 / 2012 / 2013
MLDOX	N/A	00A-04	Barge Loading Thermal Oxidizer	59.0 mmBtu/hr 98% min efficiency	2012
WWT	00A-03 CARBON BED	00B-01	Wastewater Treatment Plant	600 gpm	1972 / 1997
EQLEAKS	N/A	00B-02	Equipment Leak Fugitives	N/A	N/A
Dehy Htr	N/A	00D-01	Dehydration Heater	0.59 mmBtu/hr	1991
Dehy Still	N/A	00D-02	Glycol Dehydration Still	N/A	1991
H-901	N/A	EPN 01	DHT Heater	27.5 mmBtu/hr	2005
H-1101	N/A	EPN 03	Hydrogen Plant Heater	38.8 mmBtu/hr	2005
TK-4000	N/A	4000	External Floating Roof; Crude Oil; Mechanical Shoe	2,310,000 gallons	1992 / 2012

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
TK-4001	N/A	4001	External Floating Roof; Crude Oil; Mechanical Shoe	2,310,000 gallons	1973 / 2012
TK-4002	N/A	4002	External Floating Roof; Heavy/Kerosene; Mechanical Shoe	2,310,000 gallons	1970
TK-4003	N/A	4003	External Floating Roof; Heavy/Kerosene; Mechanical Shoe	2,310,000 gallons	1970
TK-4004	N/A	4004	External Floating Roof; Gasoline; Mechanical Shoe	1,050,000 gallons	1971
TK-4005	N/A	4005	External Floating Roof; Gasoline; Mechanical Shoe	1,050,000 gallons	1971
TK-4006	N/A	4006	External Floating Roof; Gasoline; Mechanical Shoe	1,050,000 gallons	1971
TK-4007	N/A	4007	Fixed Roof; Heavy	2,310,000 gallons	1971
TK-4008	N/A	4008	Fixed Roof; Heavy	1,260,000 gallons	1970
TK-4009	N/A	4009	Fixed Roof; Heavy/Kerosene	1,260,000 gallons	1971
TK-4010	N/A	4010	Fixed Roof; Heavy	1,260,000 gallons	1970
TK-4011	N/A	4011	Fixed Roof; Heavy/Kerosene	1,239,568 gallons	1971
TK-4012	N/A	4012	Internal Floating Roof; Gasoline; Vapor Mounted	630,000 gallons	1971
TK-4013	N/A	4013	Internal Floating Roof; Gasoline; Vapor Mounted	630,000 gallons	1971
TK-4014	N/A	4014	External Floating Roof; Gasoline; Mechanical Shoe	315,000 gallons	1971 / 2013
TK-4015	N/A	4015	External Floating Roof; Gasoline; Mechanical Shoe	315,000 gallons	1971 / 2013
TK-4016	N/A	4016	External Floating Roof; Gasoline; Mechanical Shoe	315,000 gallons	1971
TK-4017	N/A	4017	Fixed Roof; Heavy	840,000 gallons	1971
TK-4018	N/A	4018	Fixed Roof; Heavy	704,970 gallons	1971 / 2000
TK-4019	N/A	4019	Fixed Roof; Heavy	704,970 gallons	1971
TK-4020	N/A	4020	Fixed Roof; Heavy	840,000 gallons	1971
TK-4021	N/A	4021	Fixed Roof; Heavy	840,000 gallons	1971
TK-4022	N/A	4022	Fixed Roof; Heavy	571,200 gallons	1971
TK-4023	N/A	4023	Fixed Roof; Heavy	571,200 gallons	1971
TK-4024	N/A	4024	Fixed Roof; Heavy	840,000 gallons	1970
TK-4025	N/A	4025	Fixed Roof; Heavy	840,000 gallons	1970
TK-4026	N/A	4026	Fixed Roof; Heavy	840,000 gallons	1970
TK-4027	N/A	4027	Fixed Roof; Heavy	840,000 gallons	1971

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
TK-4028	N/A	4028	Fixed Roof; Heavy	210,000 gallons	1970
TK-4029	N/A	4029	Fixed Roof; Heavy	65,100 gallons	1971
TK-4030	N/A	4030	Fixed Roof; Heavy	65,100 gallons	1971
TK-4031	N/A	4031	Fixed Roof; Heavy	315,000 gallons	1971
TK-4032	N/A	4032	Fixed Roof; Heavy	315,000 gallons	1971
TK-4033	N/A	4033	Fixed Roof; Heavy	315,000 gallons	1970
TK-4034	N/A	4034	Fixed Roof; Heavy	840,000 gallons	1998
TK-4035	N/A	4035	Fixed Roof; Heavy	840,000 gallons	1983
TK-4036	N/A	4036	Fixed Roof; Heavy	315,000 gallons	1973
TK-4037	N/A	4037	Fixed Roof; Heavy	315,000 gallons	1973
TK-4038	N/A	4038	Fixed Roof; Heavy	840,000 gallons	1976
TK-4039	N/A	4039	Fixed Roof; Heavy	1,260,000 gallons	1977
TK-4040	N/A	4040	Fixed Roof; Heavy	630,000 gallons	1978
TK-4041	N/A	4041	Fixed Roof; Heavy	630,000 gallons	1973
TK-4042	N/A	4042	Fixed Roof; Heavy	630,000 gallons	1978
TK-4043	N/A	4043	Fixed Roof; Heavy	630,000 gallons	1978
TK-4044	N/A	4044	Fixed Roof; Heavy	1,260,000 gallons	1982
TK-4045	N/A	4045	Fixed Roof; Heavy	630,000 gallons	1982
TK-4046	N/A	4046	Fixed Roof; Heavy	630,000 gallons	1982
TK-4047	N/A	4047	Fixed Roof; Heavy	1,260,000 gallons	1986
TK-4048	N/A	4048	Fixed Roof; Heavy	504,000 gallons	1986
TK-4050	N/A	4050	Internal Floating Roof; Gasoline; Mechanical Shoe	630,000 gallons	1993 / 2013
TK-4051	N/A	4051	Fixed Roof; Heavy	1,260,000 gallons	1996
TK-4052	N/A	4052	Fixed Roof; Ethanol	30,240 gallons	1972
TK-4053	N/A	4053	Fixed Roof; Ethanol	30,240 gallons	1972
TK-4054	N/A	4054	Fixed Roof; Heavy/Kerosene	625,000 gallons	1998
TK-4055	N/A	4055	Fixed Roof; Heavy/Kerosene	625,000 gallons	1998

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
TK-4056	N/A	4056	Fixed Roof; Heavy/Kerosene	625,000 gallons	1999
TK-4057	N/A	4057	Fixed Roof; Heavy/Kerosene	625,000 gallons	1999
TK-4060	N/A	4060	Internal Floating Roof; Crude oil; Mechanical Shoe	5,040,000 gallons	1999 / 2012 / 2015
TK-4061	N/A	4061	Internal Floating Roof; Crude oil; Mechanical Shoe	5,040,000 gallons	2008 / 2012 / 2015
TK-4062	N/A	4062	Internal Floating Roof; Light crude oil w/ vapor pressure ≤ 11.0 psia; Mechanical Shoe	5,040,000 gallons	2008 / 2012
TK-4063	N/A	4063	Internal Floating Roof; Light crude oil w/ vapor pressure ≤ 11.0 psia; Mechanical Shoe	5,040,000 gallons	2012
TK-4066	N/A	4066	Fixed Roof; Biodiesel	40,000 gallons	2011
TK-4069	N/A	4069	Fixed Roof; Biodiesel	126,000 gallons	2017
TK-4070	N/A	4070	Internal Floating Roof; Ethanol; Mechanical Shoe	630,000 gallons	2019
TK-4071	N/A	4071	External Floating Roof; Gasoline; Mechanical Shoe	1,260,000 gallons	TBD
TK-4072	N/A	4072	Fixed Roof; Feedstock	1,260,000 gallons	2019
TK-4103	N/A	4103	Fixed Roof; Heavy	127,000 gallons	1970
TK-4104	N/A	4104	Fixed Roof; Heavy	127,000 gallons	1970
V-4002	N/A	V-4002	NGL Bullet Tank	10,984 ft3	2016
V-4003	N/A	V-4003	NGL Bullet Tank	10,984 ft3	2016
CARBON BED	N/A	00A-03	Carbon Bed Adsorber	6,000 cfm	2002
TK-303	N/A	303	Fixed Roof; MEK	7,875 gallons	1970
TK-304	N/A	304	Fixed Roof; Toluene	7,875 gallons	1970
NS-FUG	N/A	NS-FUG	Naphtha Splitter Fugitives; Naphtha	N/A	2011
ISOM	N/A	ISOM	Processing Unit; Benzene Reduction	21.6 mmgal/yr	2012
ADU	00A-05 NH3OX	ADU	Ammonia Destruction Unit	N/A	2015 / N/A
NH3OX	N/A	00A-05	Ammonia Destruction Unit Thermal Oxidizer	6.6 mmBtu/hr 99.9% DRE	2015
ADUFUG	N/A	ADUFUG	Ammonia Destruction Unit Fugitives	N/A	2015
PL-FUG	N/A	PL-FUG	Platformer Expansion Fugitives	N/A	2015
YNGL-FUG	N/A	YNGL-FUG	Y-Grade NGL Fugitives	N/A	2015
FWPUMP1	N/A	FWPUMP1	Diesel Firewater Pump at River Dock	210 hp	2006
FWPUMP2	N/A	FWPUMP2	Diesel Firewater Pump at Boiler Home	265 hp	1993

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
RAILUL-FUG	N/A	RAILUL-FUG	Rail Car Unloading Fugitives	N/A	TBD
YNGL FUG Load	N/A	YNGL FUG Load	YNGL Fugitive Loadout Emissions - Hose Disconnect	N/A	2016

a. The Main Flare (F1) is listed as a control for the CDU; however, the flare controls various process streams and relief valves throughout the refining process.
b. OXIDIZER - Control device for Gasoline Loading only
c. MLDOX - Control device for Gasoline and Light Crude Oil Loading only
d. CARBON BED - Control device for stormwater and recovered oil tank

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E: EMISSION UNIT FORMS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
CDU	CDU	00A-01

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Crude Distillation Unit

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	2012 / 2015

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Current: 839,500 bbl/mo
Proposed*: 961,775 bbl/mo

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
Current: 1,000 bbl/hr Proposed*: 1,100 bbl/hr	Current: 8,030,000 bbl/yr Proposed*: 9,617,750 bbl/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

* An R13 modification application is under review at WVDEP at the time of this application submittal.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

NA

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Crude oil charge rate into the crude oil distillation unit shall not exceed 839,500 barrels per month and 8,395,000 barrels per year. R13 Modification Permit Application under review at WVDEP to increase crude charge rate to 961,775 bbl/mo and 9,617,750 bbl/yr.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

None

Testing

None

Recordkeeping

Condition 6.4.1. Keep daily records along with monthly and yearly totals of the amount of crude oil charged to the crude oil distillation unit. Compliance with the yearly limit shall be based on a 12-month rolling total.

Reporting

None

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - HEATERS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-101R	001-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

CDU Atmospheric Heater; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Econotherm	N/A	J70-786
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

54.5 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
53,431 scfh	468 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
54.5 mmBtu/hr	Low NOx Burner; 54.5 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 53,431 cf/hr; Max Annual Usage = 468 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	1.635	7.161
Nitrogen Oxides (NO_X)	3.543	15.516
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.406	1.779
Particulate Matter (PM_{10})	0.406	1.779
Total Particulate Matter (TSP)	0.406	1.779
Sulfur Dioxide (SO_2)	1.444	6.326
Volatile Organic Compounds (VOC)	0.273	1.194
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0005
Hexane	0.0002	0.0011
Toluene	0.0014	0.0060
Ethylbenzene	0.0014	0.0060
Xylene	0.0014	0.0060
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission factors for NOx, CO, and VOC are based on the manufacturer's data.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
The emission factor for PM was obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
40 CFR 60, Subpart Ja 40 ppm NOx limit.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
40 CFR 60 Subpart Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor O2 from H-101R.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

40 CFR §60.104a H-101R biennial performance test requirements.
See attached NSPS Ja summary with applicable testing requirements.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
See attached NSPS Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
40 CFR 60, Subpart Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-102R	001-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

CDU Vacuum Heater; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Econotherm	N/A	J70-787
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Current: 29.4 mmBtu/hr
Proposed: 39.2 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
Current: 28,824 scfh Proposed*: 39,945 scfh	Current: 252 mmscf/yr Proposed*: 349 mmscf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
Current: 29.4 mmBtu/hr Proposed*: 39.2 mmBtu/hr	Low NOx Burner; 29.4 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 28,824 cf/hr; Max Annual Usage = 252 mmcf/yr

* An R13 modification application is under review at WVDEP at the time of this application submittal.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	1.176	5.151
Nitrogen Oxides (NO_X)	2.548	11.160
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.292	1.279
Particulate Matter (PM_{10})	0.292	1.279
Total Particulate Matter (TSP)	0.292	1.279
Sulfur Dioxide (SO_2)	1.039	4.550
Volatile Organic Compounds (VOC)	0.196	0.858

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0004
Hexane	0.0002	0.0008
Toluene	0.0010	0.0043
Ethylbenzene	0.0010	0.0043
Xylene	0.0010	0.0043

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission factors for NOx, CO, and VOC are based on the manufacturer's data.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
The emission factor for PM was obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Emissions are based on the proposed increase to the heater burner in the R13 application under review by WVDEP at the time of Title V renewal application submittal.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

40 CFR §60.104a performance test requirements, as applicable.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
See attached NSPS Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
40 CFR 60, Subpart Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-201	002-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

PDR Heater; Refinery Fuel Gas/Natural Gas Blend or Fuel Oil

Manufacturer:	**Model number:**	**Serial number:**
Econotherm	N/A	J70-788
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

6.6 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
6,471 scfh	56.68 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
6.6 mmBtu/hr	Low NOx Burner; 6.6 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 6,471 cf/hr; Max Annual Usage = 56.68 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.544	2.381
Nitrogen Oxides (NO_X)	0.634	2.775
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.049	0.215
Particulate Matter (PM_{10})	0.049	0.215
Total Particulate Matter (TSP)	0.049	0.215
Sulfur Dioxide (SO_2)	0.175	0.766
Volatile Organic Compounds (VOC)	0.036	0.156

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0000	0.0001
Hexane	0.0000	0.0001
Toluene	0.0002	0.0007
Ethylbenzene	0.0002	0.0007
Xylene	0.0002	0.0007

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on performance testing.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.
45 CSR 2-11 Exempts fuel burning units of less than 10 mmBtu/hr from particulate standard.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart J Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
See attached NSPS J summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2 emissions.
40 CFR 60, Subpart J Submit Excess Emissions and Monitoring System Performance Reports.
See attached NSPS J summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-500S	004-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

H500 Series Heaters Unifiner/Platformer Unit; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Econotherm	N/A	H501 - J70-831, H-502 – J70-832, H-503 – J70-833, H-504 – J70-834, H-505 – J70-835, H-506 – J70-836
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	2013 / 2015

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

59.6 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
58,431 scfh	512 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
59.6 mmBtu/hr	Traditional NOx Burner; 59.6 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 58,431 cf/hr; Max Annual Usage = 512 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	4.908	20.160
Nitrogen Oxides (NO_X)	7.012	29.580
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.444	1.900
Particulate Matter (PM_{10})	0.444	1.900
Total Particulate Matter (TSP)	0.444	1.900
Sulfur Dioxide (SO_2)	1.579	7.210
Volatile Organic Compounds (VOC)	0.321	1.310
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0005
Hexane	0.0003	0.0012
Toluene	0.0015	0.0065
Ethylbenzene	0.0015	0.0065
Xylene	0.0015	0.0065
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart J/Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor O2 from H-101R.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
See attached NSPS J/Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2 emissions.
40 CFR 60, Subpart J/Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS J/Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-501R	004-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Unifiner Charge Heater

Manufacturer:	**Model number:**	**Serial number:**
John Zink	COOLstar-11M	H12-109
Construction date:	**Installation date:**	**Modification date(s):**
2013	2013	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

11.5 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
9,457 scfh	82.85 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
11.5 mmBtu/hr	Ultra Low NOx Burners; 11.5 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 9,457 cf/hr; Max Annual Usage = 82.85 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.343	1.501
Nitrogen Oxides (NO_X)	0.748	3.274
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.086	0.378
Particulate Matter (PM_{10})	0.086	0.378
Total Particulate Matter (TSP)	0.086	0.378
Sulfur Dioxide (SO_2)	0.305	1.120
Volatile Organic Compounds (VOC)	0.058	0.252
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0000	0.0001
Hexane	0.0001	0.0002
Toluene	0.0003	0.0013
Ethylbenzene	0.0003	0.0013
Xylene	0.0003	0.0013
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission factor for NOx, CO, VOC, and PM based on the manufacturer's data.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 - TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

40 CFR §60.104a performance test requirements, as applicable.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
See attached NSPS Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
40 CFR 60, Subpart Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-600S	005-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

H600 Series Heaters, ISOMAX Unit; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Econotherm	Not Available	H-601 – J70-827, H-602 – J70-828, H-603 – J70
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

41.6 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
40,784 scfh	357.25 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
41.6 mmBtu/hr	Traditional NOx Burner; 41.6 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 40,784 cf/hr; Max Annual Usage = 357 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.426	15.005
Nitrogen Oxides (NO_X)	4.894	21.436
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.310	1.358
Particulate Matter (PM_{10})	0.310	1.358
Total Particulate Matter (TSP)	0.310	1.358
Sulfur Dioxide (SO_2)	1.102	4.829
Volatile Organic Compounds (VOC)	0.224	0.982
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0004
Hexane	0.0002	0.0008
Toluene	0.0010	0.0046
Ethylbenzene	0.0010	0.0046
Xylene	0.0010	0.0046
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 - TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart J Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
See attached NSPS J summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2 emissions.
40 CFR 60, Subpart J Submit Excess Emissions and Monitoring System Performance Reports.
See attached NSPS J summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-441	005-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Hydrogen Plant Heater; Natural Gas

Manufacturer:	**Model number:**	**Serial number:**
Not Available	Not Available	Not Available
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

12.3 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
12,059 scfh	105.63 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
12.3 mmBtu/hr	Traditional NOx Burner; 12.3 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 12,059 cf/hr; Max Annual Usage = 105.63 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas (Title V Condition 4.1.20)	20 gr/100 cf	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	1.013	4.437
Nitrogen Oxides (NO_X)	1.206	5.282
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.092	0.401
Particulate Matter (PM_{10})	0.092	0.401
Total Particulate Matter (TSP)	0.092	0.401
Sulfur Dioxide (SO_2)	0.007	0.032
Volatile Organic Compounds (VOC)	0.066	0.290

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0000	0.0001
Hexane	0.0001	0.0002
Toluene	0.0002	0.0010
Ethylbenzene	0.0002	0.0010
Xylene	0.0002	0.0010

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, PM, CO, SO2, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
Hexane and xylene emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 - TPM and TPY Emissions limitations as specified in R13-2334AD.
CO-SIP-95-1 H-441 fueled with natural gas only.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

N/A

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-701	006-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

VFU Heater; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
John Zink	CoolStar 211-PC	JZS019026480
Construction date:	**Installation date:**	**Modification date(s):**
1982	1983	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

12.1 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
11,863 scfh	103.91 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
12.1 mmBtu/hr	Traditional NOx Burner; 12.1 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 11,863 cf/hr; Max Annual Usage = 103.91 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.996	4.365
Nitrogen Oxides (NO_X)	0.242	1.060
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.090	0.395
Particulate Matter (PM_{10})	0.090	0.395
Total Particulate Matter (TSP)	0.090	0.395
Sulfur Dioxide (SO_2)	0.321	1.404
Volatile Organic Compounds (VOC)	0.065	0.286
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0000	0.0001
Hexane	0.0001	0.0002
Toluene	0.0003	0.0013
Ethylbenzene	0.0003	0.0013
Xylene	0.0003	0.0013
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on manufacturer's data.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 - TPM and TPY Emissions limitations as specified in R13-2334AD.
CO-SIP-95-1 H-701 fueled with natural gas or fuel gas meeting H2S standard.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart Ja Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

40 CFR §60.104a performance test requirements, as applicable.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
See attached NSPS Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
40 CFR 60, Subpart Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-901	EPN 01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

DHT Heater

Manufacturer:	**Model number:**	**Serial number:**
Zeeko Inc.	GISF-13 Round Flare	15046
Construction date:	**Installation date:**	**Modification date(s):**
2005	2005	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

27.5 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
26,961 scfh	236.16 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
27.5 mmBtu/hr	Next Generation Ultra Low NOx Burner; 27.5 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 26,961 cf/hr; Max Annual Usage = 236.16 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.963	4.216
Nitrogen Oxides (NO_X)	0.688	3.011
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.182	0.795
Particulate Matter (PM_{10})	0.182	0.795
Total Particulate Matter (TSP)	0.182	0.795
Sulfur Dioxide (SO_2)	0.729	2.720
Volatile Organic Compounds (VOC)	0.275	1.205

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0003
Hexane	0.0001	0.0005
Toluene	0.0007	0.0030
Ethylbenzene	0.0007	0.0030
Xylene	0.0007	0.0030

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on limit in EPA consent decree.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations. Calculation of SO2 emission factor uses assumption of 20% fuel gas and 80% natural gas.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
40 CFR 60 Subpart J Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.
45 CSR 13 H-901 monitor fuel consumption using a flow meter.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
See attached NSPS J summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2 emissions.
40 CFR 60, Subpart J Submit Excess Emissions and Monitoring System Performance Reports.
See attached NSPS J summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
H-1101	EPN 03	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Hydrogen Plant Heater

Manufacturer:	**Model number:**	**Serial number:**
Callidus	Not Available	B0706994B
Construction date:	**Installation date:**	**Modification date(s):**
2005	2005	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

38.8 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
38,039 scfh	333 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
38.8 mmBtu/hr	Next Generation Ultra Low NOx Burner; 38.8 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 38,039 cf/hr; Max Annual Usage = 333 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas (Title V Condition 4.1.24)	20 gr/100 cf	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.388	1.699
Nitrogen Oxides (NO_X)	1.552	6.798
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.388	1.699
Particulate Matter (PM_{10})	0.388	1.699
Total Particulate Matter (TSP)	0.388	1.699
Sulfur Dioxide (SO_2)	0.023	0.100
Volatile Organic Compounds (VOC)	0.285	1.250
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0001	0.0003
Hexane	0.0002	0.0008
Toluene	0.0007	0.0033
Ethylbenzene	0.0007	0.0033
Xylene	0.0007	0.0033
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, PM, CO, SO2, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
Hexane and xylene emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 - TPM and TPY Emissions limitations as specified in R13-2334AD.
R13-2334AD H-1101 fueled with natural gas only.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.
45 CSR 13 H-1101 monitor natural gas consumption using a flow meter.

