

45CSR40

**TITLE 45
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY**

**SERIES 40
CONTROL OF OZONE SEASON NITROGEN OXIDES EMISSIONS**

§45-40-1. General.

1.1. Scope. -- This rule establishes:

1.1.a. Ozone season NO_x emission limitation, monitoring, recordkeeping, reporting, excess emissions, and NO_x budget demonstration requirements for large industrial boilers and combustion turbines that have a maximum design heat input greater than 250 mmBTU/hr, in accordance with 40 CFR §51.121;

1.1.b. Ozone season NO_x reduction, compliance plan, monitoring, recordkeeping and reporting requirements for affected stationary internal combustion engines; and

1.1.c. Ozone season NO_x control standards, ozone season NO_x compliance plan, reporting, monitoring and recordkeeping requirements for applicable cement manufacturing kilns.

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

1.3. Filing Date. -- June 1, 2020.

1.4. Effective Date. -- June 1, 2020.

1.5. Sunset Provision. -- Exempt.

§45-40-2. Definitions.

2.1. “Administrator” means the Administrator of the United States Environmental Protection Agency (U.S. EPA) or the Administrator’s duly authorized representative.

2.2. “Boiler” means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

2.3. “Clean Air Act” or “CAA” means the Clean Air Act, 42 U.S.C. 7401, et seq., as amended.

2.4. “Clinker” means the product of a Portland cement kiln from which finished cement is manufactured by milling and grinding.

2.5. “Combustion turbine” means:

2.5.a. An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

2.5.b. If the enclosed device under subdivision 2.6.a is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

2.6. “Continuous emission monitoring system” or “CEMS” means, except for purposes of subsections

45CSR40

2.15 and 6.2, the total equipment required for the determination of NO_x emission rate, expressed in pounds per million British thermal units (lb/mmBtu). For the purposes of this rule, CEMS is used for continuous compliance determinations. The sample interface, pollutant analyzer, diluent analyzer, and data recorder are the major subsystems of the CEMS. The principal type of continuous emission monitoring system is:

2.6.a. A nitrogen oxides emission rate (or NO_x-diluent) monitoring system, consisting of a NO_x pollutant concentration monitor, a diluent gas (CO₂ or O₂) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_x concentration, in parts per million (ppm), diluent gas concentration, in percent CO₂ or O₂; and NO_x emission rate, in pounds per million British thermal units (lb/mmBtu);

2.7. "Excess emissions" means nitrogen oxides emitted by an applicable unit under subsection 4.1 during an ozone season that exceeds the ozone season NO_x emissions limitation for the unit set forth in section 5.

2.8. "Fossil fuel" means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

2.9. "Fossil fuel-fired" means, with regard to a unit, and solely for purposes of applying the applicability provisions in subsection 4.1:

2.9.a. The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year; or

2.9.b. The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during any year; provided that the unit shall be "fossil fuel-fired" as of the date, during such year, on which the unit begins combusting fossil fuel.

2.10. "Large NO_x SIP call engine" means a stationary internal combustion engine identified and designated as "large" in the NO_x SIP Call Engine Inventory as emitting more than one ton of NO_x per average ozone season day in 1995.

2.11. "Long dry kiln" means a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is dry.

2.12. "Long wet kiln" means a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is a slurry.

2.13. "Low-NO_x burners" means combustion equipment designed to reduce flame turbulence, delay fuel/air mixing and establish fuel-rich zones for initial combustion.

2.14. "Mid-kiln firing" means the secondary firing in kilns by injecting solid fuel at an intermediate point in the kiln using a specially designed feed injection mechanism for the purpose of decreasing NO_x emissions through:

2.14.a. Burning part of the fuel at a lower temperature; and

2.14.b. Reducing conditions at the solid waste injection point that may destroy some of the NO_x formed upstream in the kiln burning zone.

2.15. "Monitoring system" means, for purposes of subsection 6.2, a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under 40 CFR part 75 as defined in 40 CFR §72.2.

45CSR40

2.16. “Nitrogen oxides” or “NO_x” means all oxides of nitrogen except nitrous oxide (N₂O), reported on an equivalent molecular weight basis as nitrogen dioxide (NO₂).