Testing

N/A

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - BOILERS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Boiler A	007-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Boiler A; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Foster Wheeler Ltd	AG 5150	5214
Construction date:	**Installation date:**	**Modification date(s):**
1971	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

159.50 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
156,373 scfh	1,370 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
159.5 mmBtu/hr	Next Generation Ultra Low NOx Burner; 159.5 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 156,373 cf/hr; Max Annual Usage = 1,370 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	13.135	57.533
Nitrogen Oxides (NO_X)	9.251	40.519
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	1.188	5.205
Particulate Matter (PM_{10})	1.188	5.205
Total Particulate Matter (TSP)	1.188	5.205
Sulfur Dioxide (SO_2)	0.921	4.032
Volatile Organic Compounds (VOC)	0.860	3.767
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0003	0.0015
Hexane	0.0002	0.0009
Toluene	0.0040	0.0175
Ethylbenzene	0.0040	0.0175
Xylene	0.0040	0.0175
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on EPA approval letter dated 10/3/2006.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations. Calculation of SO2 emission factor uses assumption of 20% fuel gas and 80% natural gas.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.
45 CSR 13 Boiler NOX limits in lb/mmBtu.
CO-SIP-95-1 Boiler A/B SO2 limit of 264 lb/hr.
CO-SIP-95-1 Boiler A/B Stack modifications subject to 45 CSR 20 Good Engineering Practice.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
45 CSR 13 Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.
45 CSR 13 Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor NOX from Boilers A/B.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2/NOx emissions.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Boiler B	007-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Boiler B; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Foster Wheeler Ltd	AG 5150	5215
Construction date:	**Installation date:**	**Modification date(s):**
1971	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

159.50 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
156,373 scfh	1,370 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
159.5 mmBtu/hr	Next Generation Ultra Low NOx Burner; 159.5 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 156,373 cf/hr; Max Annual Usage = 1,370 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	13.135	57.533
Nitrogen Oxides (NO_X)	9.251	40.519
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	1.188	5.205
Particulate Matter (PM_{10})	1.188	5.205
Total Particulate Matter (TSP)	1.188	5.205
Sulfur Dioxide (SO_2)	0.921	4.032
Volatile Organic Compounds (VOC)	0.860	3.767
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0003	0.0015
Hexane	0.0002	0.0009
Toluene	0.0040	0.0175
Ethylbenzene	0.0040	0.0175
Xylene	0.0040	0.0175
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on EPA approval letter dated 10/3/2006.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations. Calculation of SO2 emission factor uses assumption of 20% fuel gas and 80% natural gas.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.
45 CSR 13 Boiler NOX limits in lb/mmBtu.
CO-SIP-95-1 Boiler A/B SO2 limit of 264 lb/hr.
CO-SIP-95-1 Boiler A/B Stack modifications subject to 45 CSR 20 Good Engineering Practice.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
45 CSR 13 Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.
45 CSR 13 Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor NOX from Boilers A/B.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

CO-SIP-95-1 During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
CO-SIP-95-1 Records of startups, shutdowns, operating hours, and CEMS downtime.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
CO-SIP-95-1 Submit monthly Excess Emissions and Monitoring System Performance reports.
CO-SIP-95-1 Submit reports of malfunctions which result in excess SO2/NOx emissions.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Boiler C	007-03	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Boiler C; Refinery Fuel Gas/Natural Gas Blend

Manufacturer:	**Model number:**	**Serial number:**
Todd Construction	V5MG0XXX	1293
Construction date:	**Installation date:**	**Modification date(s):**
2000	2000	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

95 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
93,137 scfh	815.84 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
95 mmBtu/hr	Traditional NOx Burner; 95 mmBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 93,137 cf/hr; Max Annual Usage = 815.8 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas or Refinery Fuel Gas / Natural Gas Blend	162 ppmv (3-hr avg basis)	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	7.824	34.267
Nitrogen Oxides (NO_X)	4.750	20.805
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.708	3.100
Particulate Matter (PM_{10})	0.708	3.100
Total Particulate Matter (TSP)	0.708	3.100
Sulfur Dioxide (SO_2)	0.548	2.402
Volatile Organic Compounds (VOC)	0.512	2.244
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0002	0.0009
Hexane	0.0004	0.0019
Toluene	0.0024	0.0104
Ethylbenzene	0.0024	0.0104
Xylene	0.0024	0.0104
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factor for NOx is based on EPA approval letter dated 10/3/2006.
The emission factors for PM, CO, and VOC were obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
The emission factor for SO2 is based on 160 ppm H2S limit, based on 40 CFR 60, Subpart J/Ja limitations. Calculation of SO2 emission factor uses assumption of 20% fuel gas and 80% natural gas.
Hexane emissions factor from California Air Resources Board (CARB) AB 2588 Combustion Emissions Factors.
Other HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards or EPA Emission Estimation Protocol for Petroleum Refineries, May 2011 .

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 2-3.1 Visible emissions limits (except startup, shutdowns, and malfunctions).
45 CSR 2-4.1.b Particulate limit for Type "b" fuel burning units, the product of 0.09 and the total design heat input in mmBtu/hr.
45 CSR 2-9.1 If requested, written report demonstrating startup/shutdown frequency is necessary.
45 CSR 2-9.2 At all times, including start-ups, shutdowns and malfunctions, to the extent practicable, maintain and operate in a manner consistent with good air pollution control practice for minimizing emissions.
45 CSR 2-10.1 Alternate Visible emissions limits during periods of fuel shortage
45 CSR 10-3 SO2 limit for fuel burning units, the product of 3.1 and the total design heat input in mmBtu/hr (based on a 24-hr averaging time). Allowance for one 24-hour period per month no more than 10% over standard.
45 CSR 10-8 Director may require stack gas monitoring devices.
45 CSR 10-9 Alternate SO2 during periods of equipment malfunction or inadvertent fuel shortages.
40 CFR 60, Subpart J/Ja Fuel Gas H2S limit. See regulatory applicability discussion in application report section 2.3.
45 CSR 13 TPM and TPY Emissions limitations as specified in R13-2334AD.
45 CSR 13 Boiler NOX limits in lb/mmBtu.
CO-SIP-95-1 Boiler A/B SO2 limit of 264 lb/hr.
CO-SIP-95-1 Boiler A/B Stack modifications subject to 45 CSR 20 Good Engineering Practice.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 2 Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Install, certify, calibrate, maintain, and operate a CEMS to continuously monitor H2S in the fuel gas.
During periods of H2S CEMS failure/malfunction, monitor fuel gas H2S with two samples per 8-hour period.
45 CSR 2 Reg 2 Monitoring Plan.
45 CSR 10 Reg 10 Monitoring Plan.

Testing

N/A

Recordkeeping

45 CSR 13 Monthly records of the amount and type of fuel consumed.
45 CSR 2 Monthly records of startups, shutdowns, and operating hours.
45 CSR 10 Maintain record of all monitoring data.
See attached NSPS Ja summary with applicable recordkeeping requirements.
Maintain required records at least 5 years.

Reporting

45 CSR 2 Submit reports of excess particulate emissions or excess opacity.
45 CSR 10 Reg 10 Monitoring Plan excursion report.
40 CFR 60, Subpart Ja Submit Excess Emissions and Monitoring System Performance Reports.
40 CFR 60, Subpart Ja For periods where H2S fuel gas data is not available, submit a statement if any changes were made to the emissions control system that would affect the ability to meet the applicable limits.
See attached NSPS Ja summary with applicable reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - LOADING

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TLoad	009-01	00A-02

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Truck Loading

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	2012 / 2013

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

418 MMgal

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
45,000 gal/hr	Throughput Limits (Mgal): Diesel 134,904 Gasoline 134,904 No. 6 Fuel Oil 13,650 Kerosene 15,330 Lube Oil/ Heavy Products 136,920	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	4.148	18.170

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0222	0.0251
Hexane	0.0219	0.0209
Toluene	0.0766	0.0773
Ethylbenzene	0.0766	0.0773
Xylene	0.0766	0.0773

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission calculation methods for product loading from AP-42 Section 5.2. The emissions of gasoline loading at the Truck Loading area are controlled by a thermal oxidizer. Capture efficiency of 98.7% used for truck loading when the trucks are tightness tested at least annually. TLoad emissions are the Diesel, Fuel Oil, Kerosene, and Lube Oil loading losses plus 1.3% of gasoline.
Loading Losses Eqn. L=12.46(SPM/T)*C)
S= saturation factor
P= True Vapor Pressure of liquid loaded (psia)
M= molecular weight of vapors (lb/lb-mole)
T= temperature of bulk liquid loaded (R)
C= control efficiency

VOC Emissions shown are the combined TLoad and OXIDIZER emissions (see Permit Condition 5.1.9)

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Throughput and emissions limits from truck loading.
See attached summary of NSPS XX & NESHAP BBBBBB requirements.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.
Meet applicable monitoring requirements of 40 CFR §60.13.
See attached summary of NSPS XX & NESHAP BBBBBB monitoring requirements.

Testing

Initial performance test to demonstrate compliance with the control efficiency.
Meet applicable performance test requirements of 40 CFR §60.8.
See attached summary of NSPS XX & NESHAP BBBBBB testing requirements.

Recordkeeping

Monthly records of volume & type of product loaded and associated emissions.
Meet applicable notification and record keeping requirements of 40 CFR § 60.7.
See attached summary of NSPS XX & NESHAP BBBBBB recordkeeping requirements.

Reporting

Meet applicable reporting requirements of 40 CFR § 60.19.
See attached summary of NSPS XX & NESHAP BBBBBB reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

____ Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**. (See Attached Schedule)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
OXIDIZER	00A-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Thermal Oxidizer

Manufacturer:	**Model number:**	**Serial number:**
John Zink	ZCT-2-8-35-2-316-X	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1994	1994	2012 / 2013

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

17,346 mmBtu/yr
98.7% min efficiency

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
0.45 MMBtu/hr	17,346 mmBtu/yr	8,760 hr/yr (pilot)

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
17,346 MMBtu/yr	Low NOx Burner

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Refinery Fuel Gas/Natural Gas Blend; Max Hourly Usage = 0.25 mmBtu/hr; Max Annual Usage = 2,190 mmBtu/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Refinery Fuel Gas/Natural Gas Blend	0%	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.484	2.120
Nitrogen Oxides (NO_X)	0.089	0.390
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.009	0.040
Particulate Matter (PM_{10})	0.009	0.040
Total Particulate Matter (TSP)	0.009	0.040
Sulfur Dioxide (SO_2)	0.288	1.260
Volatile Organic Compounds (VOC)	4.148	18.170

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0667	0.0866
Hexane	0.0570	0.0739
Toluene	0.0262	0.0340
Ethylbenzene	0.0262	0.0340
Xylene	0.0262	0.0340

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Thermal Oxidizer Pilots (0.15 mmBtu/hr) fired with purchased natural gas. Enriching gas was estimated at 0.1 mmBtu/hr.
Vapors to the thermal oxidizer (lb/yr) are based on total amount of uncombusted loading losses.
Heating Values (Btu/lb) from Hydrogen Analysis Resource Center: Lower and Higher Heating Values of Hydrogen and Fuels.
Emission Factors for NOx and CO obtained from EPA AP-42, Chapter 13.5 Flares, and for PM from EPA AP-42, Chapter 1.4, Natural Gas Combustion. Assume Total PM=PM10=PM2.5.
SO2 emission factors are based on the expected sulfur content of the products combusted.

VOC Emissions shown are the combined TLoad and OXIDIZER emissions (see Permit Condition 5.1.9)

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - During Truck Loading of gasoline, VOC emissions shall be controlled by the Loading Rack Thermal Oxidizer. Emissions limits (TPM and TPY). Loading throughput limits (Mgal/yr).
45 CSR 6 - Particulate emissions limits and visible emissions limits. PM lb/hr Limit = F Factor * incinerator capacity.
See attached summary of NSPS XX & NESHAP BBBBBB requirements.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.
Meet applicable monitoring requirements of 40 CFR §60.13.
See attached summary of NSPS XX & NESHAP BBBBBB monitoring requirements.

Testing

Initial performance test to demonstrate compliance with the control efficiency.
Meet applicable performance test requirements of 40 CFR §60.8.
See attached summary of NSPS XX & NESHAP BBBBBB testing requirements.

Recordkeeping

Monthly records of volume & type of product loaded and associated emissions.
Meet applicable notification and record keeping requirements of 40 CFR § 60.7.
See attached summary of NSPS XX & NESHAP BBBBBB recordkeeping requirements.

Reporting

Meet applicable reporting requirements of 40 CFR § 60.19.
See attached summary of NSPS XX & NESHAP BBBBBB reporting requirements.

Are you in compliance with all applicable requirements for this emission unit?

____ Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**. (See Attached Schedule)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Rail-UL	Rail-UL	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Rail Car Unloading

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
TBD	TBD	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

800 gpm

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
800 gpm	Throughput Limits (Mgal): Waxy Crude 38,325 Total Crude 76,650	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	5.002	21.909
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.1122	0.4914
Hexane	0.1165	0.5103
Toluene	0.0250	0.1095
Ethylbenzene	0.0250	0.1095
Xylene	0.0250	0.1095
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions from railcar unloading were evaluated in a similar manner as the breathing loss of a fixed-roof tank using the emissions calculation methodologies from AP42 Section 7 (July 2018 draft). This source also includes an air separator vent (based on volume of unloading header piping) and crude recovery drum (AP42 Section 7, Fixed Roof Tank).
Emissions include the air seperator and recovery drum.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Throughput limit for railcar unloading of waxy crude and total crude.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monitor and record the amount and type of crude oil unloaded from railcars on a monthly basis.

Testing

N/A

Recordkeeping

Monthly records of the amount and type of crude oil unloaded from railcars.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
MLD	009-02	00A-04

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Marine Barge Loading

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	2012

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1082 MMgal

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
210,000 gal/hr	Throughput Limits (Mgal): Gasoline 62,031 Light Crude Oil (including oil with a VP up to 11.0 psia) 306,600 Diesel 37,065 Kerosene 46,000 Lube Oil/ Heavy Products 30,660	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes _X_ No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	2.795	12.240

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0558	0.0800
Hexane	0.4360	0.2518
Toluene	0.1889	0.0624
Ethylbenzene	0.1889	0.0624
Xylene	0.1889	0.0624

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission calculation methods for product loading from AP-42 Section 5.2. Barge loading emissions for gasoline are given as 3.9 lb/Mgal transferred to an unclean barge. The gasoline/naphtha and crude loading controlled by a thermal oxidizer. MLD emissions are the Diesel, Kerosene, and Lube Oil loading losses plus 5% of gasoline/naphtha and crude.
Eqn. L=12.46(SPM/T)*C
S= saturation factor (ch. 5.2)
P= True Vapor Pressure of liquid loaded (psia) (ch 7.1)
M= molecular weight of vapors (lb/lb-mole) (ch 7.1)
T= temperature of bulk liquid loaded (R)(average ambient temperature for Pittsburg, PA)
C= control efficiency
Eqn. CL=(CA+CG)*C
CA= arrival emission factor (table 5.2-3)
CG= generated emission factor
G= vapor growth factor (given as 1.02 dimensionless)

VOC Emissions shown are the combined TLoad and OXIDIZER emissions (see Permit Condition 5.1.9)

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Throughput and emissions limits from marine barge loading.
45 CSR 16 - Marine loading of gasoline and light crude oil, VOC emissions shall be controlled by the Marine Barge Loading Thermal Oxidizer [MLDOX/ 00A-04]. MLDOX shall be operated within the operating parameters established during testing and shall be maintained to achieve a minimum control efficiency of 98% for VOCs. All vessels loaded from the Marine Loading Dock (MLD) shall be submerged filled.
40 CFR 63 Subpart Y - Submerged pipe loading.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

See MLDOX Monitoring

Testing

See MLDOX Testing

Recordkeeping

Monthly records of volume & type of product loaded and associated emissions.
40 CFR 63.567(j)(4) and 65.656(l) - Annual records of the emissions estimates for gasoline and light crude barge loading.

Reporting

See MLDOX Reporting

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
MLDOX	00A-04	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Barge Loading Thermal Oxidizer

Manufacturer:	**Model number:**	**Serial number:**
Jordan Technology	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

59.0 mmBtu/hr
98% min efficiency

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
59.0 MMBtu/hr	14,225 mmBtu/yr	8,760 hr/yr (pilot)

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
59.0 MMBtu/hr	Low NOx Burner; 59.0 MMBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 50,100 cf/hr; Max Annual Usage = 438.88 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0%	N/A	1020

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.610	2.670
Nitrogen Oxides (NO_X)	0.112	0.490
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.011	0.050
Particulate Matter (PM_{10})	0.011	0.050
Total Particulate Matter (TSP)	0.011	0.050
Sulfur Dioxide (SO_2)	0.422	1.850
Volatile Organic Compounds (VOC)	2.795	12.240

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0719	0.0800
Hexane	0.6441	0.3775
Toluene	0.0757	0.0451
Ethylbenzene	0.0757	0.0451
Xylene	0.0757	0.0451

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Thermal Oxidizer Pilots (0.15 mmBtu/hr) fired with purchased natural gas. Enriching gas was estimated at 0.1 mmBtu/hr.
Vapors to the thermal oxidizer (lb/yr) are based on total amount of uncombusted loading losses.
Heating Values (Btu/lb) from Hydrogen Analysis Resource Center: Lower and Higher Heating Values of Hydrogen and Fuels.
Emission Factors for NOx and CO obtained from EPA AP-42, Chapter 13.5 Flares, and for PM from EPA AP-42, Chapter 1.4, Natural Gas Combustion. Assume Total PM=PM10=PM2.5.
SO2 emission factors are based on the expected sulfur content of the products combusted.

VOC Emissions shown are the combined TLoad and OXIDIZER emissions (see Permit Condition 5.1.9)

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 16 - Marine loading of gasoline and light crude oil, VOC emissions shall be controlled by the Marine Barge Loading Thermal Oxidizer [MLDOX/ 00A-04]. MLDOX shall be operated within the operating parameters established during testing and shall be maintained to achieve a minimum control efficiency of 98% for VOCs. All vessels loaded from the Marine Loading Dock (MLD) shall be submerged filled.
40 CFR 63 Subpart Y - Submerged pipe loading.
45 CSR 6 - Particulate emissions limits and visible emissions limits. PM lb/hr Limit = F Factor * incinerator capacity.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.
Meet applicable monitoring requirements of 40 CFR §60.13.
See attached CAM Plan.

Testing

Initial performance test to demonstrate compliance with the control efficiency.
Meet applicable performance test requirements of 40 CFR §60.8.
See attached CAM Plan.

Recordkeeping

Monthly records of volume & type of product loaded and associated emissions.
40 CFR 63.567(j)(4) and 65.656(l) - Annual records of the emissions estimates for gasoline and light crude barge loading.
Meet applicable notification and record keeping requirements of 40 CFR § 60.7.
See attached CAM Plan.

Reporting

Meet applicable reporting requirements of 40 CFR § 60.19.
See attached CAM Plan.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - ENGINES

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
FWPUMP1	FWPUMP1	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Diesel Firewater Pump at River Dock

Manufacturer:	**Model number:**	**Serial number:**
Clarke PumpJohn Deere Engine	JW6H-UF50	RG6081H1711846081HF001
Construction date:	**Installation date:**	**Modification date(s):**
2006	2006	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

210 hp

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
12.30 gal/hr	6,150 gal/yr	500 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
210 hp	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Diesel
Max Hourly Usage = 1.69 mmBtu/hr
Max Annual Usage = 843 mmBtu/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	15 ppm	N/A	138,700 BTU/gal

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.190	0.047
Nitrogen Oxides (NO_X)	2.296	0.574
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.069	0.017
Particulate Matter (PM_{10})	0.069	0.017
Total Particulate Matter (TSP)	0.069	0.017
Sulfur Dioxide (SO_2)	0.431	0.108
Volatile Organic Compounds (VOC)	0.079	0.020

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0016	0.0004
Hexane		
Toluene	0.0005	0.0001
Ethylbenzene	0.0005	0.0001
Xylene	0.0005	0.0001

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, CO, PM, and VOC are based on manufacturer's data.
The emission factor for SO2 obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 CSR 13 - Fire pump engines FWPUMP1 andFWPUMP2 shall not operate more than 500 hours each per year. Compliance with this limit shall be based on a rolling 12 month total.
See attached 40 CFR 63, Subpart ZZZZ summary.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monitor and record the number of hours per month that fire water pump engines FWPUMP1 and FWPUMP2 operate.
See attached 40 CFR 63, Subpart ZZZZ summary.

Testing

See attached 40 CFR 63, Subpart ZZZZ summary.

Recordkeeping

Monitor and record the number of hours per month that fire water pump engines FWPUMP1 and FWPUMP2 operate.
See attached 40 CFR 63, Subpart ZZZZ summary.

Reporting

See attached 40 CFR 63, Subpart ZZZZ summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
FWPUMP2	FWPUMP2	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Diesel Firewater Pump at Boiler Home

Manufacturer:	**Model number:**	**Serial number:**
Clarke PumpDetroit Diesel Engine	DDFP-16VT	6VA142706
Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

265 hp

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
14.10 gal/hr	7,050 gal/yr	500 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
265 hp	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Diesel
Max Hourly Usage = 1.93 mmBtu/hr
Max Annual Usage = 996 mmBtu/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	15 ppm	N/A	138,700 BTU/gal

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.657	0.914
Nitrogen Oxides (NO_X)	5.842	1.461
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.339	0.085
Particulate Matter (PM_{10})	0.339	0.085
Total Particulate Matter (TSP)	0.339	0.085
Sulfur Dioxide (SO_2)	0.543	0.136
Volatile Organic Compounds (VOC)	0.202	0.051

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0018	0.0005
Hexane		
Toluene	0.0006	0.0001
Ethylbenzene	0.0006	0.0001
Xylene	0.0006	0.0001

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emission factors for NOx, CO, PM, and VOC are based on manufacturer's data.
The emission factor for SO2 obtained from U.S. EPA Document AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.
HAP emissions factors obtained from AP-42, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary and Area Sources," Office of Air Quality Planning and Standards.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 CSR 13 - Fire pump engines FWPUMP1 andFWPUMP2 shall not operate more than 500 hours each per year. Compliance with this limit shall be based on a rolling 12 month total.
See attached 40 CFR 63, Subpart ZZZZ summary.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monitor and record the number of hours per month that fire water pump engines FWPUMP1 and FWPUMP2 operate.
See attached 40 CFR 63, Subpart ZZZZ summary.

Testing

See attached 40 CFR 63, Subpart ZZZZ summary.

Recordkeeping

Monitor and record the number of hours per month that fire water pump engines FWPUMP1 and FWPUMP2 operate.
See attached 40 CFR 63, Subpart ZZZZ summary.

Reporting

See attached 40 CFR 63, Subpart ZZZZ summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - PROCESS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
WWT	00B-01	00A-03

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Wastewater Treatment Plant

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	1997

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

600 gpm

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
36,000 gal/hr	315,360,000 gal/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	3.230	14.147
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0015	0.0065
Hexane		
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimations were based on calculations from the Foster Wheeler Report issued in 1997. That report was updated in 2000 and emissions were prorated based on the installation of roofs on the north and south API units. The Foster Wheeler evaluation used Litchfield Equation to calculate emissions

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Applicable Rule – 40 CFR 60
40 CFR 60, Subpart QQQ Standards – 40 CFR 60.692-1, 60.692-2, 60.692-3, 60.692-4, 60.692-5, 60.692-6, 60.692-7, 60.693-1, 60.693-2, 60.694

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.695.

Testing

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.696.

Recordkeeping

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.697.

Reporting

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.698.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
MEK-TOL	003-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Solvent Dewaxing Unit

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
360 bbl/hr	2,628,000 bbl/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	2.121	9.290

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions calculated using the EPA Correlation Approach from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995) Table 2-10 as follows:

a. The screening value (SV) for each non leaking component was 1 ppm less than the leak definition of 500 ppm for valves and 2,000 ppm for pumps.

b. The screening value (SV) for all leaky components was 20,000 ppm (based on 3% leakers)

c. The equations listed below were used to calculate the leak rate

Leak Rate Valves (kg/hr) = (# of non-leakers)*2.29E-06*(SV)^0.746 + (# of leakers)*2.29E-06*(SV)^0.746

Leak Rate Pumps (kg/hr) = (# of non-leakers)*5.03E-05*(SV)^0.610 + (# of leakers)*5.03E-05*(SV)^0.610

Leak Rate Connectors (kg/hr) = (# of non-leakers)*1.53E-06*(SV)^0.735 + (# of leakers)*1.53E-06*(SV)^0.735

Leak Rate Other (kg/hr) = (# of non-leakers)*1.36E-05*(SV)^0.589 + (# of leakers)*1.36E-05*(SV)^0.589

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 ppm VOCs for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
45 CSR 13 - Fugitive emissions of VOC's (MEK and Toluene) from the Solvent Dewaxing Unit (Emission Point ID No. MEK-TOL) shall not exceed 9.29 TPY. Fugitive emissions of Haps (Toluene) from the Solvent Dewaxing Unit (Emission Point ID No. MEKTOL) shall not exceed 4.65 TPY.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
EQLEAKS	00B-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Equipment Leak Fugitives

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	8.375	36.682

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.1216	0.5327
Hexane	0.1427	0.6248
Toluene	0.4560	1.9971
Ethylbenzene	0.4560	1.9971
Xylene	0.4560	1.9971

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The emissions shown on this form include: Plant Fugitives, PL-FUG, ISOM-FUG, DHT-FUG, ADU-FUG. Emissions from MEK-FUG are shown on the MEK-TOL form.

Fugitive emissions calculated using the EPA Correlation Approach from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995) Table 2-10 as follows:

a. The screening value (SV) for each non leaking component was 1 ppm less than the leak definition of 500 ppm for valves and 2,000 ppm for pumps.

b. The screening value (SV) for all leaky components was 20,000 ppm (based on 3% leakers)

c. The equations listed below were used to calculate the leak rate

Leak Rate Valves (kg/hr) = (# of non-leakers)*2.29E-06*(SV)^0.746 + (# of leakers)*2.29E-06*(SV)^0.746

Leak Rate Pumps (kg/hr) = (# of non-leakers)*5.03E-05*(SV)^0.610 + (# of leakers)*5.03E-05*(SV)^0.610

Leak Rate Connectors (kg/hr) = (# of non-leakers)*1.53E-06*(SV)^0.735 + (# of leakers)*1.53E-06*(SV)^0.735

Leak Rate Other (kg/hr) = (# of non-leakers)*1.36E-05*(SV)^0.589 + (# of leakers)*1.36E-05*(SV)^0.589

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 ppm VOCs for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
Fugitive emissions from the Diesel Hydrotreater [DHT-FUG], the Ammonia Destruction Unit [ADUFUG], the Platformer Expansion Unit [PL-FUG], and the Y-Grade NGL Unit [YNGL-FUG] shall not exceed the R13 permit limits (see permit table).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
ISOM	ISOM	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Processing Unit; Benzene Reduction

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

21.6 mmgal/yr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
2,466 gal/hr	21.6 mmgal/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
Fugitive emissions from the ISOM Unit shall not exceed 3.72 tpy VOC's and 0.85 tpy total HAP's.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
ADU	ADU	00A-05

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Ammonia Destruction Unit

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2014	2015	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

N/A

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Applicable Requirement – 45 CSR 13
5.1.14. Emissions from the Ammonia Destruction Unit (ADU) shall be routed to the ADU Thermal Oxidizer [NH3OX/00A-05] at all times that the ADU is in operation. The thermal oxidizer [NH3OX] shall be operated within the operating parameters established during testing and shall be maintained to achieve a minimum control efficiency of 99.9% for VOCs. [45CSR13: Permit R13-2334, 5.1.5.]

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

See NH3OX Monitoring

Testing

See NH3OX Testing

Recordkeeping

See NH3OX Recordkeeping

Reporting

See NH3OX Reporting

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
NH3OX	00A-05	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Ammonia Destruction Unit Thermal Oxidizer

Manufacturer:	**Model number:**	**Serial number:**
Process Combustion Corporation (PCC)	Custom Designed	Custom Designed
Construction date:	**Installation date:**	**Modification date(s):**
2015	2015	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

6.6 mmBtu/hr
99.9% DRE

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
6.60 MMBtu/hr	57,821 mmBtu/yr	8,760 hr/yr (pilot)

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
6.60 MMBtu/hr	Low NOx Burner; 6.60 MMBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 6.60 mmBtu/hr; Max Annual Usage = 57,821 mmBtu/hr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0%	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	1.818	7.965
Nitrogen Oxides (NO_X)	0.115	0.503
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.049	0.215
Particulate Matter (PM_{10})	0.049	0.215
Total Particulate Matter (TSP)	0.049	0.215
Sulfur Dioxide (SO_2)	0.004	0.017
Volatile Organic Compounds (VOC)	0.227	0.995

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane	0.0373	0.1633
Toluene		
Ethylbenzene		
Xylene		

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The composition of the stream sent to the NH3OX (lb/hr) based on engineering design. Heating Values taken from Hydrogen Analysis Resource Center "Lower and Higher Heating Values of Hydrogen and Fuels, or calculated based upon composition in the gas analysis tab". The Thermal Oxidizer Pilots are rated at 4 MMBtu/hr and fired with natural gas.
VOC emissions are based on total amount of uncombusted loading losses (0.1%).Emission Factors for PM from EPA AP-42, Chapter 1.4, Natural Gas Combustion. Assumes Total PM=PM10=PM2.5 NOx emissions based on manufacturer's guarantee (150 ppmv). CO emissions based on manufacturer's guarantee (25 ppmv). SO2 emissions based on the expected sulfur content of the products combusted in the thermal oxidizer (100% of H2S).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Emissions from the Ammonia Destruction Unit (ADU) shall be routed to the ADU Thermal Oxidizer [NH3OX/00A-05] at all
times that the ADU is in operation. The thermal oxidizer [NH3OX] shall be operated within the operating parameters established during testing and shall be maintained to achieve a minimum control efficiency of 99.9% for VOCs.
40 CFR 60, Subpart Ja (Fuel Gas Combustion Device - Low Sulfur Exemption)
45 CSR 6 - Particulate emissions limits and visible emissions limits. PM lb/hr Limit = F Factor * incinerator capacity.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.
Meet applicable monitoring requirements of 40 CFR §60.13.
See attached CAM Plan.

Testing

Initial performance test to demonstrate compliance with the control efficiency.
Meet applicable performance test requirements of 40 CFR §60.8.
See attached CAM Plan.

Recordkeeping

Monthly records of hours of operation and associated emissions.
Meet applicable notification and record keeping requirements of 40 CFR § 60.7.
See attached CAM Plan.

Reporting

Meet applicable reporting requirements of 40 CFR § 60.19.
See attached CAM Plan.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
F1	00A-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Main Flare

Manufacturer:	**Model number:**	**Serial number:**
John Zink	EEF-QS-30	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8,760 hr/yr (pilot)

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	Pilot and purge gas rate ~1000 scfh

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Pilot and purge gas are natural gas.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas (pilot/purge) NSPS Gas Process Upset/Emergency Vent Gas	See calculation methods below.	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	0.070
Nitrogen Oxides (NO_X)	--	0.090
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	0.010
Particulate Matter (PM_{10})	--	0.010
Total Particulate Matter (TSP)	--	0.010
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions shown are based on pilot light only consistant with permit condition 5.1.9.

Pilot and Purge (natural gas): Emission factors for NOx and CO were obtained from EPA AP-42, Table 1.4-1 (Natural Gas Combustion). Emission Factors for VOC, SO2, and PM were obtained from EPA AP-42, Table 1.4-2 (Natural Gas Combustion). Non-Pilot (vent gas): Emission factors for NOx, CO, and VOC were obtained from EPA AP-42, Table 13.5-1 (Emission Factors for Flare Operations). The emission factor for PM was obtained from EPA AP-42, Table 1.4-2 (Natural Gas Combustion). The emission factor for SO2 was based on the ppm H2S in the vent gas [lb SO2/MMBtu = (mol H2S/10E6 mol gas sent to the flare) x (1 mol SO2/1 mol H2S) x (64 lb SO2/mol SO2) x (mol RFG/379 SCF) x (SCF RFG/1020 Btu) x (10E6 Btu/MMBtu)].

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 6 - Particulate Limitation and Opacity Limitation
45 CSR 6 - SO2 in-stack sulfur limit 2,000 ppm by volume (in exhaust after combustion)
40 CFR 60 Subpart Ja - Flare requirements (see attached)

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.
See attached for summary of NSPS Ja monitoring for flares.

Testing

N/A

Recordkeeping

See attached for summary of NSPS Ja recordkeeping for flares.

Reporting

See attached for summary of NSPS Ja reporting for flares.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
F2	00A-06	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Sour Gas Flare

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8,760 hr/yr (pilot)

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	____ Indirect Fired X Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	Pilot and purge gas rate ~350 scfh

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Pilot and purge gas are natural gas.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas (pilot/purge) Process Upset/Emergency Vent Gas	See calculation methods below.	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	0.129
Nitrogen Oxides (NO_X)	--	0.153
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	0.012
Particulate Matter (PM_{10})	--	0.012
Total Particulate Matter (TSP)	--	0.012
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions shown are based on pilot light only consistant with permit condition 5.1.9.

Pilot and Purge (natural gas): Emission factors for NOx and CO were obtained from EPA AP-42, Table 1.4-1 (Natural Gas Combustion). Emission Factors for VOC, SO2, and PM were obtained from EPA AP-42, Table 1.4-2 (Natural Gas Combustion). Non-Pilot (vent gas): Emission factors for NOx, CO, and VOC were obtained from EPA AP-42, Table 13.5-1 (Emission Factors for Flare Operations). The emission factor for PM was obtained from EPA AP-42, Table 1.4-2 (Natural Gas Combustion). The emission factor for SO2 was based on the ppm H2S in the vent gas [lb SO2/MMBtu = (mol H2S/10E6 mol gas sent to the flare) x (1 mol SO2/1 mol H2S) x (64 lb SO2/mol SO2) x (mol RFG/379 SCF) x (SCF RFG/1020 Btu) x (10E6 Btu/MMBtu)].

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 6 - Particulate Limitation and Opacity Limitation
45 CSR 6 - SO2 in-stack sulfur limit 2,000 ppm by volume (in exhaust after combustion)
40 CFR 60 Subpart J - Fuel gas combustion unit requirements (see attached)
CO-SIP-95-1 - Gas generated at the sour water stripper shall continue to be processed through the fuel gas treatment system. Exercise good operating and maintenance practices to maximize the utilization of the fuel gas treatment system to remove sulfur compounds from the sour gas stream. SO2 the sour gas flare not to exceed 18 lbs./hr. Acid Gas or Hydrocarbon Flaring Incident investigation requirements if 500 lbs of SO2 in 24-hours.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Monthly Method 22 visible emissions checks.
Take corrective action to minimize observed visible emissions immediately. If visible emissions are not corrected in a timely manner, perform Method 9 observations.
Monitor hours of operation for pilot and non-pilot conditions.

Testing

When the fuel gas treatment system is not operating, run 2-hour samples of the hydrogen sulfide content of the water entering and exiting the sour water stripper unit. At least three (3) 2-hour samples shall be taken during each 24-hour period at approximately 8-hour intervals. (Demonstrates compliance with 50 gr/100dscf limit from CO-SIP-95-1.)

Recordkeeping

See attached for summary of NSPS J recordkeeping for flares.

Reporting

See attached for summary of NSPS J reporting for flares.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
ADUFUG	ADUFUG	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Ammonia Destruction Unit Fugitives

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2015	2015	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	calculation methods on the Attachment E - Emissi
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
Fugitive emissions from the Diesel Hydrotreater [DHT-FUG], the Ammonia Destruction Unit [ADUFUG], the Platformer Expansion Unit [PL-FUG], and the Y-Grade NGL Unit [YNGL-FUG] shall not exceed the R13 permit limits (see permit table).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

See attached CAM Plan.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
NS-FUG	NS-FUG	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Naphtha Splitter Fugitives; Naphtha

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2011	2011	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	Continuous Operation

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 ppm VOCs for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
PL-FUG	PL-FUG	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Platformer Expansion Fugitives

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2015	2015	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes _X_ No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
Fugitive emissions from the Diesel Hydrotreater [DHT-FUG], the Ammonia Destruction Unit [ADUFUG], the Platformer Expansion Unit [PL-FUG], and the Y-Grade NGL Unit [YNGL-FUG] shall not exceed the R13 permit limits (see permit table).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
YNGL-FUG	YNGL-FUG	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Y-Grade NGL Fugitives

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2015	2015	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See emissions and emissions calculation methods on the Attachment E - Emission Unit Form for EQLEAKS.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).
Fugitive emissions from the Diesel Hydrotreater [DHT-FUG], the Ammonia Destruction Unit [ADUFUG], the Platformer Expansion Unit [PL-FUG], and the Y-Grade NGL Unit [YNGL-FUG] shall not exceed the R13 permit limits (see permit table).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Dehy Htr	00D-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Dehydration Heater

Manufacturer:	**Model number:**	**Serial number:**
Westfield	Not Available	91-10625
Construction date:	**Installation date:**	**Modification date(s):**
1991	1991	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

0.59 mmBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
578 scfh	5.07 mmcf/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
X Yes ____ No	X Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
0.59 MMBtu/hr	Traditional NOx Burner; 0.59 MMBtu/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas; Max Hourly Usage = 578 cf/hr; Max Annual Usage = 5.07 mmcf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	20 gr/100 cf	N/A	1,020 Btu/cf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.048	0.212
Nitrogen Oxides (NO_X)	0.069	0.303
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	0.004	0.019
Particulate Matter (PM_{10})	0.004	0.019
Total Particulate Matter (TSP)	0.004	0.019
Sulfur Dioxide (SO_2)	0.000	0.002
Volatile Organic Compounds (VOC)	0.003	0.014
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0000	0.0000
Hexane	0.0000	0.0000
Toluene	0.0000	0.0000
Ethylbenzene	0.0000	0.0000
Xylene	0.0000	0.0000
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emission factors obtained from EPA AP-42, Chapter 1.4, Natural Gas Combustion, Supplement D, July 1998.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

N/A

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
Dehy Still	00D-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Glycol Dehydration Still

Manufacturer:	**Model number:**	**Serial number:**
Westfield	Not Available	091-005
Construction date:	**Installation date:**	**Modification date(s):**
1991	1991	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
480 gal/hr	4,204,800 gal/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	0.160	0.700

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0799	0.3498
Hexane		
Toluene		0.1749
Ethylbenzene		0.1749
Xylene		0.1749

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The still vent emissions were estimated using the mass balance information below.
VOC from Rich Glycol = VOC from Lean Glycol + VOC to the still vent
Based on a sampling event:
VOC from Rich Glycol = 0.022%
VOC from Lean Glycol = 0.018%
Flow Rate (gpm) = 8
Glycol Density (lbs/gal) = 8.32
HAPs were estimated using a mass balance.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

N/A

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
YNGL FUG Load	YNGL FUG Load	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

YNGL Fugitive Loadout Emissions - Hose Disconnect

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2016	2016	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	800 Trucks/Year	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
_____ Yes _____ No	_____ Indirect Fired _____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	0.013	0.058
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane	0.0096	0.0419
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Fugitive emissions calculated from YNGL truck loading calculated by taking the volume of the hose and piping multiplied by the pressure fraction released. The entire volume of the hose is assumed to be released, but only the pressure above atmospheric or gauge pressure of the pipe. Depressurized Volume: (Diameter^2 x Pi ÷ 4) x [Hose length x (psia ÷ 14.7 psi) + Pipe length x (psig ÷ 14.7 psi)]

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
RAILUL-FUG	RAILUL-FUG	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Rail Car Unloading Fugitives

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
TBD	TBD	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
_____ Yes _____ No	_____ Indirect Fired _____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)	0.457	2.002

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.0027	0.0120
Hexane	0.0018	0.0080
Toluene	0.0064	0.0280
Ethylbenzene	0.0064	0.0280
Xylene	0.0064	0.0280

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions calculated using the EPA Correlation Approach from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995) Table 2-10 as follows:

a. The screening value (SV) for each non leaking component was 1 ppm less than the leak definition of 500 ppm for valves and 2,000 ppm for pumps.

b. The screening value (SV) for all leaky components was 20,000 ppm (based on 3% leakers)

c. The equations listed below were used to calculate the leak rate

Leak Rate Valves (kg/hr) = (# of non-leakers)*2.29E-06*(SV)^0.746 + (# of leakers)*2.29E-06*(SV)^0.746

Leak Rate Pumps (kg/hr) = (# of non-leakers)*5.03E-05*(SV)^0.610 + (# of leakers)*5.03E-05*(SV)^0.610

Leak Rate Connectors (kg/hr) = (# of non-leakers)*1.53E-06*(SV)^0.735 + (# of leakers)*1.53E-06*(SV)^0.735

Leak Rate Other (kg/hr) = (# of non-leakers)*1.36E-05*(SV)^0.589 + (# of leakers)*1.36E-05*(SV)^0.589

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - LDAR program internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions: a. Leak Definition for Valves 500 for the Refinery valves, excluding pressure relief devices; and b. Leak Definition for Pumps 2000 ppm VOCs for the Refinery pumps. First attempt at repair for valves > 200 ppm within 5 business days. Management of Change program for adding new valves and pumps. LDAR Training and LDAR Personnel requirements (Sections 8.1.1 ad 8.1.2).

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Testing

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Recordkeeping

Electronic data collection and storing of data.
QAQC of LDAR data at least once per quarter.
Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Reporting

Comply with the VOC equipment leak requirements of 40 CFR Part 60 Subpart VVa (as required by the applicability of 40 CFR Part 60, Subpart GGGa) of affected facilities for which construction, reconstruction, or modification commenced after November 7, 2006. See attached NSPS VVa summary.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
CARBON BED	00A-03	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Carbon Bed Adsorber

Manufacturer:	**Model number:**	**Serial number:**
Chem-Trade International, Inc.	DVM-8	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2002	2002	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

6,000 cfm

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
6,000 cfm	~3,100 mmcf	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimations were based on calculations from the Foster Wheeler Report issued in 1997. That report was updated in 2000 and emissions were prorated based on the installation of roofs on the north and south API units. The Foster Wheeler evaluation used Litchfield Equation to calculate emissions

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Vapor recovery system shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.695.

Testing

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.696.

Recordkeeping

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.697.

Reporting

40 CFR 60, Subpart QQQ. See attachment with applicable requirements from 40 CFR 60.698.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Forms - TANKS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4000	4000	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Crude Oil; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1992	1992	2012

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

2,310,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

45 CSR 13 H-1101 monitor fuel gas consumption using a flow meter.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4001	4001	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Crude Oil; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1973	1973	2012

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

2,310,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4002	4002	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Heavy/Kerosene; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

2,310,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4003	4003	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Heavy/Kerosene; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

2,310,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4004	4004	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,050,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5
Permit R13-2334AB was issued on October 16, 2018 authorizing a shell extension on this tank to increase the capacity from 1,050,000 gallons to 1,260,000 gallons. However, the proposed shell extension project was cancelled and the capacity of this tank remains at 1,050,000 gallons.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4005	4005	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,050,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5
Permit R13-2334AB was issued on October 16, 2018 authorizing a shell extension on this tank to increase the capacity from 1,050,000 gallons to 1,260,000 gallons. However, the proposed shell extension project was cancelled and the capacity of this tank remains at 1,050,000 gallons.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4006	4006	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,050,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5
Permit R13-2334AB was issued on October 16, 2018 authorizing a shell extension on this tank to increase the capacity from 1,050,000 gallons to 1,260,000 gallons. However, the proposed shell extension project was cancelled and the capacity of this tank remains at 1,050,000 gallons.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4007	4007	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

2,310,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4008	4008	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4009	4009	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4010	4010	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4011	4011	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,239,568 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4012	4012	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Gasoline; Vapor Mounted

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. Fixed roof Tanks 4012 and 4013 shall be equipped with internal floating roofs to minimize emissions of VOC's.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4013	4013	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Gasoline; Vapor Mounted

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. Fixed roof Tanks 4012 and 4013 shall be equipped with internal floating roofs to minimize emissions of VOC's.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4014	4014	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	2013

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4015	4015	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	2013

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4016	4016	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Slotted guidepole visual inspections per condition 7.1.4.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4017	4017	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4018	4018	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	2000

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

704,970 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4019	4019	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

704,970 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4020	4020	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4021	4021	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4022	4022	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

571,200 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4023	4023	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

571,200 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4024	4024	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4025	4025	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4026	4026	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4027	4027	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4028	4028	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

210,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4029	4029	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

65,100 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4030	4030	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

65,100 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4031	4031	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4032	4032	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4033	4033	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4034	4034	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1998	1998	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4035	4035	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1983	1983	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4036	4036	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1973	1973	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4037	4037	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1973	1973	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

315,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4038	4038	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1976	1976	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

840,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4039	4039	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1977	1977	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4040	4040	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1978	1978	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4041	4041	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1973	1973	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4042	4042	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1978	1978	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4043	4043	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1978	1978	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4044	4044	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1982	1982	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4045	4045	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1982	1982	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4046	4046	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1982	1982	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank. Maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4047	4047	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1986	1986	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4048	4048	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1986	1986	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

504,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
#N/A	#N/A	#N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

#N/A

Manufacturer:	**Model number:**	**Serial number:**
#N/A	#N/A	#N/A
Construction date:	**Installation date:**	**Modification date(s):**
#N/A	#N/A	#N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

#N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
#N/A	#N/A	#N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
#N/A Yes #N/A No	#N/A Indirect Fired #N/A Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
#N/A	#N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

#N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
#N/A	#N/A	#N/A	#N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	#N/A	#N/A
Nitrogen Oxides (NO_X)	#N/A	#N/A
Lead (Pb)	#N/A	#N/A
Particulate Matter ($PM_{2.5}$)	#N/A	#N/A
Particulate Matter (PM_{10})	#N/A	#N/A
Total Particulate Matter (TSP)	#N/A	#N/A
Sulfur Dioxide (SO_2)	#N/A	#N/A
Volatile Organic Compounds (VOC)	#N/A	#N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	#N/A	#N/A
Hexane	#N/A	#N/A
Toluene	#N/A	#N/A
Ethylbenzene	#N/A	#N/A
Xylene	#N/A	#N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--	#N/A	#N/A
--	#N/A	#N/A
--	#N/A	#N/A

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

#N/A

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

#N/A

#N/A Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

#N/A

Testing

#N/A

Recordkeeping

#N/A

Reporting

#N/A

Are you in compliance with all applicable requirements for this emission unit?

#N/A Yes #N/A No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4050	4050	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	2013

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4051	4051	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1996	1996	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4052	4052	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Ethanol

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

30,240 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4053	4053	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Ethanol

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1972	1972	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

30,240 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4054	4054	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1998	1998	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

625,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4055	4055	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1998	1998	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

625,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4056	4056	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1999	1999	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

625,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4057	4057	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy/Kerosene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1999	1999	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

625,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
#N/A	#N/A	#N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

#N/A

Manufacturer:	**Model number:**	**Serial number:**
#N/A	#N/A	#N/A
Construction date:	**Installation date:**	**Modification date(s):**
#N/A	#N/A	#N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

#N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
#N/A	#N/A	#N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
#N/A Yes #N/A No	#N/A Indirect Fired #N/A Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
#N/A	#N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

#N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
#N/A	#N/A	#N/A	#N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	#N/A	#N/A
Nitrogen Oxides (NO_X)	#N/A	#N/A
Lead (Pb)	#N/A	#N/A
Particulate Matter ($PM_{2.5}$)	#N/A	#N/A
Particulate Matter (PM_{10})	#N/A	#N/A
Total Particulate Matter (TSP)	#N/A	#N/A
Sulfur Dioxide (SO_2)	#N/A	#N/A
Volatile Organic Compounds (VOC)	#N/A	#N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	#N/A	#N/A
Hexane	#N/A	#N/A
Toluene	#N/A	#N/A
Ethylbenzene	#N/A	#N/A
Xylene	#N/A	#N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--	#N/A	#N/A
--	#N/A	#N/A
--	#N/A	#N/A

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

#N/A

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

#N/A

#N/A Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

#N/A

Testing

#N/A

Recordkeeping

#N/A

Reporting

#N/A

Are you in compliance with all applicable requirements for this emission unit?

#N/A Yes #N/A No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
#N/A	#N/A	#N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

#N/A

Manufacturer:	**Model number:**	**Serial number:**
#N/A	#N/A	#N/A
Construction date:	**Installation date:**	**Modification date(s):**
#N/A	#N/A	#N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

#N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
#N/A	#N/A	#N/A

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
#N/A Yes #N/A No	#N/A Indirect Fired #N/A Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
#N/A	#N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

#N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
#N/A	#N/A	#N/A	#N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	#N/A	#N/A
Nitrogen Oxides (NO_X)	#N/A	#N/A
Lead (Pb)	#N/A	#N/A
Particulate Matter ($PM_{2.5}$)	#N/A	#N/A
Particulate Matter (PM_{10})	#N/A	#N/A
Total Particulate Matter (TSP)	#N/A	#N/A
Sulfur Dioxide (SO_2)	#N/A	#N/A
Volatile Organic Compounds (VOC)	#N/A	#N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	#N/A	#N/A
Hexane	#N/A	#N/A
Toluene	#N/A	#N/A
Ethylbenzene	#N/A	#N/A
Xylene	#N/A	#N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--	#N/A	#N/A
--	#N/A	#N/A
--	#N/A	#N/A

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

#N/A

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

#N/A

#N/A Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

#N/A

Testing

#N/A

Recordkeeping

#N/A

Reporting

#N/A

Are you in compliance with all applicable requirements for this emission unit?

#N/A Yes #N/A No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4060	4060	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Crude oil; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1999	1999	2012 / 2015

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

5,040,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4061	4061	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Crude oil; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2008	2008	2012 / 2015

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

5,040,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4062	4062	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Light crude oil w/ vapor pressure ≤ 11.0 psia; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2008	2008	2012

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

5,040,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4063	4063	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Light crude oil w/ vapor pressure ≤ 11.0 psia; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

5,040,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4066	4066	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Biodiesel

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2011	2011	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

40,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4069	4069	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Biodiesel

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2017	2017	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

126,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4070	4070	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Internal Floating Roof; Ethanol; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2019	2019	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

630,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4071	4071	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

External Floating Roof; Gasoline; Mechanical Shoe

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
TBD	TBD	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits. External floating slotted guidepole fittings and inspection requirements.
40 CFR NSPS K, Ka, Kb applicability and requirements addressed in the application report Section 2.3.3.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable monitoring requirements from NSPS K, Ka, Kb.

Testing

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable testing requirements from NSPS K, Ka, Kb.

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable recordkeeping requirements from NSPS K, Ka, Kb.

Reporting

Refer to application report section 2.3.3 for NSPS K, Ka, and Kb applicability. See attachment for applicable reporting requirements from NSPS K, Ka, Kb.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4072	4072	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Feedstock

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2019	2019	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

1,260,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.
Maintain records of the dimension and capacity of the storage vessel.
Maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4073	4073	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy Product

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
TBD	TBD	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Proposed*: 32,800 barrel

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

* An R13 modification application is under review at WVDEP at the time of this application submittal.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See R13 Modification Application

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See R13 Modification Application

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

See R13 Modification Application

Testing

See R13 Modification Application

Recordkeeping

See R13 Modification Application

Reporting

See R13 Modification Application

Are you in compliance with all applicable requirements for this emission unit?

____ Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4103	4103	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

127,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-4104	4104	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Heavy

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

127,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	See Section 3.4

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--

Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

Monthly records of throughput of each raw material/product for each tank. Monthly records of emissions for each tank.

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
V-4002	V-4002	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

NGL Bullet Tank

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
2016	2016	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

10,984 ft3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired

Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

NA

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable monitoring requirements from 40 CFR 65 CAR.

Testing

N/A

Recordkeeping

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable recordkeeping requirements from 40 CFR 65 CAR.

Reporting

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable reporting requirements from 40 CFR 65 CAR.

Are you in compliance with all applicable requirements for this emission unit?

X Yes _____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
V-4003	V-4003	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

NGL Bullet Tank

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
2016	2016	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

10,984 ft3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
See Section 3.4	See Section 3.4	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes X No	____ Indirect Fired ____ Direct Fired

Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Hexane		
Toluene		
Ethylbenzene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
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List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

NA

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable monitoring requirements from 40 CFR 65 CAR.

Testing

N/A

Recordkeeping

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable recordkeeping requirements from 40 CFR 65 CAR.

Reporting

Refer to application report sections 2.3.3 and 2.4 for NSPS Kb and Consolidated Air Rule (40 CFR 45) applicability. See attachment for applicable reporting requirements from 40 CFR 65 CAR.

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-303	303	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; MEK

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

7,875 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
_____ Yes _____ No	_____ Indirect Fired _____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
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--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

N/A

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TK-304	304	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fixed Roof; Toluene

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1970	1970	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

7,875 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	**If yes, is it?**
____ Yes ____ No	____ Indirect Fired ____ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**
N/A	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	--	--
Nitrogen Oxides (NO_X)	--	--
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)	--	--
Particulate Matter (PM_{10})	--	--
Total Particulate Matter (TSP)	--	--
Sulfur Dioxide (SO_2)	--	--
Volatile Organic Compounds (VOC)	--	--
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	--	--
Hexane	--	--
Toluene	--	--
Ethylbenzene	--	--
Xylene	--	--
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
--		
--		
--		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Report Section 3.5

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 - Tank group throughput limits and emissions limits.

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring

N/A

Testing

N/A

Recordkeeping

N/A

Reporting

N/A

Are you in compliance with all applicable requirements for this emission unit?

X Yes ____ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Attachment E - Applicable Requirements Summaries

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

H101R NOx Requirements

e-CFR data is current as of December 5, 2019

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(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. For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008. For the purposes of this subpart, a modification to a flare commences when a project that includes any of the activities in paragraphs (c)(1) or (2) of this section is commenced. For delayed coking units, the provisions of this subpart apply to delayed coking units that commence construction, reconstruction or modification on the earliest of the following dates:

(1) – (3) N/A

(c) For all affected facilities other than flares, the provisions in §60.14 regarding modification apply. As provided in §60.14(f), the special provisions set forth under this subpart shall supersede the provisions in §60.14 with respect to flares. For the purposes of this subpart, a modification to a flare occurs as provided in paragraphs (c)(1) or (2) of this section.

(1) – (2) N/A

(d) For purposes of this subpart, under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the relevant applicability date specified in paragraph (b) of this section.

§60.101a Definitions. [see rule for definitions]

§60.102a Emissions limitations.

(a) Each owner or operator that is subject to the requirements of this subpart shall comply with the emissions limitations in paragraphs (b) through (i) of this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated or 180 days after initial startup, whichever comes first.

(b) – (f) N/A

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

(1) [see NSPS Ja H2S write up]

(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr) on a higher heating value basis, the owner or operator shall not discharge to the atmosphere any emissions of NO_X in excess of the applicable limits in paragraphs (g)(2)(i) through (iv) of this section.

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

H101R NOx Requirements

(i) For each natural draft process heater, comply with the limit in either paragraph (g)(2)(i)(A) or (B) of this section. The owner or operator may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in §60.107a; if fuel gas composition is not monitored as specified in §60.107a(d), the owner or operator must comply with the concentration limits in paragraph (g)(2)(i)(A) of this section.

(A) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

(B) N/A

(ii) - (iv) N/A

(h) –(i) N/A

§60.103a Design, equipment, work practice or operational standards.

§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. The notification requirements of §60.8(d) apply to the initial performance test and to subsequent performance tests required by paragraph (b) of this section (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments.

(b) NA

(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR part 60, Appendices A-1 through A-8 or other methods as specified in this section, except as provided in §60.8(b).

(d) - (h) NA

(i) The owner or operator shall determine compliance with the SO_2 and NO_X emissions limits in §60.102a(g) for a fuel gas combustion device according to the following test methods and procedures:

(1) Method 1 of appendix A-1 to part 60 for sample and velocity traverses;

(2) Method 2 of appendix A-1 to part 60 for velocity and volumetric flow rate;

(3) Method 3, 3A, or 3B of appendix A-2 to part 60 for gas analysis. The method ANSI/ASME PTC 19.10-1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A-2 to part 60;

(4) Method 6, 6A, or 6C of appendix A-4 to part 60 to determine the SO_2 concentration. The method ANSI/ASME PTC 19.10-1981, “Flue and Exhaust Gas Analyses,” (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 6 or 6A of appendix A-4 to part 60.

(i) The performance test consists of 3 valid test runs; the duration of each test run must be no less than 1 hour.

(ii) If a single fuel gas combustion device having a common source of fuel gas is monitored as allowed under §60.107a(a)(1)(v), only one performance test is required. That is, performance tests are not required

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H101R NOx Requirements
when a new affected fuel gas combustion device is added to a common source of fuel gas that previously demonstrated compliance.

(5) Method 7, 7A, 7C, 7D, or 7E of appendix A-4 to part 60 for moisture content and for the concentration of NO_X calculated as NO_2; the duration of each test run must be no less than 4 hours. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 7 or 7C of appendix A-4 to part 60.

(6) For process heaters with a rated heat capacity between 40 and 100 MMBtu/hr that elect to demonstrate continuous compliance with a maximum excess oxygen limit as provided in §60.107a(c)(6) or (d)(8), the owner or operator shall establish the O_2 operating limit or O_2 operating curve based on the performance test results according to the requirements in paragraph (i)(6)(i) or (ii) of this section, respectively.

(i) If a single O_2 operating limit will be used:

(A) Conduct the performance test following the methods provided in paragraphs (i)(1), (2), (3) and (5) of this section when the process heater is firing at no less than 70 percent of the rated heat capacity. For co-fired process heaters, conduct at least one of the test runs while the process heater is being supplied by both fuel gas and fuel oil and conduct at least one of the test runs while the process heater is being supplied solely by fuel gas.

(B) Each test will consist of three test runs. Calculate the NO_X concentration for the performance test as the average of the NO_X concentrations from each of the three test runs. If the NO_X concentration for the performance test is less than or equal to the numerical value of the applicable NO_X emissions limit (regardless of averaging time), then the test is considered to be a valid test.

(C) Determine the average O_2 concentration for each test run of a valid test.

(D) Calculate the O_2 operating limit as the average O_2 concentration of the three test runs from a valid test.

(ii) NA

(7) NA

(8) The owner or operator shall use Equation 8 of this section to adjust pollutant concentrations to 0-percent O_2 or 0- percent excess air.

(j) NA

§60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

§60.106a Monitoring of emissions and operations for sulfur recovery plants.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) – (b) N/A

(c) *Process heaters complying with the NO_X concentration-based limit.* The owner or operator of a process heater subject to the NO_X emissions limit in §60.102a(g)(2) and electing to comply with the applicable emissions limit in §60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NO_X emissions into the atmosphere according to the requirements in paragraphs (c)(1) through (5) of this section, except as provided in paragraph (c)(6) of this section. The monitor must include an O_2 monitor for correcting the data for excess air.

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(1) – (2) NA

(3) The owner or operator shall install, operate, and maintain each O_2 monitor according to Performance Specification 3 of appendix B to part 60. The span value of this O_2 monitor must be selected between 10 and 25 percent, inclusive.

(4) The owner or operator shall conduct performance evaluations of each O_2 monitor according to the requirements in §60.13(c) and Performance Specification 3 of appendix B to part 60. Method 3, 3A, or 3B of appendix A-2 to part 60 shall be used for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 3B of appendix A-2 to part 60.

(5) The owner or operator shall comply with the quality assurance requirements in Procedure 1 of appendix F to part 60 for each NO_X and O_2 monitor, including quarterly accuracy determinations for NO_X monitors, annual accuracy determinations for O_2 monitors, and daily calibration drift tests.

(6) The owner or operator of a process heater that has a rated heating capacity of less than 100 MMBtu and is equipped with combustion modification-based technology to reduce NO_X emissions (*i.e.,* low-NO_X burners, ultra-low-NO_X burners) may elect to comply with the monitoring requirements in paragraphs (c)(1) through (5) of this section or, alternatively, the owner or operator of such a process heater shall conduct biennial performance tests according to the requirements in §60.104a(i), establish a maximum excess O_2 operating limit or operating curve according to the requirements in §60.104a(i)(6) and comply with the O_2 monitoring requirements in paragraphs (c)(3) through (5) of this section to demonstrate compliance. If an O_2 operating curve is used (*i.e.,* if different O_2 operating limits are established for different operating ranges), the owner or operator of the process heater must also monitor fuel gas flow rate, fuel oil flow rate (as applicable) and heating value content according to the methods provided in paragraphs (d)(5), (d)(6), and (d)(4) or (d)(7) of this section, respectively.

(d)

(e) - (h) N/A

(i) *Excess emissions.* For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) and flares subject to the concentration requirement in §60.103a(h) are defined as specified in paragraphs (i)(1) through (5) of this section. Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages).

(1) - (4) NA

(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.

§60.108a Recordkeeping and reporting requirements.

(a) Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.

(b) Each owner or operator subject to an emissions limitation in §60.102a shall notify the Administrator of the specific monitoring provisions of §§60.105a, 60.106a and 60.107a with which the owner or operator

intends to comply. Each owner or operator of a co-fired process heater subject to an emissions limitation in §60.102a(g)(2)(iii) or (iv) shall submit to the Administrator documentation showing that the process heater meets the definition of a co-fired process heater in §60.101a. Notifications required by this paragraph shall be submitted with the notification of initial startup required by §60.7(a)(3).

(c) The owner or operator shall maintain the following records:

(d) Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(4) A description of the action taken, if any.

(5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

§60.109a Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a state, local or tribal agency, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local or tribal agency.

(1) Approval of a major change to test methods under §60.8(b). A “major change to test method” is defined in 40 CFR 63.90.

(2) Approval of a major change to monitoring under §60.13(i). A “major change to monitoring” is defined in 40 CFR 63.90.

(3) Approval of a major change to recordkeeping/reporting under §60.7(b) through (f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

(4) Approval of an application for an alternative means of emission limitation under §60.103a(j) of this subpart.

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Fuel Gas H2S Limitation

e-CFR data is current as of December 5, 2019

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(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. For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008. For the purposes of this subpart, a modification to a flare commences when a project that includes any of the activities in paragraphs (c)(1) or (2) of this section is commenced. For delayed coking units, the provisions of this subpart apply to delayed coking units that commence construction, reconstruction or modification on the earliest of the following dates:

(1) - (3)

(c) For all affected facilities other than flares, the provisions in §60.14 regarding modification apply. As provided in §60.14(f), the special provisions set forth under this subpart shall supersede the provisions in §60.14 with respect to flares. For the purposes of this subpart, a modification to a flare occurs as provided in paragraphs (c)(1) or (2) of this section.

(1) – (2)

(d) For purposes of this subpart, under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the relevant applicability date specified in paragraph (b) of this section.

§60.101a Definitions.

§60.102a Emissions limitations.

(a) Each owner or operator that is subject to the requirements of this subpart shall comply with the emissions limitations in paragraphs (b) through (i) of this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated or 180 days after initial startup, whichever comes first.

(b) - (f)

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

(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.

(i) NA

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Fuel Gas H2S Limitation

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H_2S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

(iii) The combustion in a portable generator of fuel gas released as a result of tank degassing and/or cleaning is exempt from the emissions limits in paragraphs (g)(1)(i) and (ii) of this section.

(2)

(h) [Reserved]

(i)

§60.103a Design, equipment, work practice or operational standards.

(a) - (b)

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a fuel gas combustion device, flare or sulfur recovery plant subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) through (3) of this section.

(1)

(2) For a fuel gas combustion device, each exceedance of an applicable short-term emissions limit in §60.102a(g)(1) if the SO_2 discharge to the atmosphere is 227 kg (500 lb) greater than the amount that would have been emitted if the emissions limits had been met during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter.

(3) NA

(d) Except as provided in paragraphs (f) and (g) of this section, a root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified in paragraphs (c)(1) through (3) of this section. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in paragraphs (d)(1) through (5) of this section.

(1) If a single continuous discharge meets any of the conditions specified in paragraphs (c)(1) through (3) of this section for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted.

(2) If a single discharge from a flare triggers a root cause analysis based on more than one of the conditions specified in paragraphs (c)(1)(i) through (iii) of this section, a single root cause analysis and corrective action analysis may be conducted.

(3) If the discharge from a flare is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare and the procedures in paragraph (a)(5) of this section were followed, a root cause analysis and corrective action analysis is not required; however, the discharge must be recorded as described in §60.108a(c)(6) and reported as described in §60.108a(d)(5).

(4) If both the primary and secondary flare in a cascaded flare system meet any of the conditions specified in paragraphs (c)(1)(i) through (iii) of this section in the same 24-hour period, a single root cause analysis and corrective action analysis may be conducted.

(5) Except as provided in paragraph (d)(4) of this section, if discharges occur that meet any of the conditions specified in paragraphs (c)(1) through (3) of this section for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root

cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted.

(e) Except as provided in paragraphs (f) and (g) of this section, each owner or operator of a fuel gas combustion device, flare or sulfur recovery plant subject to this subpart shall implement the corrective action(s) identified in the corrective action analysis conducted pursuant to paragraph (d) of this section in accordance with the applicable requirements in paragraphs (e)(1) through (3) of this section.

(1) All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that corrective action should not be conducted, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in §60.108a(c)(6)(ix).

(2) For corrective actions that cannot be fully implemented within 45 days following the discharge 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.

(3) No later than 45 days following the discharge 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 as specified in §60.108a(c)(6)(x).

(f) - (j) NA

§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. The notification requirements of §60.8(d) apply to the initial performance test and to subsequent performance tests required by paragraph (b) of this section (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments.

(b) NA

(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR part 60, Appendices A-1 through A-8 or other methods as specified in this section, except as provided in §60.8(b).

(d) - (i)

(j) The owner or operator shall determine compliance with the applicable H_2S emissions limit in §60.102a(g)(1) for a fuel gas combustion device or the concentration requirement in §60.103a(h) for a flare according to the following test methods and procedures:

(1)—(3) [Reserved]

(4) EPA Method 11, 15 or 15A of appendix A-5 to part 60 or EPA Method 16 of appendix A-6 to part 60 for determining the H_2S concentration for affected facilities using an H_2S monitor as specified in §60.107a(a)(2). 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 part 60. The owner or operator may demonstrate compliance based on the mixture used in the fuel gas combustion device or flare or for each individual fuel gas stream used in the fuel gas combustion device or flare.

Fuel Gas H2S Limitation

(i) For Method 11 of appendix A-5 to part 60, the sampling time and sample volume must be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times must be taken at about 1-hour intervals. The arithmetic average of these two samples constitutes a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(ii) For Method 15 of appendix A-5 to part 60, at least three injects over a 1-hour period constitutes a run.

(iii) For Method 15A of appendix A-5 to part 60, a 1-hour sample constitutes a run. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A-5 to part 60.

(iv) If monitoring is conducted at a single point in a common source of fuel gas as allowed under §60.107a(a)(2)(iv), only one performance test is required. That is, performance tests are not required when a new affected fuel gas combustion device or flare is added to a common source of fuel gas that previously demonstrated compliance.

§60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

§60.106a Monitoring of emissions and operations for sulfur recovery plants.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) *Fuel gas combustion devices subject to* SO_2 or H_2S *limit and flares subject to* H_2S *concentration requirements.* The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the SO_2 emission limits in §60.102a(g)(1)(i) shall comply with the requirements in paragraph (a)(1) of this section. The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H_2S concentration requirement in §60.103a(h) shall comply with paragraph (a)(2) of this section.

(1)

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H_2S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H_2S in the fuel gases before being burned in any fuel gas combustion device or flare.

(i) The owner or operator shall install, operate and maintain each H_2S monitor according to Performance Specification 7 of appendix B to part 60. The span value for this instrument is 300 ppmv H_2S.

(ii) 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 part 60. The owner or operator shall use Method 11, 15, or 15A of appendix A-5 to part 60 or Method 16 of appendix A-6 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A-5 to part 60.

(iii) The owner or operator shall comply with the applicable quality assurance procedures in appendix F to part 60 for each H_2S monitor.

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(iv) Fuel gas combustion devices or flares having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned in the respective fuel gas combustion devices or flares.

(v) The owner or operator of a flare subject to §60.103a(c) through (e) may use the instrument required in paragraph (e)(1) of this section to demonstrate compliance with the H_2S concentration requirement in §60.103a(h) if the owner or operator complies with the requirements of paragraph (e)(1)(i) through (iv) and if the instrument has a span (or dual span, if necessary) capable of accurately measuring concentrations between 20 and 300 ppmv. If the instrument required in paragraph (e)(1) of this section is used to demonstrate compliance with the H_2S concentration requirement, the concentration directly measured by the instrument must meet the numeric concentration in §60.103a(h).

(vi) The owner or operator of modified flare that meets all three criteria in paragraphs (a)(2)(vi)(A) through (C) of this section shall comply with the requirements of paragraphs (a)(2)(i) through (v) of this section no later than November 11, 2015. The owner or operator shall comply with the approved alternative monitoring plan or plans pursuant to §60.13(i) until the flare is in compliance with requirements of paragraphs (a)(2)(i) through (v) of this section.

(A) The flare was an affected facility subject to subpart J of this part prior to becoming an affected facility under §60.100a.

(B) The owner or operator had an approved alternative monitoring plan or plans pursuant to §60.13(i) for all fuel gases combusted in the flare.

(C) The flare did not have in place on or before September 12, 2012 an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H_2S in the fuel gases that is capable of complying with the requirements of paragraphs (a)(2)(i) through (v) of this section.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in paragraphs (a)(3)(i) through (iv) of this section will be considered inherently low in sulfur content.

(i) Pilot gas for heaters and flares.

(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.

(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.

(iv) Other fuel gas streams that an owner or operator demonstrates are low-sulfur according to the procedures in paragraph (b) of this section.

(4) If the composition of an exempt fuel gas stream changes, the owner or operator must follow the procedures in paragraph (b)(3) of this section.

(b) *Exemption from H_2S monitoring requirements for low-sulfur fuel gas streams.* The owner or operator of a fuel gas combustion device or flare may apply for an exemption from the H_2S monitoring requirements in paragraph (a)(2) of this section for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream

Fuel Gas H2S Limitation
that is demonstrated to be low-sulfur is exempt from the monitoring requirements of paragraphs (a)(1) and (2) of this section until there are changes in operating conditions or stream composition.

(1) The owner or operator shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:

(i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system and the affected fuel gas combustion device(s) or flare(s) to be considered;

(ii) A statement that there are no crossover or entry points for sour gas (high H_2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);

(iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream (i.e., control equipment or product specifications) at all times;

(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 $1 \leq N \leq 10$, where N = number of pump strokes, to test the applicant fuel gas stream for H_2S; and

(v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H_2S concentration (fuel quality) expected for the fuel gas stream/system going to the affected fuel gas combustion device or flare (e.g., the 2 weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out and, therefore, should be representative of typical operating conditions affecting H_2S content in the fuel gas stream going to the loading rack flare).

(2) The effective date of the exemption is the date of submission of the information required in paragraph (b)(1) of this section.

(3) 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 (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.

(i) If the operation change results in a sulfur content that is still within the range of concentrations included in the original application, the owner or operator shall conduct an H_2S test on a grab sample and record the results as proof that the concentration is still within the range.

(ii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application, the owner or operator may submit new information following the procedures of paragraph (b)(1) of this section within 60 days (or within 30 days after the seventh grab sample is tested for infrequently operated process units).

(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 $1 \leq N \leq 5$, where N = number of pump strokes. The owner or operator must begin monitoring according to the requirements in paragraphs (a)(1) or (a)(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. The owner or operator of a fuel gas combustion device must also determine a rolling 365-day average using the stain sampling results; an average H_2S concentration of 5 ppmv must be used for days within the rolling 365-day period prior to the operation change.

(c) - (h) *NA*

(i) *Excess emissions.* For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) and flares subject to the concentration requirement in §60.103a(h) are defined as specified in paragraphs (i)(1) through (5) of this section. Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages).

(1) *SO_2 or H_2S limits for fuel gas combustion devices.*

(i) NA

(ii) If the owner or operator of a fuel gas combustion device elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii), each rolling 3-hour period during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv and each rolling 365-day period during which the average concentration as measured by the H_2S continuous monitoring system under paragraph (a)(2) of this section exceeds 60 ppmv.

(iii) If the owner or operator of a fuel gas combustion device becomes subject to the requirements of daily stain tube sampling in paragraph (b)(3)(iii) of this section, each day during which the daily concentration of H_2S exceeds 162 ppmv and each rolling 365-day period during which the average concentration of H_2S exceeds 60 ppmv.

(2) H_2S concentration limits for flares. (i) Each rolling 3-hour period during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv.

(ii) If the owner or operator of a flare becomes subject to the requirements of daily stain tube sampling in paragraph (b)(3)(iii) of this section, each day during which the daily concentration of H_2S exceeds 162 ppmv.

(3) - (5)

§60.108a Recordkeeping and reporting requirements.

(a) Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.

(b) Each owner or operator subject to an emissions limitation in §60.102a shall notify the Administrator of the specific monitoring provisions of §§60.105a, 60.106a and 60.107a with which the owner or operator intends to comply. Each owner or operator of a co-fired process heater subject to an emissions limitation in §60.102a(g)(2)(iii) or (iv) shall submit to the Administrator documentation showing that the process heater meets the definition of a co-fired process heater in §60.101a. Notifications required by this paragraph shall be submitted with the notification of initial startup required by §60.7(a)(3).

(c) The owner or operator shall maintain the following records:

(1) A copy of the flare management plan.

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(2) Records of information to document conformance with bag leak detection system operation and maintenance requirements in §60.105a(c).

(3) Records of bag leak detection system alarms and actions according to §60.105a(c).

(4) For each FCCU and fluid coking unit subject to the monitoring requirements in §60.105a(b)(1), records of the average coke burn-off rate and hours of operation.

(5) For each fuel gas stream to which one of the exemptions listed in §60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the owner or operator applies for the exemption described in §60.107a(a)(3)(iv), the owner or operator must keep a copy of the application as well as the letter from the Administrator granting approval of the application.

(6) Records of discharges greater than 500 lb SO_2 in any 24-hour period from any affected flare, discharges greater than 500 lb SO_2 in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant and discharges to an affected flare in excess of 500,000 scf above baseline in any 24-hour period as required by §60.103a(c). If the monitoring alternative provided in §60.107a(g) is selected, the owner or operator shall record any instance when the flare gas line pressure exceeds the water seal liquid depth, except for periods attributable to compressor staging that do not exceed the staging time specified in §60.103a(a)(3)(vii)(C). The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds:

(i) A description of the discharge.

(ii) The date and time the discharge was first identified and the duration of the discharge.

(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge duration exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

(iv) For each discharge greater than 500 lb SO_2 in any 24-hour period from a flare, the measured total sulfur concentration or both the measured H_2S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

(v) For each discharge greater than 500 lb SO_2 in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a fuel gas combustion device, either the measured concentration of H_2S in the fuel gas or the measured concentration of SO_2 in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

(vi) For each discharge greater than 500 lb SO_2 in excess of the allowable limits from a sulfur recovery plant, either the measured concentration of reduced sulfur or SO_2 discharged to the atmosphere.

(vii) For each discharge greater than 500 lb SO_2 in any 24-hour period from any affected flare or discharge greater than 500 lb SO_2 in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H_2S and SO_2 released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO_2. For fuel gas combustion devices, assume 99-percent conversion of H_2S to SO_2.

(viii) The steps that the owner or operator took to limit the emissions during the discharge.

(ix) The root cause analysis and corrective action analysis conducted as required in §60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting

whether the discharge 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 §60.103a(e).

(x) For any corrective action analysis for which corrective actions are required in §60.103a(e), 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.

(xi) For each discharge from any affected flare that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

(7) If the owner or operator elects to comply with §60.107a(e)(2) for a flare, records of the H_2S and total sulfur analyses of each grab or integrated sample, the calculated daily total sulfur-to-H_2S ratios, the calculated 10-day average total sulfur-to-H_2S ratios and the 95-percent confidence intervals for each 10-day average total sulfur-to-H_2S ratio.

(d) Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(4) A description of the action taken, if any.

(5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

§60.109a Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a state, local or tribal agency, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local or tribal agency.

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Fuel Gas H2S Limitation

(1) Approval of a major change to test methods under §60.8(b). A “major change to test method” is defined in 40 CFR 63.90.

(2) Approval of a major change to monitoring under §60.13(i). A “major change to monitoring” is defined in 40 CFR 63.90.

(3) Approval of a major change to recordkeeping/reporting under §60.7(b) through (f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

(4) Approval of an application for an alternative means of emission limitation under §60.103a(j) of this subpart.

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e-CFR data is current as of December 5, 2019

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(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. For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008. For the purposes of this subpart, a modification to a flare commences when a project that includes any of the activities in paragraphs (c)(1) or (2) of this section is commenced. For delayed coking units, the provisions of this subpart apply to delayed coking units that commence construction, reconstruction or modification on the earliest of the following dates:

(1) - (3) NA

(c) For all affected facilities other than flares, the provisions in §60.14 regarding modification apply. As provided in §60.14(f), the special provisions set forth under this subpart shall supersede the provisions in §60.14 with respect to flares. For the purposes of this subpart, a modification to a flare occurs as provided in paragraphs (c)(1) or (2) of this section.

(1) Any new piping from a refinery process unit, including ancillary equipment, or a fuel gas system is physically connected to the flare (*e.g.,* for direct emergency relief or some form of continuous or intermittent venting). However, the connections described in paragraphs (c)(1)(i) through (vii) of this section are not considered modifications of a flare.

(i) Connections made to install monitoring systems to the flare.

(ii) Connections made to install a flare gas recovery system or connections made to upgrade or enhance components of a flare gas recovery system (*e.g.,* addition of compressors or recycle lines).

(iii) Connections made to replace or upgrade existing pressure relief or safety valves, provided the new pressure relief or safety valve has a set point opening pressure no lower and an internal diameter no greater than the existing equipment being replaced or upgraded.

(iv) Connections made for flare gas sulfur removal.

(v) Connections made to install back-up (redundant) equipment associated with the flare (such as a back-up compressor) that does not increase the capacity of the flare.

(vi) Replacing piping or moving an existing connection from a refinery process unit to a new location in the same flare, provided the new pipe diameter is less than or equal to the diameter of the pipe/connection being replaced/moved.

(vii) Connections that interconnect two or more flares.

(2) A flare is physically altered to increase the flow capacity of the flare.

(d) For purposes of this subpart, under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous

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programs of component replacement which are commenced within any 2-year period following the relevant applicability date specified in paragraph (b) of this section.

§60.101a Definitions.

§60.102a Emissions limitations.

(a) Each owner or operator that is subject to the requirements of this subpart shall comply with the emissions limitations in paragraphs (b) through (i) of this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated or 180 days after initial startup, whichever comes first.

(b)

§60.103a Design, equipment, work practice or operational standards.

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section.

(1) A listing of all refinery process units, ancillary equipment, and fuel gas systems connected to the flare for each affected flare.

(2) An assessment of whether discharges to affected flares from these process units, ancillary equipment and fuel gas systems can be minimized. The flare minimization assessment must (at a minimum) consider the items in paragraphs (a)(2)(i) through (iv) 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.

(i) Elimination of process gas discharge to the flare through process operating changes or gas recovery at the source.

(ii) Reduction of the volume of process gas to the flare through process operating changes.

(iii) 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.

(iv) Minimization of sweep gas flow rates and, for flares with water seals, purge gas flow rates.

(3) A description of each affected flare containing the information in paragraphs (a)(3)(i) through (vii) of this section.

(i) A general description of the flare, including the information in paragraphs (a)(3)(i)(A) through (G) of this section.

(A) Whether it is a ground flare or elevated (including height).

(B) The type of assist system (e.g., air, steam, pressure, non-assisted).

(C) Whether it is simple or complex flare tip (e.g., staged, sequential).

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(D) Whether the flare is part of a cascaded flare system (and if so, whether the flare is primary or secondary).

(E) Whether the flare serves as a backup to another flare.

(F) Whether the flare is an emergency flare or a non-emergency flare.

(G) Whether the flare is equipped with a flare gas recovery system.

(ii) Description and simple process flow diagram showing the interconnection of the 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.

(iii) Flare design parameters, including the maximum vent gas flow rate; minimum sweep gas flow rate; minimum purge gas flow rate (if any); maximum supplemental gas flow rate; maximum pilot gas flow rate; and, if the flare is steam-assisted, minimum total steam rate.

(iv) Description and simple process flow diagram showing all gas lines (including flare, purge (if applicable), sweep, supplemental and pilot gas) that are associated with the flare. For purge, sweep, supplemental and pilot gas, identify the type of gas used. Designate which lines are exempt from sulfur, H_2S or flow monitoring and why (e.g., natural gas, inherently low sulfur, pilot gas). Designate which lines are monitored and identify on the process flow diagram the location and type of each monitor.

(v) For each flow rate, H_2S, sulfur content, pressure or water seal monitor identified in paragraph (a)(3)(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 emergency flares, secondary flares and flares equipped with a flare gas recovery system designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction:

(A) Description of the water seal, including the operating range for the liquid level.

(B) Designation of the monitoring option elected (flow and sulfur monitoring or pressure and water seal liquid level monitoring).

(vii) For flares equipped with a flare gas recovery system:

(A) A description of the flare gas recovery system, including number of compressors and capacity of each compressor.

(B) A description of the monitoring parameters used to quantify the amount of flare gas recovered.

(C) For systems with staged compressors, the maximum time period required to begin gas recovery with the secondary compressor(s), the monitoring parameters and procedures used to minimize the duration of releases during compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (*i.e.,* gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (*i.e.,* separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

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(i) A primary baseline flow rate that will be used as the default baseline for all conditions except those specifically delineated in the plan;

(ii) A description of each special condition for which an alternate baseline is established, including the rationale for each alternate baseline, the daily flow for each alternate baseline and the expected duration of the special conditions for each alternate baseline; and

(iii) Procedures to minimize discharges to the affected flare during each special condition described in paragraph (a)(4)(ii) of this section, unless procedures are already developed for these cases under paragraph (a)(5) through (7) of this section, as applicable.

(5) 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.

(6) Procedures to reduce flaring in cases of fuel gas imbalance (*i.e.,* excess fuel gas for the refinery's energy needs), 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.

(7) For flares equipped with flare gas recovery systems, procedures to minimize the frequency and duration of outages of the flare gas recovery system and procedures to minimize the volume of gas flared during such outages, 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.

(b) Except as provided in paragraph (g) of this section, each owner or operator required to develop and implement a written flare management plan as described in paragraph (a) of this section must submit the plan to the Administrator as described in paragraphs (b)(1) through (3) of this section.

(1) The owner or operator of a newly constructed or reconstructed flare must develop and implement the flare management plan by no later than the date that the flare becomes an affected facility subject to this subpart, except for the selected minimization alternatives in paragraph (a)(2) and/or the procedures in paragraphs (a)(5) though (a)(7) of this section that cannot reasonably be implemented by that date, which the owner or operator must implement in accordance with the schedule in the flare management plan. The owner or operator of a modified flare must develop and implement the flare management plan by no later than November 11, 2015 or upon startup of the modified flare, whichever is later.

(2) The owner or operator must comply with the plan as submitted by the date specified in paragraph (b)(1) 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 adds an alternative baseline flow rate, revises an existing baseline as described in paragraph (a)(4) of this section, installs a flare gas recovery system or is required to change flare designations and monitoring methods as described in §60.107a(g). The owner or operator must comply with the updated plan as submitted.

(3) 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 *refinerynsps@epa.gov.*

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a fuel gas combustion device, flare or sulfur recovery plant subject to this subpart shall conduct a root cause

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analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) through (3) of this section.

(1) For a flare:

(i) Any time the SO_2 emissions exceed 227 kilograms (kg) (500 lb) in any 24-hour period; or

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m^3) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period; or

(iii) If the monitoring alternative in §60.107a(g) is elected, any period when the flare gas line pressure exceeds the water seal liquid depth, except for periods attributable to compressor staging that do not exceed the staging time specified in paragraph (a)(3)(vii)(C) of this section.

(2) For a fuel gas combustion device, each exceedance of an applicable short-term emissions limit in §60.102a(g)(1) if the SO_2 discharge to the atmosphere is 227 kg (500 lb) greater than the amount that would have been emitted if the emissions limits had been met during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter.

(3) For a sulfur recovery plant, each time the SO_2 emissions are more than 227 kg (500 lb) greater than the amount that would have been emitted if the SO_2 or reduced sulfur concentration was equal to the applicable emissions limit in §60.102a(f)(1) or (2) during one or more consecutive periods of excess emissions or any 24-hour period, whichever is shorter.

(d) Except as provided in paragraphs (f) and (g) of this section, a root cause analysis and corrective action analysis must be completed as soon as possible, but no later than 45 days after a discharge meeting one of the conditions specified in paragraphs (c)(1) through (3) of this section. Special circumstances affecting the number of root cause analyses and/or corrective action analyses are provided in paragraphs (d)(1) through (5) of this section.

(1) If a single continuous discharge meets any of the conditions specified in paragraphs (c)(1) through (3) of this section for 2 or more consecutive 24-hour periods, a single root cause analysis and corrective action analysis may be conducted.

(2) If a single discharge from a flare triggers a root cause analysis based on more than one of the conditions specified in paragraphs (c)(1)(i) through (iii) of this section, a single root cause analysis and corrective action analysis may be conducted.

(3) If the discharge from a flare is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare and the procedures in paragraph (a)(5) of this section were followed, a root cause analysis and corrective action analysis is not required; however, the discharge must be recorded as described in §60.108a(c)(6) and reported as described in §60.108a(d)(5).

(4) If both the primary and secondary flare in a cascaded flare system meet any of the conditions specified in paragraphs (c)(1)(i) through (iii) of this section in the same 24-hour period, a single root cause analysis and corrective action analysis may be conducted.

(5) Except as provided in paragraph (d)(4) of this section, if discharges occur that meet any of the conditions specified in paragraphs (c)(1) through (3) of this section for more than one affected facility in the same 24-hour period, initial root cause analyses shall be conducted for each affected facility. If the initial root cause analyses indicate that the discharges have the same root cause(s), the initial root cause analyses can be recorded as a single root cause analysis and a single corrective action analysis may be conducted.

(e) Except as provided in paragraphs (f) and (g) of this section, each owner or operator of a fuel gas combustion device, flare or sulfur recovery plant subject to this subpart shall implement the corrective

Main Flare (F1)
action(s) identified in the corrective action analysis conducted pursuant to paragraph (d) of this section in accordance with the applicable requirements in paragraphs (e)(1) through (3) of this section.

(1) All corrective action(s) must be implemented within 45 days of the discharge for which the root cause and corrective action analyses were required or as soon thereafter as practicable. If an owner or operator concludes that corrective action should not be conducted, the owner or operator shall record and explain the basis for that conclusion no later than 45 days following the discharge as specified in §60.108a(c)(6)(ix).

(2) For corrective actions that cannot be fully implemented within 45 days following the discharge 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.

(3) No later than 45 days following the discharge 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 as specified in §60.108a(c)(6)(x).

(f) Modified flares shall comply with the requirements of paragraphs (c) through (e) of this section by November 11, 2015 or at startup of the modified flare, whichever is later. Modified flares that were not affected facilities subject to subpart J of this part prior to becoming affected facilities under §60.100a shall comply with the requirements of paragraph (h) of this section and the requirements of §60.107a(a)(2) by November 11, 2015 or at startup of the modified flare, whichever is later. Modified flares that were affected facilities subject to subpart J of this part prior to becoming affected facilities under §60.100a shall comply with the requirements of paragraph (h) of this section and the requirements of §60.107a(a)(2) by November 13, 2012 or at startup of the modified flare, whichever is later, except that modified flares that have accepted applicability of subpart J under a federal consent decree shall comply with the subpart J requirements as specified in the consent decree, but shall comply with the requirements of paragraph (h) of this section and the requirements of §60.107a(a)(2) by no later than November 11, 2015.

(g) NA.

(h) Each owner or operator shall not burn in any affected flare any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.

(i) - (j) NA

§60.104a Performance tests.

(a) –(i) NA

(j) The owner or operator shall determine compliance with the applicable H_2S emissions limit in §60.102a(g)(1) for a fuel gas combustion device or the concentration requirement in §60.103a(h) for a flare according to the following test methods and procedures:

(1)—(3) [Reserved]

(4) EPA Method 11, 15 or 15A of appendix A-5 to part 60 or EPA Method 16 of appendix A-6 to part 60 for determining the H_2S concentration for affected facilities using an H_2S monitor as specified in §60.107a(a)(2). 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 part 60. The owner or operator may demonstrate compliance based on the mixture used in the fuel gas combustion device or flare or for each individual fuel gas stream used in the fuel gas combustion device or flare.

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(i) For Method 11 of appendix A-5 to part 60, the sampling time and sample volume must be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times must be taken at about 1-hour intervals. The arithmetic average of these two samples constitutes a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(ii) For Method 15 of appendix A-5 to part 60, at least three injects over a 1-hour period constitutes a run.

(iii) For Method 15A of appendix A-5 to part 60, a 1-hour sample constitutes a run. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A-5 to part 60.

(iv) If monitoring is conducted at a single point in a common source of fuel gas as allowed under §60.107a(a)(2)(iv), only one performance test is required. That is, performance tests are not required when a new affected fuel gas combustion device or flare is added to a common source of fuel gas that previously demonstrated compliance.

§60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

§60.106a Monitoring of emissions and operations for sulfur recovery plants.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) *Fuel gas combustion devices subject to* SO_2 or H_2S *limit and flares subject to* H_2S *concentration requirements.* The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the SO_2 emission limits in §60.102a(g)(1)(i) shall comply with the requirements in paragraph (a)(1) of this section. The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H_2S concentration requirement in §60.103a(h) shall comply with paragraph (a)(2) of this section.

(1)

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H_2S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H_2S in the fuel gases before being burned in any fuel gas combustion device or flare.

(i) The owner or operator shall install, operate and maintain each H_2S monitor according to Performance Specification 7 of appendix B to part 60. The span value for this instrument is 300 ppmv H_2S.

(ii) 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 part 60. The owner or operator shall use Method 11, 15, or 15A of appendix A-5 to part 60 or Method 16 of appendix A-6 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A-5 to part 60.

(iii) The owner or operator shall comply with the applicable quality assurance procedures in appendix F to part 60 for each H_2S monitor.

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(iv) Fuel gas combustion devices or flares having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned in the respective fuel gas combustion devices or flares.

(v) The owner or operator of a flare subject to §60.103a(c) through (e) may use the instrument required in paragraph (e)(1) of this section to demonstrate compliance with the H_2S concentration requirement in §60.103a(h) if the owner or operator complies with the requirements of paragraph (e)(1)(i) through (iv) and if the instrument has a span (or dual span, if necessary) capable of accurately measuring concentrations between 20 and 300 ppmv. If the instrument required in paragraph (e)(1) of this section is used to demonstrate compliance with the H_2S concentration requirement, the concentration directly measured by the instrument must meet the numeric concentration in §60.103a(h).

(vi) The owner or operator of modified flare that meets all three criteria in paragraphs (a)(2)(vi)(A) through (C) of this section shall comply with the requirements of paragraphs (a)(2)(i) through (v) of this section no later than November 11, 2015. The owner or operator shall comply with the approved alternative monitoring plan or plans pursuant to §60.13(i) until the flare is in compliance with requirements of paragraphs (a)(2)(i) through (v) of this section.

(A) The flare was an affected facility subject to subpart J of this part prior to becoming an affected facility under §60.100a.

(B) The owner or operator had an approved alternative monitoring plan or plans pursuant to §60.13(i) for all fuel gases combusted in the flare.

(C) The flare did not have in place on or before September 12, 2012 an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H_2S in the fuel gases that is capable of complying with the requirements of paragraphs (a)(2)(i) through (v) of this section.

(3)

(b) (d) NA

(e) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section. Different options may be elected for different gas lines. If a monitoring system is in place that is capable of complying with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section, the owner or operator of a modified flare must comply with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section upon startup of the modified flare. If a monitoring system is not in place that is capable of complying with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section, the owner or operator of a modified flare must comply with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section no later than November 11, 2015 or upon startup of the modified flare, whichever is later.

(1) – (3)

(4) *Exemptions from sulfur monitoring requirements.* Flares identified in paragraphs (e)(4)(i) through (iv) of this section are exempt from the requirements in paragraphs (e)(1) through (3) of this section. For each such flare, except as provided in paragraph (e)(4)(iv), engineering calculations shall be used to calculate the SO_2 emissions in the event of a discharge that may trigger a root cause analysis under §60.103a(c)(1).

(i) - (ii)

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(iii) Flares equipped with flare gas recovery systems designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction, provided that for each such flare, the owner or operator complies with the monitoring alternative in paragraph (g) of this section.

(iv) Secondary flares that receive gas diverted from the primary flare. In the event of a discharge from the secondary flare, the sulfur content measured by the sulfur monitor on the primary flare should be used to calculate SO_2 emissions, regardless of whether or not the monitoring alternative in paragraph (g) of this section is selected for the secondary flare.

(f) *Flow monitoring for flares.* Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare. If a flow monitor is not already in place, the owner or operator of a modified flare shall comply with the requirements of this paragraph by no later than November 11, 2015 or upon startup of the modified flare, whichever is later.

(1) 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.

(i) Locate the monitor in a position that provides a representative measurement of the total gas flow rate.

(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.

(iii) Use a flow monitor that is maintainable online, is able to continuously correct for temperature and pressure and is able to record flow in standard conditions (as defined in §60.2) over one-minute averages.

(iv) 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.

(v) 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.

(2) Emergency flares, secondary flares and flares equipped with flare gas recovery systems designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction are not required to install continuous flow monitors; provided, however, that for any such flare, the owner or operator shall comply with the monitoring alternative in paragraph (g) of this section.

(g) *Alternative monitoring for certain flares equipped with water seals.* The owner or operator of an affected flare subject to §60.103a(c) through (e) that can be classified as either an emergency flare, a secondary flare or a flare equipped with a flare gas recovery system designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction may, as an alternative to the sulfur and flow monitoring requirements of paragraphs (e) and (f) of this section, install, operate, calibrate and maintain, in accordance with the requirements in paragraphs (g)(1) through (7) of this section, a CPMS to measure and record the pressure in the flare gas header between the knock-out pot and water seal and to measure and record the water seal liquid level. If the required monitoring systems are not already in place, the owner or operator of a modified flare shall comply with the requirements of this paragraph by no later than November 11, 2015 or upon startup of the modified flare, whichever is later.

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(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure and locate the liquid seal level monitor in a position that provides a representative measurement of the water column height.

(2) Minimize or eliminate pulsating pressure, vibration and internal and external corrosion.

(3) Use a pressure sensor and level monitor with a minimum tolerance of 1.27 centimeters of water.

(4) Using a manometer, check pressure sensor calibration quarterly.

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

(6) In a cascaded flare system that employs multiple secondary flares, pressure and liquid level monitoring is required only on the first secondary flare in the system (*i.e.,* the secondary flare with the lowest pressure release set point).

(7) This alternative monitoring option may be elected only for flares with four or fewer pressure exceedances required to be reported under §60.108a(d)(5) ("reportable pressure exceedances") in any 365 consecutive calendar days. Following the fifth reportable pressure exceedance in a 365-day period, the owner or operator must comply with the sulfur and flow monitoring requirements of paragraphs (e) and (f) of this section as soon as practical, but no later than 180 days after the fifth reportable pressure exceedance in a 365-day period.

(h) *NA*

(i) *Excess emissions.* For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) and flares subject to the concentration requirement in §60.103a(h) are defined as specified in paragraphs (i)(1) through (5) of this section. Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages).

(1) *NA*

(2) H_2S concentration limits for flares. (i) Each rolling 3-hour period during which the average concentration of H_2S as measured by the H_2S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv.

(ii) If the owner or operator of a flare becomes subject to the requirements of daily stain tube sampling in paragraph (b)(3)(iii) of this section, each day during which the daily concentration of H_2S exceeds 162 ppmv.

(3) – *(5)*

§60.108a Recordkeeping and reporting requirements.

(a) Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.

(b) Each owner or operator subject to an emissions limitation in §60.102a shall notify the Administrator of the specific monitoring provisions of §§60.105a, 60.106a and 60.107a with which the owner or operator intends to comply. Each owner or operator of a co-fired process heater subject to an emissions limitation in §60.102a(g)(2)(iii) or (iv) shall submit to the Administrator documentation showing that the process heater

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meets the definition of a co-fired process heater in §60.101a. Notifications required by this paragraph shall be submitted with the notification of initial startup required by §60.7(a)(3).

(c) The owner or operator shall maintain the following records:

(1) A copy of the flare management plan.

(2) Records of information to document conformance with bag leak detection system operation and maintenance requirements in §60.105a(c).

(3) Records of bag leak detection system alarms and actions according to §60.105a(c).

(4) For each FCCU and fluid coking unit subject to the monitoring requirements in §60.105a(b)(1), records of the average coke burn-off rate and hours of operation.

(5) For each fuel gas stream to which one of the exemptions listed in §60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the owner or operator applies for the exemption described in §60.107a(a)(3)(iv), the owner or operator must keep a copy of the application as well as the letter from the Administrator granting approval of the application.

(6) Records of discharges greater than 500 lb SO_2 in any 24-hour period from any affected flare, discharges greater than 500 lb SO_2 in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant and discharges to an affected flare in excess of 500,000 scf above baseline in any 24-hour period as required by §60.103a(c). If the monitoring alternative provided in §60.107a(g) is selected, the owner or operator shall record any instance when the flare gas line pressure exceeds the water seal liquid depth, except for periods attributable to compressor staging that do not exceed the staging time specified in §60.103a(a)(3)(vii)(C). The following information shall be recorded no later than 45 days following the end of a discharge exceeding the thresholds:

(i) A description of the discharge.

(ii) The date and time the discharge was first identified and the duration of the discharge.

(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge duration exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

(iv) For each discharge greater than 500 lb SO_2 in any 24-hour period from a flare, the measured total sulfur concentration or both the measured H_2S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

(v) For each discharge greater than 500 lb SO_2 in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a fuel gas combustion device, either the measured concentration of H_2S in the fuel gas or the measured concentration of SO_2 in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

(vi) For each discharge greater than 500 lb SO_2 in excess of the allowable limits from a sulfur recovery plant, either the measured concentration of reduced sulfur or SO_2 discharged to the atmosphere.

(vii) For each discharge greater than 500 lb SO_2 in any 24-hour period from any affected flare or discharge greater than 500 lb SO_2 in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H_2S and SO_2 released into the atmosphere. For releases controlled

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by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO_2. For fuel gas combustion devices, assume 99-percent conversion of H_2S to SO_2.

(viii) The steps that the owner or operator took to limit the emissions during the discharge.

(ix) The root cause analysis and corrective action analysis conducted as required in §60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge 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 §60.103a(e).

(x) For any corrective action analysis for which corrective actions are required in §60.103a(e), 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.

(xi) For each discharge from any affected flare that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

(7) If the owner or operator elects to comply with §60.107a(e)(2) for a flare, records of the H_2S and total sulfur analyses of each grab or integrated sample, the calculated daily total sulfur-to-H_2S ratios, the calculated 10-day average total sulfur-to-H_2S ratios and the 95-percent confidence intervals for each 10-day average total sulfur-to-H_2S ratio.

(d) Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(4) A description of the action taken, if any.

(5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

[73 FR 35867, June 24, 2008, as amended at 77 FR 56479, Sep. 12, 2012]

Main Flare (F1)

§60.109a Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a state, local or tribal agency, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local or tribal agency.

(1) Approval of a major change to test methods under §60.8(b). A “major change to test method” is defined in 40 CFR 63.90.

(2) Approval of a major change to monitoring under §60.13(i). A “major change to monitoring” is defined in 40 CFR 63.90.

(3) Approval of a major change to recordkeeping/reporting under §60.7(b) through (f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

(4) Approval of an application for an alternative means of emission limitation under §60.103a(j) of this

NH3OX (00A-05) Thermal Oxidizer Controlling the Ammonia Destruction Unit
Attachment E: NSPS Ja Low Sulfur Exemption Applicable Requirements, Monitoring, Testing, Recordkeeping, and Reporting

Subpart Ja—Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

e-CFR data is current as of December 5, 2019

SOURCE: 73 FR 35867, June 24, 2008, unless otherwise noted.

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(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. For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008. For the purposes of this subpart, a modification to a flare commences when a project that includes any of the activities in paragraphs (c)(1) or (2) of this section is commenced. For delayed coking units, the provisions of this subpart apply to delayed coking units that commence construction, reconstruction or modification on the earliest of the following dates:

(1) –(3) NOT APPLICABLE

(c) For all affected facilities other than flares, the provisions in §60.14 regarding modification apply. As provided in §60.14(f), the special provisions set forth under this subpart shall supersede the provisions in §60.14 with respect to flares. For the purposes of this subpart, a modification to a flare occurs as provided in paragraphs (c)(1) or (2) of this section.

(1) Any new piping from a refinery process unit, including ancillary equipment, or a fuel gas system is physically connected to the flare (*e.g.,* for direct emergency relief or some form of continuous or intermittent venting). However, the connections described in paragraphs (c)(1)(i) through (vii) of this section are not considered modifications of a flare.

(i) Connections made to install monitoring systems to the flare.

(ii) Connections made to install a flare gas recovery system or connections made to upgrade or enhance components of a flare gas recovery system (*e.g.,* addition of compressors or recycle lines).

(iii) Connections made to replace or upgrade existing pressure relief or safety valves, provided the new pressure relief or safety valve has a set point opening pressure no lower and an internal diameter no greater than the existing equipment being replaced or upgraded.

(iv) Connections made for flare gas sulfur removal.

(v) Connections made to install back-up (redundant) equipment associated with the flare (such as a back-up compressor) that does not increase the capacity of the flare.

(vi) Replacing piping or moving an existing connection from a refinery process unit to a new location in the same flare, provided the new pipe diameter is less than or equal to the diameter of the pipe/connection being replaced/moved.

(vii) Connections that interconnect two or more flares.

(2) A flare is physically altered to increase the flow capacity of the flare.

(d) For purposes of this subpart, under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the relevant applicability date specified in paragraph (b) of this section.

[73 FR 35867, June 24, 2008, as amended at 77 FR 56464, Sep. 12, 2012; 80 FR 75230, Dec. 1, 2015]

§60.101a Definitions. [See Rule for Definitions]

§60.102a Emissions limitations.

(a) Each owner or operator that is subject to the requirements of this subpart shall comply with the emissions limitations in paragraphs (b) through (i) of this section on and after the date on which the initial performance test, required by §60.8, is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated or 180 days after initial startup, whichever comes first.

(b) to (f) NOT APPLIABLE

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

(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.

(i) NA; or

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H_2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H_2S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

(iii) The combustion in a portable generator of fuel gas released as a result of tank degassing and/or cleaning is exempt from the emissions limits in paragraphs (g)(1)(i) and (ii) of this section.

(2) NA

(h) [Reserved]

(i) NA

[73 FR 35867, June 24, 2008, as amended at 77 FR 56466, Sep. 12, 2012; 80 FR 75230, Dec. 1, 2015; 81 FR 45240, July 13, 2016]

§60.103a Design, equipment, work practice or operational standards.

§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. The notification requirements of §60.8(d) apply to the initial performance test and to subsequent performance tests required

by paragraph (b) of this section (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments.

(b) NA

(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR part 60, Appendices A-1 through A-8 or other methods as specified in this section, except as provided in §60.8(b).

(d) to (j) NA

[73 FR 35867, June 24, 2008, as amended at 77 FR 56470, Sep. 12, 2012; 80 FR 75231, Dec. 1, 2015]

§60.105a Monitoring of emissions and operations for fluid catalytic cracking units (FCCU) and fluid coking units (FCU).

§60.106a Monitoring of emissions and operations for sulfur recovery plants.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) *Fuel gas combustion devices subject to* SO_2 or H_2S *limit and flares subject to* H_2S *concentration requirements.* The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the SO_2 emission limits in §60.102a(g)(1)(i) shall comply with the requirements in paragraph (a)(1) of this section. The owner or operator of a fuel gas combustion device that is subject to §60.102a(g)(1) and elects to comply with the H_2S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H_2S concentration requirement in §60.103a(h) shall comply with paragraph (a)(2) of this section.

(1) to (2) NA

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content. Fuel gas streams meeting one of the requirements in paragraphs (a)(3)(i) through (iv) of this section will be considered inherently low in sulfur content.

(i) Pilot gas for heaters and flares.

(ii) Fuel gas streams that meet a commercial-grade product specification for sulfur content of 30 ppmv or less. In the case of a liquefied petroleum gas (LPG) product specification in the pressurized liquid state, the gas phase sulfur content should be evaluated assuming complete vaporization of the LPG and sulfur containing-compounds at the product specification concentration.

(iii) Fuel gas streams produced in process units that are intolerant to sulfur contamination, such as fuel gas streams produced in the hydrogen plant, catalytic reforming unit, isomerization unit, and HF alkylation process units.

(iv) Other fuel gas streams that an owner or operator demonstrates are low-sulfur according to the procedures in paragraph (b) of this section.

(4) If the composition of an exempt fuel gas stream changes, the owner or operator must follow the procedures in paragraph (b)(3) of this section.

(b) *Exemption from H_2S monitoring requirements for low-sulfur fuel gas streams.* The owner or operator of a fuel gas combustion device or flare may apply for an exemption from the H_2S monitoring requirements in

paragraph (a)(2) of this section for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream that is demonstrated to be low-sulfur is exempt from the monitoring requirements of paragraphs (a)(1) and (2) of this section until there are changes in operating conditions or stream composition.

(1) The owner or operator shall submit to the Administrator a written application for an exemption from monitoring. The application must contain the following information:

(i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system and the affected fuel gas combustion device(s) or flare(s) to be considered;

(ii) A statement that there are no crossover or entry points for sour gas (high H_2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);

(iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream (i.e., control equipment or product specifications) at all times;

(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 $1 \leq N \leq 10$, where N = number of pump strokes, to test the applicant fuel gas stream for H_2S; and

(v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H_2S concentration (fuel quality) expected for the fuel gas stream/system going to the affected fuel gas combustion device or flare (e.g., the 2 weeks of daily detector tube results for a frequently operated loading rack included the entire range of products loaded out and, therefore, should be representative of typical operating conditions affecting H_2S content in the fuel gas stream going to the loading rack flare).

(2) The effective date of the exemption is the date of submission of the information required in paragraph (b)(1) of this section.

(3) 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 (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.

(i) If the operation change results in a sulfur content that is still within the range of concentrations included in the original application, the owner or operator shall conduct an H_2S test on a grab sample and record the results as proof that the concentration is still within the range.

(ii) If the operation change results in a sulfur content that is outside the range of concentrations included in the original application, the owner or operator may submit new information following the procedures of paragraph (b)(1) of this section within 60 days (or within 30 days after the seventh grab sample is tested for infrequently operated process units).

(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 $1 \leq N \leq 5$, where N = number of pump strokes. The owner or operator must begin monitoring

according to the requirements in paragraphs (a)(1) or (a)(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. The owner or operator of a fuel gas combustion device must also determine a rolling 365-day average using the stain sampling results; an average H_2S concentration of 5 ppmv must be used for days within the rolling 365-day period prior to the operation change.

(c) to (h) NA

(i) *Excess emissions.* For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) and flares subject to the concentration requirement in §60.103a(h) are defined as specified in paragraphs (i)(1) through (5) of this section. Determine a rolling 3-hour or a rolling daily average as the arithmetic average of the applicable 1-hour averages (e.g., a rolling 3-hour average is the arithmetic average of three contiguous 1-hour averages). Determine a rolling 30-day or a rolling 365-day average as the arithmetic average of the applicable daily averages (e.g., a rolling 30-day average is the arithmetic average of 30 contiguous daily averages).

(1) *SO_2 or H_2S limits for fuel gas combustion devices.*

(i) NA

(ii) NA

(iii) If the owner or operator of a fuel gas combustion device becomes subject to the requirements of daily stain tube sampling in paragraph (b)(3)(iii) of this section, each day during which the daily concentration of H_2S exceeds 162 ppmv and each rolling 365-day period during which the average concentration of H_2S exceeds 60 ppmv.

(2) to (4) NA

[73 FR 35867, June 24, 2008, as amended at 77 FR 56473, Sep. 12, 2012; 80 FR 75235, Dec. 1, 2015]

§60.108a Recordkeeping and reporting requirements.

(a) Each owner or operator subject to the emissions limitations in §60.102a shall comply with the notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.

(b) Each owner or operator subject to an emissions limitation in §60.102a shall notify the Administrator of the specific monitoring provisions of §§60.105a, 60.106a and 60.107a with which the owner or operator intends to comply. Each owner or operator of a co-fired process heater subject to an emissions limitation in §60.102a(g)(2)(iii) or (iv) shall submit to the Administrator documentation showing that the process heater meets the definition of a co-fired process heater in §60.101a. Notifications required by this paragraph shall be submitted with the notification of initial startup required by §60.7(a)(3).

(c) The owner or operator shall maintain the following records:

(1) – (4) NA

(5) For each fuel gas stream to which one of the exemptions listed in §60.107a(a)(3) applies, records of the specific exemption determined to apply for each fuel stream. If the owner or operator applies for the exemption described in §60.107a(a)(3)(iv), the owner or operator must keep a copy of the application as well as the letter from the Administrator granting approval of the application.

(6) to (7) NA

(d) Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

(1) The date that the exceedance occurred;

(2) An explanation of the exceedance;

(3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and

(4) A description of the action taken, if any.

(5) NA

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

[73 FR 35867, June 24, 2008, as amended at 77 FR 56479, Sep. 12, 2012]

§60.109a Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a state, local or tribal agency, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the state, local or tribal agency.

(1) Approval of a major change to test methods under §60.8(b). A “major change to test method” is defined in 40 CFR 63.90.

(2) Approval of a major change to monitoring under §60.13(i). A “major change to monitoring” is defined in 40 CFR 63.90.

(3) Approval of a major change to recordkeeping/reporting under §60.7(b) through (f). A “major change to recordkeeping/reporting” is defined in 40 CFR 63.90.

(4) Approval of an application for an alternative means of emission limitation under §60.103a(j) of this subpart.

[73 FR 35867, June 24, 2008, as amended at 77 FR 56480, Sep. 12, 2012]

Subpart K—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978

Tanks 4036, 4037, 4038, 4039

e-CFR data is current as of December 6, 2019

§60.110 Applicability and designation of affected facility.

(a) Except as provided in §60.110(b), the affected facility to which this subpart applies is each storage vessel for petroleum liquids which has a storage capacity greater than 151,412 liters (40,000 gallons).

(b) N/A

(c) Subject to the requirements of this subpart is any facility under paragraph (a) of this section which:

(1) Has a capacity greater than 151, 416 liters (40,000 gallons), but not exceeding 246,052 liters (65,000 gallons), and commences construction or modification after March 8, 1974, and prior to May 19, 1978.

(2) Has a capacity greater than 246,052 liters (65,000 gallons) and commences construction or modification after June 11, 1973, and prior to May 19, 1978.

§60.111 Definitions. [see rule for definitions]

§60.112 Standard for volatile organic compounds (VOC).

(a) The owner or operator of any storage vessel to which this subpart applies shall store petroleum liquids as follows:

(1) N/A

(2) N/A

§60.113 Monitoring of operations.

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each affected facility which stores petroleum liquids with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) Each owner or operator of each affected facility equipped with a vapor recovery and return or disposal system in accordance with the requirements of §60.112.

Subpart Ka—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

Tanks 4035, 4040, 4042, 4043, 4044, 4045, 4046

§60.110a Applicability and designation of affected facility.

(a) *Affected facility.* Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a storage capacity greater than 151,416 liters (40,000 gallons) that is used to store petroleum liquids for which construction is commenced after May 18, 1978.

(b) N/A

(c) *N/A*

§60.111a Definitions. [see rule for definitions]

§60.112a Standard for volatile organic compounds (VOC).

(a) N/A

(b) N/A

§60.113a Testing and procedures.

(a) N/A

§60.114a Alternative means of emission limitation. N/A

§60.115a Monitoring of operations.

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) N/A

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

4034, 4047, 4048, 4051, 4054, 4055, 4056, 4057, 4072 – Fixed Roof Storage Tanks

e-CFR data is current as of December 6, 2019

§60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c)- (e) N/A

§60.111b Definitions. [see rule for definitions]

§60.112b Standard for volatile organic compounds (VOC). N/A

§60.113b Testing and procedures. N/A

§60.114b Alternative means of emission limitation. N/A

§60.115b Reporting and recordkeeping requirements.N/A

§60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels

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operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) N/A

§60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

4000, 4071 – External Floating Roof Tanks

E-CFR DATA IS CURRENT AS OF DECEMBER 6, 2019

§60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) - (e) *N/A*

§60.111b Definitions. [see rule for definitions]

§60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) N/A

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

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refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) – (4) N/A

(b) - (c) N/A

§60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) N/A

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

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(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, 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, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) – (d) N/A

§60.114b Alternative means of emission limitation. N/A

§60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

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records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) N/A

(b) After installing control equipment in accordance with §61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) – (d) N/A

§60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less

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than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) N/A

§60.117b Delegation of authority.

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

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(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

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E-CFR DATA IS CURRENT AS OF DECEMBER 6, 2019

§60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

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(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

§60.111b Definitions.

§60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

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(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) – (4) N/A

(b) – (c) N/A

§60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, 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 the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall

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inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) – (d) N/A

§60.114b Alternative means of emission limitation. N/A

§60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) – (d) N/A

§60.116b Monitoring of operations.

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

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(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

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(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) N/A

§60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

Gasoline Truck Loading

e-CFR data is current as of December 6, 2019

§60.500 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.

(b) Each facility under paragraph (a) of this section, the construction or modification of which is commenced after December 17, 1980, is subject to the provisions of this subpart.

(c) For purposes of this subpart, any replacement of components of an existing facility, described in paragraph (a) of this section, commenced before August 18, 1983 in order to comply with any emission standard adopted by a State or political subdivision thereof will not be considered a reconstruction under the provisions of 40 CFR 60.15.

NOTE: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technologies (BDT). The numerical emission limits in this standard are expressed in terms of total organic compounds. This emission limit reflects the performance of BDT.

§60.501 Definitions.[see rule for definitions]

§60.502 Standard for Volatile Organic Compound (VOC) emissions from bulk gasoline terminals.

On and after the date on which §60.8(a) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this section.

(a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.

(b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in paragraph (c) of this section.

(c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.

(d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.

(e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

(1) The owner or operator shall obtain the vapor tightness documentation described in §60.505(b) for each gasoline tank truck which is to be loaded at the affected facility.

(2) The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.

(3)(i) The owner or operator shall cross-check each tank identification number obtained in paragraph (e)(2) of this section with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either of the following conditions is maintained:

(A) If less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed each quarter; or

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(B) If less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed semiannually.

(ii) If either the quarterly or semiannual cross-check provided in paragraphs (e)(3)(i) (A) through (B) of this section reveals that these conditions were not maintained, the source must return to biweekly monitoring until such time as these conditions are again met.

(4) The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the documentation cross-check in paragraph (e)(3) of this section.

(5) The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.

(6) Alternate procedures to those described in paragraphs (e)(1) through (5) of this section for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Administrator.

(f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

(g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.

(h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d).

(i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).

(j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

§60.503 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). The three-run requirement of §60.8(f) does not apply to this subpart.

(b) Immediately before the performance test required to determine compliance with §60.502 (b), (c), and (h), the owner or operator shall use Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner or operator shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test.

(c) The owner or operator shall determine compliance with the standards in §60.502 (b) and (c) as follows:

(1) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the

test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

(2) If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.

(3) The emission rate (E) of total organic compounds shall be computed using the following equation:

$$E = K\sum_{i=1}^{n}\left(V_{esi}C_{ei}\right) / \left(L\,10^{6}\right)$$

where:

E = emission rate of total organic compounds, mg/liter of gasoline loaded.

V_{esi} = volume of air-vapor mixture exhausted at each interval “i”, scm.

C_{ei} = concentration of total organic compounds at each interval “i”, ppm.

L = total volume of gasoline loaded, liters.

n = number of testing intervals.

i = emission testing interval of 5 minutes.

K = density of calibration gas, 1.83×10^6 for propane and 2.41×10^6 for butane, mg/scm.

(4) The performance test shall be conducted in intervals of 5 minutes. For each interval “i”, readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.

(5) The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:

(i) Method 2B shall be used for combustion vapor processing systems.

(ii) Method 2A shall be used for all other vapor processing systems.

(6) Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The owner or operator may exclude the methane and ethane content in the exhaust vent by any method (e.g., Method 18) approved by the Administrator.

(7) To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.

(d) The owner or operator shall determine compliance with the standard in §60.502(h) as follows:

(1) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.

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(2) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

(e) The performance test requirements of paragraph (c) of this section do not apply to flares defined in §60.501 and meeting the requirements in §60.18(b) through (f). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §§60.18(b) through (f) and 60.503(a), (b), and (d).

(f) The owner or operator shall use alternative test methods and procedures in accordance with the alternative test method provisions in §60.8(b) for flares that do not meet the requirements in §60.18(b).

§60.504 [Reserved]

§60.505 Reporting and recordkeeping.

(a) The tank truck vapor tightness documentation required under §60.502(e)(1) shall be kept on file at the terminal in a permanent form available for inspection.

(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:

(1) Test title: Gasoline Delivery Tank Pressure Test—EPA Reference Method 27.

(2) Tank owner and address.

(3) Tank identification number.

(4) Testing location.

(5) Date of test.

(6) Tester name and signature.

(7) Witnessing inspector, if any: Name, signature, and affiliation.

(8) Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs).

(c) A record of each monthly leak inspection required under §60.502(j) shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:

(1) Date of inspection.

(2) Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).

(3) Leak determination method.

(4) Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days).

(5) Inspector name and signature.

(d) The terminal owner or operator shall keep documentation of all notifications required under §60.502(e)(4) on file at the terminal for at least 2 years.

(e) As an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in paragraphs (a), (c), and (d) of this section, an owner or operator may comply with the requirements in either paragraph (e)(1) or (2) of this section.

(1) An electronic copy of each record is instantly available at the terminal.

Gasoline Truck Loading

(i) The copy of each record in paragraph (e)(1) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(1) of this section.

(2) For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (*e.g.,* via a card lock-out system), a copy of the documentation is made available (*e.g.,* via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame.

(i) The copy of each record in paragraph (e)(2) of this section is an exact duplicate image of the original paper record with certifying signatures.

(ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance with paragraph (e)(2) of this section.

(f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.

§60.506 Reconstruction.

For purposes of this subpart:

(a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable entirely new facility” under §60.15: pump seals, loading arm gaskets and swivels, coupler gaskets, overfill sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.

(b) Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in §60.506(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following December 17, 1980. For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

e-CFR data is current as of February 6, 2020

§60.480a Applicability and designation of affected facility.

§60.481a Definitions. [see rule for definitions]

§60.482-1a Standards: General. (except as noted in NSPS GGGa)

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482-1a through 60.482-10a or §60.480a(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482-1a to 60.482-10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485a.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482-2a, 60.482-3a, 60.482-5a, 60.482-6a, 60.482-7a, 60.482-8a, and 60.482-10a as provided in §60.484a.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §60.482-2a, §60.482-3a, §60.482-5a, §60.482-6a, §60.482-7a, §60.482-8a, or §60.482-10a, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482-2a through 60.482-10a if it is identified as required in §60.486a(e)(5).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of §§60.482-2a through 60.482-11a if it is identified as required in §60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

(2) The equipment is in VOC service only during process malfunctions or other emergencies.

(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

(f)(1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in §§60.482-2a, 60.482-7a, and 60.483.2a:

	Equivalent monitoring frequency time in use		
Operating time (percent of hours during year)	**Monthly**	**Quarterly**	**Semiannually**
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three quarters	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (*i.e.*, once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to this subpart, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to this subpart of this part, the storage vessel is assigned to any process unit subject to subpart VV of this part. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.

EFFECTIVE DATE NOTE: At 73 FR 31376, June 2, 2008, in §60.482-1a, paragraph (g) was stayed until further notice.

§60.482-2a Standards: Pumps in light liquid service. (except as noted in NSPS GGGa)

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485a(b), except as provided in §60.482-1a(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in §60.482-1a(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in §60.482-1a(f).

(b)(1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers;

(ii) 2,000 ppm or greater for all other pumps.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable.

(i) Monitor the pump within 5 days as specified in §60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of this section.

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in paragraph (c) of this section or by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10a; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4)(i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section prior to the next required inspection.

(A) Monitor the pump within 5 days as specified in §60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6)(i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing;

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485a(c); and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482-10a, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

§60.482-3a Standards: Compressors. (except as noted in NSPS GGGa)

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482-1a(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10a; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482-10a, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485a(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

§60.482-4a Standards: Pressure relief devices in gas/vapor service. (except as noted in NSPS GGGa)

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485a(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482-9a.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482-10a is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482-9a.

§60.482-5a Standards: Sampling connection systems. (except as noted in NSPS GGGa)

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482-1a(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482-10a.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(A) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 CFR 61.343 through 40 CFR 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§60.482-6a Standards: Open-ended valves or lines. (except as noted in NSPS GGGa)

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482-1a(c) and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§60.482-7a Standards: Valves in gas/vapor service and in light liquid service. (except as noted in NSPS GGGa)

(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, §60.482-1a(c) and (f), and §§60.483-1a and 60.483-2a.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, §60.482-1a(c), and §§60.483-1a and 60.483-2a.

(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(ii) If the existing valves in the process unit are monitored in accordance with §60.483-1a or §60.483-2a, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483-2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored

for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(c)(1)(i) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485a(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section, and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either:

(i) Becomes an affected facility through §60.14 or §60.15 and was constructed on or before January 5, 1981; or

(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§60.482-8a Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service. (except as noted in NSPS GGGa)

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §§60.482-2a(c)(2) and 60.482-7a(e).

§60.482-9a Standards: Delay of repair. (except as noted in NSPS GGGa)

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves and connectors will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482-10a.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

§60.482-10a Standards: Closed vent systems and control devices. (except as noted in NSPS GGGa)

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485a(b); and

(ii) Conduct annual inspections according to the procedures in §60.485a(b).

(g) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486a(c).

(4) For each inspection conducted in accordance with §60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

Subpart VVa—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

§60.482-11a Standards: Connectors in gas/vapor service and in light liquid service. (except as noted in NSPS GGGa)

(a) The owner or operator shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) Except as allowed in §60.482-1a(c), §60.482-10a, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in §60.485a(b) and, as applicable, §60.485a(c).

(2) If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.

(3) The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of leaking connectors within the total monitored connectors.

(C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using the following equation:

$\%C_L = C_L / C_t * 100$

Where:

$\%C_L$ = Percent of leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (iii) of this section.

C_L = Number of connectors measured at 500 ppm or greater, by the method specified in §60.485a(b).

C_t = Total number of monitored connectors in the process unit or affected facility.

(d) When a leak is detected pursuant to paragraphs (a) and (b) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.

(e) Any connector that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section if:

(1) The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) and (b) of this section; and

(2) The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.

(f) *Inaccessible, ceramic, or ceramic-lined connectors.* (1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of §§63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

(g) Except for instrumentation systems and inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of paragraph (f) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated.

§60.483-1a Alternative standards for valves—allowable percentage of valves leaking. (except as noted in NSPS GGGa)

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487a(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with §60.482-7a(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485a(b).

(2) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in §60.485a(h).

§60.483-2a Alternative standards for valves—skip period leak detection and repair. (except as noted in NSPS GGGa)

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d)a.

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482-7a.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482-7a but can again elect to use this section.

(5) The percent of valves leaking shall be determined as described in §60.485a(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with §60.482-7a(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

§60.484a Equivalence of means of emission limitation. (except as noted in NSPS GGGa)

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in the FEDERAL REGISTER and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the FEDERAL REGISTER.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the CAA.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

§60.485a Test methods and procedures. (except as noted in NSPS GGGa)

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482-1a through 60.482-11a, 60.483a, and 60.484a as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21 of appendix A-7 of this part. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a

calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in §60.486a(e)(7). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

(c) The owner or operator shall determine compliance with the no-detectable-emission standards in §§60.482-2a(e), 60.482-3a(i), 60.482-4a, 60.482-7a(f), and 60.482-10a(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 of appendix A-7 of this part shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 of appendix A-7 of this part shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$V_{max} = K_1 + K_2 H_T$

Where:

V_{max} = Maximum permitted velocity, m/sec (ft/sec).

H_T = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1 = 8.706 m/sec (metric units) = 28.56 ft/sec (English units).

K_2 = 0.7084 m^4/(MJ-sec) (metric units) = 0.087 ft^4/(Btu-sec) (English units).

(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740×10^{-7} (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674×10^{-6} [(g-mole)(Btu)/(ppm-scf-kcal)] (English units).

C_i = Concentration of sample component "i," ppm

H_i = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole.

(5) Method 18 of appendix A-6 of this part or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 ppmv) and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference-see §60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference-see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D of appendix A-7 of this part, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with §60.483-1a or §60.483-2a as follows:

(1) The percent of valves leaking shall be determined using the following equation:

$\%V_L = (V_L / V_T) * 100$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking.

V_T = The sum of the total number of valves monitored.

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with §60.482-7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.

§60.486a Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) The owner or operator shall record the information specified in paragraphs (a)(3)(i) through (v) of this section for each monitoring event required by §§60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a.

(i) Monitoring instrument identification.

(ii) Operator identification.

(iii) Equipment identification.

(iv) Date of monitoring.

(v) Instrument reading.

(b) When each leak is detected as specified in §§60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482-7a(c) and no leak has been detected during those 2 months.

(3) The identification on a connector may be removed after it has been monitored as specified in §60.482-11a(b)(3)(iv) and no leak has been detected during that monitoring.

(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) Maximum instrument reading measured by Method 21 of appendix A-7 of this part at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482-10a shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §60.482-10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a.

(e) The following information pertaining to all equipment subject to the requirements in §§60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482-2a(e), 60.482-3a(i), and 60.482-7a(f).

(ii) The designation of equipment as subject to the requirements of §60.482-2a(e), §60.482-3a(i), or §60.482-7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4a.

(4)(i) The dates of each compliance test as required in §§60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with §60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A-7 of this part and §60.485a(b).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A-7 of this part.

(v) Results of each calibration drift assessment required by §60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).

(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.

(9) The connector monitoring schedule for each process unit as specified in §60.482-11a(b)(3)(v).

(10) Records of each release from a pressure relief device subject to §60.482-4a.

(f) The following information pertaining to all valves subject to the requirements of §60.482-7a(g) and (h), all pumps subject to the requirements of §60.482-2a(g), and all connectors subject to the requirements of §60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483-2a:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§60.482-2a(d)(5) and 60.482-3a(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480a(d):

(1) An analysis demonstrating the design capacity of the affected facility,

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of §60.7(b) and (d) do not apply to affected facilities subject to this subpart.

§60.487a Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of §60.482-7a, excluding those valves designated for no detectable emissions under the provisions of §60.482-7a(f).

(3) Number of pumps subject to the requirements of §60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of §60.482-2a(e) and those pumps complying with §60.482-2a(f).

(4) Number of compressors subject to the requirements of §60.482-3a, excluding those compressors designated for no detectable emissions under the provisions of §60.482-3a(i) and those compressors complying with §60.482-3a(h).

(5) Number of connectors subject to the requirements of §60.482-11a.

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486a:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in §60.482-7a(b) or §60.483-2a,

(ii) Number of valves for which leaks were not repaired as required in §60.482-7a(d)(1),

(iii) Number of pumps for which leaks were detected as described in §60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in §60.482-2a(c)(1) and (d)(6),

(v) Number of compressors for which leaks were detected as described in §60.482-3a(f),

(vi) Number of compressors for which leaks were not repaired as required in §60.482-3a(g)(1),

(vii) Number of connectors for which leaks were detected as described in §60.482-11a(b)

(viii) Number of connectors for which leaks were not repaired as required in §60.482-11a(d), and

(ix)-(x) [Reserved]

(xi) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§60.483-1a or 60.483-2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the state.

§60.488a Reconstruction. For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under §60.15: Pump seals, nuts and bolts, rupture disks, and packings.

(b) Under §60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in §60.488a(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§60.489a List of chemicals produced by affected facilities. N/A

Subpart QQQ—Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems

e-CFR data is current as of December 6, 2019

SOURCE: 53 FR 47623, Nov. 23, 1988, unless otherwise noted.

§60.690 Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987.

(2) An individual drain system is a separate affected facility.

(3) An oil-water separator is a separate affected facility.

(4) An aggregate facility is a separate affected facility.

(b) Notwithstanding the provisions of 40 CFR 60.14(e)(2), the construction or installation of a new individual drain system shall constitute a modification to an affected facility described in §60.690(a)(4). For purposes of this paragraph, a new individual drain system shall be limited to all process drains and the first common junction box.

§60.691 Definitions. [see rule text for definitions]

§60.692-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.692-1 to 60.692-5 and with §§60.693-1 and 60.693-2, except during periods of startup, shutdown, or malfunction.

(b) Compliance with §§60.692-1 to 60.692-5 and with §§60.693-1 and 60.693-2 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.696.

(c) Permission to use alternative means of emission limitation to meet the requirements of §§60.692-2 through 60.692-4 may be granted as provided in §60.694.

(d)(1) Stormwater sewer systems are not subject to the requirements of this subpart.

(2) Ancillary equipment, which is physically separate from the wastewater system and does not come in contact with or store oily wastewater, is not subject to the requirements of this subpart.

(3) Non-contact cooling water systems are not subject to the requirements of this subpart.

(4) An owner or operator shall demonstrate compliance with the exclusions in paragraphs (d)(1), (2), and (3) of this section as provided in §60.697 (h), (i), and (j).

§60.692-2 Standards: Individual drain systems.

(a)(1) Each drain shall be equipped with water seal controls.

(2) Each drain in active service shall be checked by visual or physical inspection initially and monthly thereafter for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls.

(3) Except as provided in paragraph (a)(4) of this section, each drain out of active service shall be checked by visual or physical inspection initially and weekly thereafter for indications of low water levels or other problems that could result in VOC emissions.

(4) As an alternative to the requirements in paragraph (a)(3) of this section, if an owner or operator elects to install a tightly sealed cap or plug over a drain that is out of service, inspections shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed.

(5) Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except as provided in §60.692-6.

(b)(1) Junction boxes shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

(2) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.

(3) Junction boxes shall be visually inspected initially and semiannually thereafter to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge.

(4) If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except as provided in §60.692-6.

(c)(1) Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(2) The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions.

(3) Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in §60.692-6.

(d) Except as provided in paragraph (e) of this section, each modified or reconstructed individual drain system that has a catch basin in the existing configuration prior to May 4, 1987 shall be exempt from the provisions of this section.

(e) Refinery wastewater routed through new process drains and a new first common downstream junction box, either as part of a new individual drain system or an existing individual drain system, shall not be routed through a downstream catch basin.

§60.692-3 Standards: Oil-water separators.

(a) Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart shall be equipped and operated with a fixed roof, which meets the following specifications, except as provided in paragraph (d) of this section or in §60.693-2.

(1) The fixed roof shall be installed to completely cover the separator tank, slop oil tank, storage vessel, or other auxiliary equipment with no separation between the roof and the wall.

(2) The vapor space under a fixed roof shall not be purged unless the vapor is directed to a control device.

(3) If the roof has access doors or openings, such doors or openings shall be gasketed, latched, and kept closed at all times during operation of the separator system, except during inspection and maintenance.

(4) Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps occur between the roof and wall and that access doors and other openings are closed and gasketed properly.

(5) When a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after it is identified, except as provided in §60.692-6.

(b) Each oil-water separator tank or auxiliary equipment with a design capacity to treat more than 16 liters per second (250 gallons per minute (gpm)) of refinery wastewater shall, in addition to the requirements in paragraph (a) of this section, be equipped and operated with a closed vent system and control device, which meet the requirements of §60.692-5, except as provided in paragraph (c) of this section or in §60.693-2.

(c)(1) Each modified or reconstructed oil-water separator tank with a maximum design capacity to treat less than 38 liters per second (600 gpm) of refinery wastewater which was equipped and operated with a fixed roof covering the entire separator tank or a portion of the separator tank prior to May 4, 1987 shall be exempt from the requirements of paragraph (b) of this section, but shall meet the requirements of paragraph (a) of this section, or may elect to comply with paragraph (c)(2) of this section.

(2) The owner or operator may elect to comply with the requirements of paragraph (a) of this section for the existing fixed roof covering a portion of the separator tank and comply with the requirements for floating roofs in §60.693-2 for the remainder of the separator tank.

(d) Storage vessels, including slop oil tanks and other auxiliary tanks that are subject to the standards in §§60.112, 60.112a, and 60.112b and associated requirements, 40 CFR part 60, subparts K, Ka, or Kb are not subject to the requirements of this section.

(e) Slop oil from an oil-water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system. Once slop oil is returned to the process unit or is disposed of, it is no longer within the scope of this subpart. Equipment used in handling slop oil shall be equipped with a fixed roof meeting the requirements of paragraph (a) of this section.

(f) Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment that is required to comply with paragraph (a) of this section, and not paragraph (b) of this section, may be equipped with a pressure control valve as necessary for proper system operation. The pressure control valve shall be set at the maximum pressure necessary for proper system operation, but such that the value will not vent continuously.

[53 FR 47623, Nov. 23, 1985, as amended at 60 FR 43259, Aug. 18, 1995; 65 FR 61778, Oct. 17, 2000]

§60.692-4 Standards: Aggregate facility.

A new, modified, or reconstructed aggregate facility shall comply with the requirements of §§60.692-2 and 60.692-3.

§60.692-5 Standards: Closed vent systems and control devices.

(a) NOT APPLICABLE

(b) Vapor recovery systems (for example, condensers and adsorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.

(c) NOT APPLICABLE

(d) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(e)(1) Closed vent systems shall be designed and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined during the initial and semiannual inspections by the methods specified in §60.696.

(2) Closed vent systems shall be purged to direct vapor to the control device.

(3) A flow indicator shall be installed on a vent stream to a control device to ensure that the vapors are being routed to the device.

(4) All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(5) When emissions from a closed system are detected, first efforts at repair to eliminate the emissions shall be made as soon as practicable, but not later than 30 calendar days from the date the emissions are detected, except as provided in §60.692-6.

§60.692-6 Standards: Delay of repair.

(a) Delay of repair of facilities that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown.

(b) Repair of such equipment shall occur before the end of the next refinery or process unit shutdown.

§60.692-7 Standards: Delay of compliance.

(a) Delay of compliance of modified individual drain systems with ancillary downstream treatment components will be allowed if compliance with the provisions of this subpart cannot be achieved without a refinery or process unit shutdown.

(b) Installation of equipment necessary to comply with the provisions of this subpart shall occur no later than the next scheduled refinery or process unit shutdown.

§60.693-1 Alternative standards for individual drain systems.

(a) An owner or operator may elect to construct and operate a completely closed drain system.

(b) Each completely closed drain system shall be equipped and operated with a closed vent system and control device complying with the requirements of §60.692-5.

(c) An owner or operator must notify the Administrator in the report required in 40 CFR 60.7 that the owner or operator has elected to construct and operate a completely closed drain system.

(d) If an owner or operator elects to comply with the provisions of this section, then the owner or operator does not need to comply with the provisions of §60.692-2 or §60.694.

(e)(1) Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(2) The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions.

(3) Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in §60.692-6.

§60.693-2 Alternative standards for oil-water separators.

(a) An owner or operator may elect to construct and operate a floating roof on an oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of this subpart which meets the following specifications.

(1) Each floating roof shall be equipped with a closure device between the wall of the separator and the roof edge. The closure device is to consist of a primary seal and a secondary seal.

(i) The primary seal shall be a liquid-mounted seal or a mechanical shoe seal.

(A) A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the separator and the floating roof. A mechanical shoe seal means a metal sheet held vertically against the wall of the separator by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(B) The gap width between the primary seal and the separator wall shall not exceed 3.8 cm (1.5 in.) at any point.

(C) The total gap area between the primary seal and the separator wall shall not exceed 67 cm^2/m (3.2 $in.^2/ft$) of separator wall perimeter.

(ii) The secondary seal shall be above the primary seal and cover the annular space between the floating roof and the wall of the separator.

(A) The gap width between the secondary seal and the separator wall shall not exceed 1.3 cm (0.5 in.) at any point.

(B) The total gap area between the secondary seal and the separator wall shall not exceed 6.7 cm^2/m (0.32 $in.^2/ft$) of separator wall perimeter.

(iii) The maximum gap width and total gap area shall be determined by the methods and procedures specified in §60.696(d).

(A) Measurement of primary seal gaps shall be performed within 60 calendar days after initial installation of the floating roof and introduction of refinery wastewater and once every 5 years thereafter.

(B) Measurement of secondary seal gaps shall be performed within 60 calendar days of initial introduction of refinery wastewater and once every year thereafter.

(iv) The owner or operator shall make necessary repairs within 30 calendar days of identification of seals not meeting the requirements listed in paragraphs (a)(1) (i) and (ii) of this section.

(2) Except as provided in paragraph (a)(4) of this section, each opening in the roof shall be equipped with a gasketed cover, seal, or lid, which shall be maintained in a closed position at all times, except during inspection and maintenance.

(3) The roof shall be floating on the liquid (i.e., off the roof supports) at all times except during abnormal conditions (i.e., low flow rate).

(4) The floating roof may be equipped with one or more emergency roof drains for removal of stormwater. Each emergency roof drain shall be fitted with a slotted membrane fabric cover that covers at least 90 percent of the drain opening area or a flexible fabric sleeve seal.

(5)(i) Access doors and other openings shall be visually inspected initially and semiannually thereafter to ensure that there is a tight fit around the edges and to identify other problems that could result in VOC emissions.

(ii) When a broken seal or gasket on an access door or other opening is identified, it shall be repaired as soon as practicable, but not later than 30 calendar days after it is identified, except as provided in §60.692-6.

(b) An owner or operator must notify the Administrator in the report required by 40 CFR 60.7 that the owner or operator has elected to construct and operate a floating roof under paragraph (a) of this section.

(c) For portions of the oil-water separator tank where it is infeasible to construct and operate a floating roof, such as the skimmer mechanism and weirs, a fixed roof meeting the requirements of §60.692-3(a) shall be installed.

(d) Except as provided in paragraph (c) of this section, if an owner or operator elects to comply with the provisions of this section, then the owner or operator does not need to comply with the provisions of §60.692-3 or §60.694 applicable to the same facilities.

[53 FR 47623, Nov. 23, 1985, as amended at 60 FR 43259, Aug. 18, 1995]

§60.694 Permission to use alternative means of emission limitation. Not Applicable

§60.695 Monitoring of operations.

(a) Each owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator.

(1) NOT APPLICABLE

(2) NOT APPLICABLE

(3) Where a carbon adsorber is used for VOC emissions reduction, a monitoring device that continuously indicates and records the VOC concentration level or reading of organics in the exhaust gases of the control device outlet gas stream or inlet and outlet gas stream shall be used.

(i) NOT APPLICABLE.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device (e.g., a carbon canister), the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated.

The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

(4) NOT APPLICABLE

(b) NOT APPLICABLE

(c) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

[53 FR 47623, Nov. 23, 1985, as amended at 60 FR 43259, Aug. 18, 1995; 65 FR 61778, Oct. 17, 2000]

§60.696 Performance test methods and procedures and compliance provisions.

(a) Before using any equipment installed in compliance with the requirements of §60.692-2, §60.692-3, §60.692-4, §60.692-5, or §60.693, the owner or operator shall inspect such equipment for indications of potential emissions, defects, or other problems that may cause the requirements of this subpart not to be met. Points of inspection shall include, but are not limited to, seals, flanges, joints, gaskets, hatches, caps, and plugs.

(b) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.692-5 (other than a flare) is exempt from §60.8 of the General Provisions and shall use Method 21 to measure the emission concentrations, using 500 ppm as the no detectable emission limit. The instrument shall be calibrated each day before using. The calibration gases shall be:

(1) Zero air (less than 10 ppm of hydrocarbon in air), and

(2) A mixture of either methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall conduct a performance test initially, and at other times as requested by the Administrator, using the test methods and procedures in §60.18(f) to determine compliance of flares.

(d) After installing the control equipment required to meet §60.693-2(a) or whenever sources that have ceased to treat refinery wastewater for a period of 1 year or more are placed back into service, the owner or operator shall determine compliance with the standards in §60.693-2(a) as follows:

(1) The maximum gap widths and maximum gap areas between the primary seal and the separator wall and between the secondary seal and the separator wall shall be determined individually within 60 calendar days of the initial installation of the floating roof and introduction of refinery wastewater or 60 calendar days after the equipment is placed back into service using the following procedure when the separator is filled to the design operating level and when the roof is floating off the roof supports.

(i) Measure seal gaps around the entire perimeter of the separator in each place where a 0.32 cm (0.125 in.) diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the separator and measure the gap width and perimetrical distance of each such location.

(ii) The total surface area of each gap described in (d)(1)(i) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the wall to the seal and multiplying each such width by its respective perimetrical distance.

(iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually, divide the sum for each seal by the nominal perimeter of the separator basin and compare each to the maximum gap area as specified in §60.693-2.

(2) The gap widths and total gap area shall be determined using the procedure in paragraph (d)(1) of this section according to the following frequency:

(i) For primary seals, once every 5 years.

(ii) For secondary seals, once every year.

§60.697 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. All records shall be retained for a period of 2 years after being recorded unless otherwise noted.

(b)(1) For individual drain systems subject to §60.692-2, the location, date, and corrective action shall be recorded for each drain when the water seal is dry or otherwise breached, when a drain cap or plug is missing or improperly installed, or other problem is identified that could result in VOC emissions, as determined during the initial and periodic visual or physical inspection.

(2) For junction boxes subject to §60.692-2, the location, date, and corrective action shall be recorded for inspections required by §60.692-2(b) when a broken seal, gap, or other problem is identified that could result in VOC emissions.

(3) For sewer lines subject to §§60.692-2 and 60.693-1(e), the location, date, and corrective action shall be recorded for inspections required by §§60.692-2(c) and 60.693-1(e) when a problem is identified that could result in VOC emissions.

(c) For oil-water separators subject to §60.692-3, the location, date, and corrective action shall be recorded for inspections required by §60.692-3(a) when a problem is identified that could result in VOC emissions.

(d) For closed vent systems subject to §60.692-5 and completely closed drain systems subject to §60.693-1, the location, date, and corrective action shall be recorded for inspections required by §60.692-5(e) during which detectable emissions are measured or a problem is identified that could result in VOC emissions.

(e)(1) If an emission point cannot be repaired or corrected without a process unit shutdown, the expected date of a successful repair shall be recorded.

(2) The reason for the delay as specified in §60.692-6 shall be recorded if an emission point or equipment problem is not repaired or corrected in the specified amount of time.

(3) The signature of the owner or operator (or designee) whose decision it was that repair could not be effected without refinery or process shutdown shall be recorded.

(4) The date of successful repair or corrective action shall be recorded.

(f)(1) A copy of the design specifications for all equipment used to comply with the provisions of this subpart shall be kept for the life of the source in a readily accessible location.

(2) The following information pertaining to the design specifications shall be kept.

(i) Detailed schematics, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(3) The following information pertaining to the operation and maintenance of closed drain systems and closed vent systems shall be kept in a readily accessible location.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions shall be kept for the life of the facility. This documentation is to include a general description of the gas streams that enter the control device, including flow and volatile organic compound content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C (1,500 °F) is used to meet the 95-percent requirement, documentation that those conditions exist is sufficient to meet the requirements of this paragraph.

(ii) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iii) Periods when the closed vent systems and control devices required in §60.692 are not operated as designed, including periods when a flare pilot does not have a flame shall be recorded and kept for 2 years after the information is recorded.

(iv) Dates of startup and shutdown of the closed vent system and control devices required in §60.692 shall be recorded and kept for 2 years after the information is recorded.

(v) The dates of each measurement of detectable emissions required in §60.692, §60.693, or §60.692-5 shall be recorded and kept for 2 years after the information is recorded.

(vi) The background level measured during each detectable emissions measurement shall be recorded and kept for 2 years after the information is recorded.

(vii) The maximum instrument reading measured during each detectable emission measurement shall be recorded and kept for 2 years after the information is recorded.

(viii) Each owner or operator of an affected facility that uses a thermal incinerator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the incinerator and records of all 3-hour periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 °C (50 °F) below the design combustion zone temperature, and shall keep such records for 2 years after the information is recorded.

(ix) Each owner or operator of an affected facility that uses a catalytic incinerator shall maintain continuous records of the temperature of the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation during which the average

temperature measured before the catalyst bed is more than 28 °C (50 °F) below the design gas stream temperature, and records of all 3-hour periods during which the average temperature difference across the catalyst bed is less than 80 percent of the design temperature difference, and shall keep such records for 2 years after the information is recorded.

(x) Each owner or operator of an affected facility that uses a carbon adsorber shall maintain continuous records of the VOC concentration level or reading of organics of the control device outlet gas stream or inlet and outlet gas stream and records of all 3-hour periods of operation during which the average VOC concentration level or reading of organics in the exhaust gases, or inlet and outlet gas stream, is more than 20 percent greater than the design exhaust gas concentration level, and shall keep such records for 2 years after the information is recorded.

(A) NOT APPLICABLE

(B) If a carbon adsorber that is not regenerated directly onsite in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time that the existing carbon in the control device is replaced with fresh carbon.

(g) If an owner or operator elects to install a tightly sealed cap or plug over a drain that is out of active service, the owner or operator shall keep for the life of a facility in a readily accessible location, plans or specifications which indicate the location of such drains.

(h) For stormwater sewer systems subject to the exclusion in §60.692-1(d)(1), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that no wastewater from any process units or equipment is directly discharged to the stormwater sewer system.

(i) For ancillary equipment subject to the exclusion in §60.692-1(d)(2), an owner or operator shall keep for the life of a facility in a readily accessible location, plans or specifications which demonsrate that the ancillary equipment does not come in contact with or store oily wastewater.

(j) For non-contact cooling water systems subject to the exclusion in §60.692-1(d)(3), an owner or operator shall keep for the life of the facility in a readily accessible location, plans or specifications which demonstrate that the cooling water does not contact hydrocarbons or oily wastewater and is not recirculated through a cooling tower.

(k) For oil-water separators subject to §60.693-2, the location, date, and corrective action shall be recorded for inspections required by §§60.693-2(a)(1)(iii)(A) and (B), and shall be maintained for the time period specified in paragraphs (k)(1) and (2) of this section.

(1) For inspections required by §60.693-2(a)(1)(iii)(A), ten years after the information is recorded.

(2) For inspections required by §60.693-2(a)(1)(iii)(B), two years after the information is recorded.

[53 FR 47623, Nov. 23, 1985, as amended at 60 FR 43259, Aug. 18, 1995; 65 FR 61778, Oct. 17, 2000]

§60.698 Reporting requirements.

(a) An owner or operator electing to comply with the provisions of §60.693 shall notify the Administrator of the alternative standard selected in the report required in §60.7.

(b)(1) Each owner or operator of a facility subject to this subpart shall submit to the Administrator within 60 days after initial startup a certification that the equipment necessary to comply with these

standards has been installed and that the required initial inspections or tests of process drains, sewer lines, junction boxes, oil-water separators, and closed vent systems and control devices have been carried out in accordance with these standards. Thereafter, the owner or operator shall submit to the Administrator semiannually a certification that all of the required inspections have been carried out in accordance with these standards.

(2) Each owner or operator of an affected facility that uses a flare shall submit to the Administrator within 60 days after initial startup, as required under §60.8(a), a report of the results of the performance test required in §60.696(c).

(c) A report that summarizes all inspections when a water seal was dry or otherwise breached, when a drain cap or plug was missing or improperly installed, or when cracks, gaps, or other problems were identified that could result in VOC emissions, including information about the repairs or corrective action taken, shall be submitted initially and semiannually thereafter to the Administrator.

(d) As applicable, a report shall be submitted semiannually to the Administrator that indicates:

(1) NOT APPLICABLE,

(2) NOT APPLICABLE,

(3) Each 3-hour period of operation during which the average VOC concentration level or reading of organics in the exhaust gases from a carbon adsorber is more than 20 percent greater than the design exhaust gas concentration level or reading.

(i) NOT APPLICABLE.

(ii) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly onsite in the control device is not replaced at the predetermined interval specified in §60.695(a)(3)(ii).

(e) If compliance with the provisions of this subpart is delayed pursuant to §60.692-7, the notification required under 40 CFR 60.7(a)(4) shall include the estimated date of the next scheduled refinery or process unit shutdown after the date of notification and the reason why compliance with the standards is technically impossible without a refinery or process unit shutdown.

[53 FR 47623, Nov. 23, 1988, as amended at 60 FR 43260, Aug. 18, 1995]

§60.699 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States:

§60.694 Permission to use alternative means of emission limitations.

[53 FR 47623, Nov. 23, 1985]

Subpart Y—National Emission Standards for Marine Tank Vessel Loading Operations

e-CFR data is current as of February 6, 2020

§63.560 Applicability and designation of affected source.

(a) *Maximum achievable control technology (MACT) standards.* (1) – (2) N/A

(3) The recordkeeping requirements of §63.567(j)(4) and the emission estimation requirements of §63.565(l) apply to existing sources with emissions less than 10 and 25 tons.

(4) N/A

(b) – (d) N/A

(e) *Compliance dates (1) MACT standards compliance dates, except the Valdez Marine Terminal (VMT) source.*

(i) – (iii) N/A

(iv) Existing sources with emissions less than 10 and 25 tons, and existing offshore loading terminals, shall comply with the submerged fill requirements in paragraph (a)(4) and (d)(6) of this section by April 23, 2012.

(2) -(3) *N/A*

§63.561 Definitions. [see rule for definitions]

§63.562 Standards. N/A

§63.563 Compliance and performance testing.

§63.564 Monitoring requirements.

§63.565 Test methods and procedures.

(a) – (k) N/A

(l) *Emission estimation procedures.* For sources with emissions less than 10 or 25 tons and sources with emissions of 10 or 25 tons, the owner or operator shall calculate an annual estimate of HAP emissions, excluding commodities exempted by §63.560(d), from marine tank vessel loading operations. Emission estimates and emission factors shall be based on test data, or if test data is not available, shall be based on measurement or estimating techniques generally accepted in industry practice for operating conditions at the source.

(m) *N/A*

§63.566 Construction and reconstruction.

§63.567 Recordkeeping and reporting requirements.

(a) – (i) N/A

(j) *Emission estimation reporting and recordkeeping procedures.* The owner or operator of each source complying with the emission limits specified in §63.562(b)(2), (3), and (4) shall comply with the following provisions:

(1) – (3) N/A

(4) Owners or operators of marine tank vessel loading operations specified in §63.560(a)(3) shall retain records of the emissions estimates determined in §65.565(l) and records of their actual throughputs by commodity, for 5 years.

(k) – (n) N/A

§63.568 Implementation and enforcement.

(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 implementation and enforcement of 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 the requirements in §§63.560 and 63.562(a) through (d).

(2) Approval of major alternatives to test methods for 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.

Subpart GGGa—Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

e-CFR data is current as of December 6, 2019

§60.590a Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in petroleum refineries.

(2) A compressor is an affected facility.

(3) The group of all the equipment (defined in §60.591a) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, is subject to the requirements of this subpart.

(c) Addition or replacement of equipment (defined in §60.591a) for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) Facilities subject to subpart VV, subpart VVa, subpart GGG, or subpart KKK of this part are excluded from this subpart.

(e) *Stay of standards.* Owners or operators are not required to comply with the definition of "process unit" in §60.590 of this subpart until the EPA takes final action to require compliance and publishes a document in the FEDERAL REGISTER. While the definition of "process unit" is stayed, owners or operators should use the following definition:

Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

§60.591a Definitions. [See rule for definitions]

§60.592a Standards.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of §§60.482-1a to 60.482-10a as soon as practicable, but no later than 180 days after initial startup.

(b) For a given process unit, an owner or operator may elect to comply with the requirements of paragraphs (b)(1), (2), or (3) of this section as an alternative to the requirements in §60.482-7a.

(1) Comply with §60.483-1a.

(2) Comply with §60.483-2a.

(3) Comply with the Phase III provisions in §63.168, except an owner or operator may elect to follow the provisions in §60.482-7a(f) instead of §63.168 for any valve that is designated as being leakless.

(c) An owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §60.484a.

(d) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §60.485a except as provided in §60.593a.

(e) Each owner or operator subject to the provisions of this subpart shall comply with the provisions of §§60.486a and 60.487a.

§60.593a Exceptions.

(a) Each owner or operator subject to the provisions of this subpart may comply with the following exceptions to the provisions of subpart VVa of this part.

(b)(1) Compressors in hydrogen service are exempt from the requirements of §60.592a if an owner or operator demonstrates that a compressor is in hydrogen service.

(2) Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E260-73, 91, or 96, E168-67, 77, or 92, or E169-63, 77, or 93 (incorporated by reference as specified in §60.17) shall be used.

(3)(i) An owner or operator may use engineering judgment rather than procedures in paragraph (b)(2) of this section to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in paragraph (b)(2) of this section shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in paragraph (b)(2).

(c) Any existing reciprocating compressor that becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482-3a(a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of §60.482-3a(a), (b), (c), (d), (e), and (h).

(d) An owner or operator may use the following provision in addition to §60.485a(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 93, 95, or 96 (incorporated by reference as specified in §60.17).

(e) Pumps in light liquid service and valves in gas/vapor and light liquid service within a process unit that is located in the Alaskan North Slope are exempt from the requirements of §§60.482-2a and 60.482-7a.

(f) Open-ended valves or lines containing asphalt as defined in §60.591a are exempt from the requirements of §60.482-6a(a) through (c).

(g) Connectors in gas/vapor or light liquid service are exempt from the requirements in §60.482-11a, provided the owner or operator complies with §60.482-8a for all connectors, not just those in heavy liquid service.

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

e-CFR data is current as of February 6, 2020

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) - (f) N/A

§63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) – *(3) N/A*

(b) - (c) N/A

§63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) – (7) N/A

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions? N/A

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions? N/A

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions? N/A

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) - (f) N/A

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE? N/A

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(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 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.

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions? N/A

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions? N/A

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions? N/A

§63.6615 When must I conduct subsequent performance tests? N/A

§63.6620 What performance tests and other procedures must I use? N/A

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) – (d) N/A

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) – (3) N/A

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) - (10) N/A

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

(f) – (g) N/A

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) N/A

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements? N/A

§63.6635 How do I monitor and collect data to demonstrate continuous compliance? N/A

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements? N/A

§63.6645 What notifications must I submit and when? N/A

§63.6650 What reports must I submit and when? N/A

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) 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 requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) - (c) N/A

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) - (2) N/

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) N/A

§63.6660 In what form and 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 readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by 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 (as well as 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 whether 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 40 CFR part 63, subpart E, 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 will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

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

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

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

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart? [see rule for definitions] N/A

Table 1a **to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions N/A**

Table 1b **to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions N/A**

Table 2a **to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions N/A**

Table 2b **to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP**

Table 2c **to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions N/A**

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests N/A

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests N/A

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements N/A

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	**Complying with the requirement to . . .**	**You must demonstrate continuous compliance by . . .**
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, **existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP**, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports N/A

ATTACHMENT F: SCHEDULE OF COMPLAINCE FORM

ATTACHMENT F - Schedule of Compliance Form

Complete this section if you indicated noncompliance with any of the applicable requirements identified in the permit application. For each emission unit which is not in compliance, identify the applicable requirement, the reason(s) for noncompliance, a description of how the source will achieve compliance, and a detailed schedule of compliance. If there is a consent order that applies to this requirement, attach a copy to this form.

1. Applicable Requirement

Unit(s): Gasoline Loading (TLoad) and Oxidizer

Applicable Requirement: 40 CFR 60, Subpart XX (NSPS XX) and 40 CFR 63, Subpart BBBBBB (Subpart 6B)

2. Reason for Noncompliance:

Current permit conditions are based on the requirements of 40 CFR 63, Subpart R (which references 40 CFR 60, Subpart XX with regard to gasoline truck loading). EWVI is requesting the permit be updated to directly cite the applicable requirements of 40 CFR 60, Subpart XX for a bulk gasoline terminal. Additionally, EWVI is requesting the permit be updated to directly cite the applicable requirements of 40 CFR 63, Subpart 6B for bulk gasoline terminal loading rack, storage tanks, and fugitive inspections.

Although EWVI is in compliance with the emissions limitation and generally in compliance with the work practice standards, a schedule of compliance is submitted to outline the steps needed to further evaluate the work practice and recordkeeping requirements and come into compliance with potential reporting gaps.

3. How will Compliance be Achieved?

EWVI current operational procedures, recordkeeping, and reporting will be reviewed and a detailed gaps assessment prepared (if any).

4. **Consent Order Number (if applicable):** Not Applicable

5. **Schedule of Compliance.** Provide a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance, including a date for final compliance.

Remedial Measure or Action	Date to be Achieved
Perform assessment comparing the Subpart R requirements in the current permit and with the applicable elements of NSPS XX and NESHAP 6B. Identify gaps (if any).	9/30/2020
Based on the results of the gaps assessment, establish milestones and target dates for items such as, but not limited to, the following: - Develop templates for periodic reporting required by Subpart 6B. - Submit notifications or periodic reports, as needed.	Dates to be determined
Submit initial progress report. Semiannual thereafter, if needed.	12/31/2020

6. Submittal of Progress Reports

Content of Progress Report: Summary of gaps assessment with milestones achieved.

Report starting date: 12/31/2020
Submittal frequency: Semiannual, if needed

ATTACHMENT G: AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-01 Main Flare	Emergency flare - Not used in routine operations.	
Manufacturer:	**Model number:**	**Installation date:**
John Zink	EEF-QS-30	1972

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
____ Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
____ Thermal Incinerator	X Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe)	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP/H2S	NA	95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The Main Flare is an elevated flare, which consists of a tip that is mounted on a flare stack which is raised high above-grade, and supports combustion at the upper end of a vertical riser. The combustion zone is elevated in order to separate the heat and products of combustion from people, equipment, or structures at grade level and to aid in air dispersion. During normal operation, the Main Flare header is preferentially routed to a Flare Gas Recovery (FGR) system that is designed to recover the gases upstream of the liquid seal. An exception is the NSPS Ja fuel gas (<162 ppm as a 3-hr avg.) out of mix drum D-4006 (gas is normally burned in the heaters / boilers and during periods of excess fuel gas it is partially vented to the flare).

Is this device subject to the CAM requirements of 40 C.F.R. 64?

____ Yes X No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act are exempt from CAM. Section 111 of the Act refers to 40 CFR Part 60 (NSPS) and the Main Flare is subject to NSPS Ja.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The 'Pilot on' indicator is used to indicate presence of pilot flame.
Monitoring, recordkeeping, and reporting in accordance with NSPS Ja.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-06 Sour Gas Flare	Sour Water Stripper	
Manufacturer:	**Model number:**	**Installation date:**
N/A	N/A	1972

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
____ Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
____ Thermal Incinerator	X Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe)	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP/H2S	NA	95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The Sour Gas Flare is used during process upsets or emergency conditions to control a vent stream from the sour water stripper.

Is this device subject to the CAM requirements of 40 C.F.R. 64?

____ Yes X No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act are exempt from CAM. Section 111 of the Act refers to 40 CFR Part 60 (NSPS) and the Sour Gas Flare is subject to NSPS J.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The 'Pilot on' indicator is used to indicate presence of pilot flame.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-02 OXIDIZER	TLOAD Loading Rack (009-01) for gasoline truck loading	
Manufacturer:	**Model number:**	**Installation date:**
John Zink	ZCT-2-8-35-2-316-X	1994

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
____ Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
X Thermal Incinerator	____ Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe) Thermal oxidizer	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP/H2S	N/A	98.70%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Thermocouple to monitoring temperature achives 1000F during each gasoline truck loading event.

Control Device for Gasoline Loading Only

Is this device subject to the CAM requirements of 40 C.F.R. 64?

____ Yes X No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act are exempt from CAM. Section 111 of the Act refers to 40 CFR Part 60 (NSPS) and Sectino 112 tof the Act refers to 40 CFR 63 (NESHAP). Gasoline truck loading is subject to NSPS XX and NESHAP BBBBBB.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Temperature is used to indicate performance of this unit.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-03 CARBON BED	Waste Water Treatment (WWT)	
Manufacturer:	**Model number:**	**Installation date:**
Chem-Trade International, Inc.	DVM-8	2002

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
X Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
____ Thermal Incinerator	____ Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe)	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP	95-99%	50-99%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

This control device consist of two identical carbon units each containing 7,700 lbs of granular activated carbon (CT 410 GAC).
Maximum design flow rate is 6,000 cfm. A single unit is operated while the other remains in standby mode until the first unit breaks through.

Is this device subject to the CAM requirements of 40 C.F.R. 64?

____ Yes X No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

This unit is not subject to the CAM requirements of 40 CFR 64 due to the fact that the pre-control emissions are less than the Title V threshold for major sources.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Outlet gas is monitored using an MSA VOC analyzer Model No. A-3800-111-0000-DAN-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-04 MLDOX	MLD Crude or Gasoline Barge Loading	
Manufacturer:	**Model number:**	**Installation date:**
		2012

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
____ Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
X Thermal Incinerator	____ Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe)	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP		98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Thermocouple to monitor average temperature during crude or gasoline barge loading events. See CAM Plan in Attachment H.

Control Device for Gasoline and Light Crude Oil Loading Only

Is this device subject to the CAM requirements of 40 C.F.R. 64?

X Yes ____ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Temperature is used to indicate performance of this unit.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:	**List all emission units associated with this control device.**	
00A-05 NH3OX	Ammonia Destruction Unit (ADU)	
Manufacturer:	**Model number:**	**Installation date:**
Process Combustion Corporation (PCC)	Custom Designed	2015

Type of Air Pollution Control Device:

____ Baghouse/Fabric Filter	____ Venturi Scrubber	____ Multiclone
____ Carbon Bed Adsorber	____ Packed Tower Scrubber	____ Single Cyclone
____ Carbon Drum(s)	____ Other Wet Scrubber	____ Cyclone Bank
____ Catalytic Incinerator	____ Condenser	____ Settling Chamber
X Thermal Incinerator	____ Flare	____ Wet Plate Electrostatic Precipitator
____ Dry Plate Electrostatic Precipitator	____ Other (describe)	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC/HAP	N/A	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Thermocouple to monitor temperature during ADU operation. See CAM Plan in Attachment H.

Is this device subject to the CAM requirements of 40 C.F.R. 64?

X Yes ____ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Temperature is used to indicate performance of this unit.

ATTACHMENT H: COMPLIANCE ASSURANCE MONITORING (CAM) FORMS

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	b EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
MLD	Marine Barge Loading	VOC	MLDOX (00A-04)	98% VOC Destruction Efficiency	Continuous temperature monitoring
ADU	Ammonia Destruction Unit	VOC	NH3OX (00A-05)	99.9% VOC Destruction Efficiency	Continuous temperature monitoring
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation: MLD	**4b) Pollutant:** VOC	**4c) [a] Indicator No. 1:** Temperature	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		The MLDOX is equipped with two (2) thermocouples for continuous temperature monitoring of the control device. The second thermocouple serves as backup. When loading barges with gasoline or crude, the MLDOX is operated above the minimum temperature established during the performance test demonstrating the device achieves a minimum control efficiency of 98% for VOCs.	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		Naphtha Loading: Minimum operating temperature is 899 °F Light Crude Loading: Minimum operating temperature is 1346 °F	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		The temperature data is recorded and maintained in an electronic database. Records are maintained at least 5 years.	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		The equipment has been installed and verified according to the manufacturer's specifications.	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The thermocouples are inspected at least once per year to verify accuracy according to the manufacturer's recommendations.	
[d] Provide the MONITORING FREQUENCY:		The MLDOX temperature is continuously monitored and recorded. Continuous means at least one data point is recorded in each quadrant of the hour.	
Provide the DATA COLLECTION PROCEDURES that will be used:		Electronic monitoring system.	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		The averaging period is one hour (block hourly averages). MLDOX startup/shutdown periods are excluded from averaging.	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
MLD – Marine Barge Loading	VOC

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

EWVI conducted performance testing at the MLDOX to establish a minimum temperature during gasoline and crude loading that demonstrates a VOC control efficiency of 98% or greater.

Consistent with the requirements of the Title V permit, EWVI continuously monitors and records the MLDOX temperature as well as reports deviations from the minimum temperature established during the performance test. The MLDOX and monitoring equipment (e.g., thermocouple) are operated following the manufacturer's recommended monitoring, maintenance, and verification procedures.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

EWVI conducted performance testing at the MLDOX to establish a minimum temperature during gasoline and crude loading. For naphtha loading, the VOC destruction efficiency averaged 100% at an average thermal oxidizer temperature of 898.6 °F. Thus, the minimum temperature during the loading of naphtha is set at 899 °F. For light crude loading, the VOC destruction efficiency averaged 99.9% at an average thermal oxidizer temperature of 1345.5 °F. Thus, the minimum temperature during the loading of light crude is set at 1346 °F. At the established minimum temperatures, the VOC destruction efficiency exceeds the 98% limit.

There have been no modifications or significant changes to the MLD or MLDOX that would influence the control system performance. Additionally, the unit is operated following the manufacturer's recommended monitoring, maintenance, and verification procedures.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation: ADU – Ammonia Destruction Unit	**4b) Pollutant:** VOC	**4c) [a] Indicator No. 1:** Temperature	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		The NH3OX is equipped with two (2) thermocouples for continuous temperature monitoring of the control device. The second thermocouple serves as backup. When the ADU is in operation, the NH3OX is operated above the minimum temperature established during the performance test demonstrating the device achieves a minimum control efficiency of 99.9% for VOCs.	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		Minimum operating temperature is 1630 °F	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		The temperature data is recorded and maintained in an electronic database. Records are maintained at least 5 years.	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		The equipment has been installed and verified according to the manufacturer's specifications.	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The thermocouples are inspected at least once per year to verify accuracy according to the manufacturer's recommendations.	
[d] Provide the MONITORING FREQUENCY:		Temperature is continuously monitored and recorded. Continuous means at least one data point is recorded in each quadrant of the hour.	
Provide the DATA COLLECTION PROCEDURES that will be used:		Electronic monitoring system.	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		The averaging period is a 3-hour block average. The ADU/NH3OX startup/shutdown periods are excluded from averaging.	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
ADU – Ammonia Destruction Unit	VOC

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

EWVI conducted performance testing at the NH3OX to establish a minimum temperature during ADU operation that demonstrates a VOC control efficiency of 99.9% or greater.

Consistent with the requirements of the Title V permit, EWVI continuously monitors and records the NH3OX temperature as well as reports deviations from the minimum temperature established during the performance test. The NH3OX and monitoring equipment (e.g., thermocouple) are operated following the manufacturer's recommended monitoring, maintenance, and verification procedures.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

EWVI conducted performance testing at the NH3OX to establish a minimum temperature during ADU operation.

There have been no modifications or significant changes to the ADU or NH3OX that would influence the control system performance. Additionally, the unit is operated following the manufacturer's recommended monitoring, maintenance, and verification procedures.

ATTACHMENT I: REGULATION 2 PLAN & REGULATION 10 PLAN

Ergon - West Virginia, Inc.
9995 Ohio River Blvd, Post Office Box 356
Newell, West Virginia 26050-0356

Ms. Carrie McCumbers
WVDEP—Division of Air Quality
601 57th Street SE
Charleston, West Virginia 25304

RE: Monitoring Plan under 45 CSR 2 and 45 CSR 10

Dear Ms McCumbers:

Ergon West Virginia, Inc. (EWVI) is presenting the following monitoring plan as required under Title 45 of the Code of State Regulations (CSR) Series 2 and Series 10 (45 CSR 2 and 45 CSR10). The allowable emission rates for all of these units have been registered as part of air permit (R13-2334).

Boiler C:

This boiler is permitted to combust a combination of natural gas and refinery fuel gas (RFG) and has a design heat capacity (DHC) less that 100 MMBtu/hr.

Regulation 2

- Opacity: The combination of natural gas/RFG combusted within the boiler is very similar to natural gas. There is no probable cause that would indicate that opacity would be generated from the combustion of EWVI's RFG. Since natural gas combustion is exempt from visibility testing, EWVI requests that no visible emission testing be required when combusting RFG.

- Weight Emission Testing: Under permit R13-2334, EWVI has monthly and yearly limits on particulate (PM) emissions. EWVI documents PM emissions from Boilers A and B utilizing fuel usage records and regulatory limits. To demonstrate that these units operate will below allowable limits, EWVI proposes the following monitoring plan and request that no stack testing be required for the boilers.

  Refinery fuel gas: RFG combusted within the boilers is very similar to natural gas. There is no probable cause that would indicate that significant particulate emissions from the combustion of EWVI's RFG, which is very similar to natural gas, would be generated.

- As required under §45-2-8.3.c, EWVI maintains records of the startup and shutdown of the boiler, and the quantity of fuel gas combusted on a monthly basis.

Regulation 10

- As indicated in §45-10-5.1, this boiler cannot burn fuels with hydrogen sulfide (H_2S) content greater than 0.10 grains per dry standard cubic foot. EWVI has continuous monitors that measure H_2S concentration of the RFG to be combusted in the boiler. Documentation of the monitoring data can be provided upon request. Therefore, per §45-10A-5, EWVI proposes that no requirement for stack testing of SO_2 emissions be required as H_2S is continuously measured.

Boiler A and B:

These boilers combust a combination of natural gas and refinery fuel gas and have DHCs greater than 100 MMBtu/hr, but less than 250MMBtu/hr.

Regulation 2

- Opacity: RFG combusted within the boilers is very similar to natural gas. There is no probable cause that would indicate that opacity would be generated from the combustion of EWVI's RFG. Since natural gas combustion is exempt from visibility testing, EWVI requests that no visible emission testing be required when combusting RFG.

- Weight Emission Testing: Under permit R13-2334, EWVI has monthly and yearly limits on particulate (PM) emissions. EWVI documents PM emissions from Boilers A and B utilizing fuel usage records and regulatory limits. To demonstrate that these units operate will below allowable limits, EWVI proposes the following monitoring plan and request that no stack testing be required for the boilers.

  Refinery fuel gas: RFG combusted within the boilers is very similar to natural gas. There is no probable cause that would indicate that significant particulate emissions from the combustion of EWVI's RFG, which is very similar to natural gas, would be generated.

- As required under §45-2-8.3.c, and §45-2A-7, EWVI maintains records of the startup and shutdown of the boilers, and the quantity of RFG combusted on a monthly basis.

Regulation 10

- As indicated in §45-10-5.1, these boilers cannot burn fuels with hydrogen sulfide (H_2S) content greater than 0.10 grains per dry standard cubic foot. EWVI has continuous monitors that measure H_2S concentration of the RFG to be combusted in the boilers. Documentation of the monitoring data can be provided upon request. Therefore, per §45-10A-5, EWVI proposes that no requirement for stack testing of SO_2 emissions be required as H_2S is continuously measured.

Combustion Sources – H101R, H102R, H201, H501R, H500's, H600's, H701, H901

These units are process heaters and combust natural gas/refinery fuel gas combination fuel as their primary fuel. All of these units have DHCs between 10-100 MMBtu/hr, except H201, which has a DHC less than 10 MMBtu/hr.

Regulation 2

- Opacity: These heaters meet the requirements set forth in this regulation so therefore visible emission testing is indicated per §45-2-3.2. However, these units are exempt from testing and monitoring requirements since the DHCs of these units are less than 100 MMBtu/hr, per §45-2-8.4.c.

- Weight Emission Testing: Heater H201 is exempt from testing, monitoring, recordkeeping and reporting requirements as stipulated in §45-2-11, other than of course those requirements stated within the existing permit. The remaining heaters are less than 100 MMBtu/hr and therefore, are exempt from the periodic testing requirements in §45-2-8.1.a and the monitoring requirements in §45-2-8.2.

- As required in §45-2-8.3.c, and §45-2A-7, EWVI maintains records of the startup and shutdown of the heaters and the quantity of RFG and natural gas combusted on a monthly basis.

Regulation 10

- As indicated in §45-10-5.1, these heaters cannot burn fuels with hydrogen sulfide (H_2S) content greater than 0.10 grains per dry standard cubic foot. EWVI has continuous monitors that measure H_2S concentration of the RFG to be combusted in the boilers. Documentation of the monitoring data can be provided upon request. Therefore, per §45-10A-5, EWVI proposes that no requirement for stack testing of SO_2 emissions be required as H_2S is continuously measured.

Combustion Sources-H441, H1101

The DHC for H441 is just over 10 MMBtu/hr and the DHC for H1101 is between 10-100 MMBtu/hr. These two heaters are fired with natural gas only.

Regulation 2

- As per the regulation §45-2-8.4.b and the guidance listed in §452A-3.1.a, since these heaters burn only natural gas, they are exempt from visible emission testing and weight emissions testing requirements.

- As required under §45-2-8.3.c, EWVI maintains records of the startup and shutdown of these heaters, and the quantity of natural gas combusted on a monthly basis.

Regulation 10

- As indicated in §45-10A-10.3, since these units combust only natural gas, they are exempt from the requirements in §45-10-8, which includes testing, monitoring, recordkeeping and reporting.

Manufacturing Process Sources-Main Flare

The flare is an emergency control device for the manufacturing process sources of the entire refinery.

Regulation 2

- Regulation 2 does not apply since this regulation only applies to indirect heat exchangers.

Regulation 10

- As indicated in §45-10A-5.2.b, process sources that utilize a flare as a control device are exempt from compliance testing requirements. Also EWVI has a flare gas recovery system on its flare.

If you have any questions or require additional information, please contact me at (304) 387-7046.

Sincerely,

Jack Azar
ESHT Manager