2.17. “NO_x SIP Call Engine Inventory” means the inventory of internal combustion engines compiled by U.S. EPA as part of the NO_x SIP Call Rule, including the technical amendments, announced in the March 2, 2000 Federal Register, page 11222, and the adjustment of the 2007 Budget NO_x Control Efficiency to 82 percent for large gas-fired engines, announced in the April 21, 2004 Federal Register notice, page 21604 for the Phase II NO_x SIP Call Rule.

2.18. “Ozone season” means the period beginning May 1 of a calendar year, and ending on September 30 of the same year, inclusive.

2.19. “Performance Specification 2” or “PS 2” means the Specifications and Test Procedures for SO₂ and NO_x Continuous Emission Monitoring Systems in Stationary Sources provided in Appendix B to 40 CFR part 60. For purposes of subsections 6.3 and 6.5, these procedures are used for measuring CEMS relative accuracy and calibration drift and include CEMS installation and measurement location specifications, equipment specifications, performance specifications, and data reduction.

2.20. “Performance Specification 16” or “PS 16” means the Specifications and Test Procedures for Predictive Emission Monitoring Systems (PEMS) in Stationary Sources provided in Appendix B to 40 CFR part 60. For purposes of subsection 6.4, these procedures are used to determine whether the PEMS is acceptable for use in demonstrating compliance with the NO_x emission limit and to certify the PEMS initially. They are also used periodically thereafter to ensure the PEMS is operating properly. These specifications apply to PEMS that are installed on or after April 24, 2009.

2.21. “Predictive Emission Monitoring System” or “PEMS” means all of the equipment required to predict an emission concentration or emission rate. The system may consist of any of the following major subsystems: sensors and sensor interfaces, emission model, algorithm, or equation that uses process data to generate an output that is proportional to the emission concentration or emission rate, diluent emission model, data recorder, and sensor evaluation system. Systems that use fewer than three (3) variables do not qualify as PEMS unless the system has been specifically approved by the Administrator for use as a PEMS. A PEMS may predict emissions data that are corrected for diluent if the relative accuracy and relevant QA tests are passed in the emission units corrected for diluent. Parametric monitoring systems that serve as indicators of compliance and have parametric limits but do not predict emissions to comply with an emissions limit are not included in this definition.

2.22. “Portland cement” means a hydraulic cement produced by pulverizing clinker consisting essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an interground addition.

2.23. “Portland cement kiln” means a system, including any solid, gaseous or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

2.24. “Precalciner kiln” means a kiln where the feed to the kiln system is preheated in cyclone chambers and utilizes a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln which forms clinker.

2.25. “Preheater kiln” means a kiln where the feed to the kiln system is preheated in cyclone chambers prior to the final fusion in a kiln which forms clinker.

2.26. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§22-1-6 or 22-1-

8.

2.27. "Source" means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons.

2.28. "Stationary internal combustion engine" or "engine" means any internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be capable of being carried or moved from one location to another and remains at a single site at a building, structure, facility, or installation for more than 12 consecutive months. Any engine (or engines) that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period.

2.29. "Ton" means 2,000 pounds.

2.30. "Unit" means a stationary fossil fuel-fired boiler, combustion turbine, or combined cycle system.

2.31. Other words and phrases used in this rule, unless otherwise indicated, will have the meaning ascribed to them in W.Va. Code §22-5-1 et seq. and 40 CFR §72.2.

§45-40-3. Measurements, abbreviations and acronyms.

3.1. Measurements, abbreviations and acronyms used in this rule are defined as follows:

- 3.1.a. Btu -- British thermal unit.
- 3.1.b. CEMS -- Continuous Emissions Monitoring System.
- 3.1.c. CO₂ -- carbon dioxide.
- 3.1.d. CSAPR -- Cross-State Air Pollution Rule.
- 3.1.e. g/bhp-hr -- grams per brake horsepower hour.
- 3.1.f. Hr -- hour.
- 3.1.g. MmBtu -- million Btu.
- 3.1.h. NO_x -- nitrogen oxides.
- 3.1.i. O₂ -- oxygen.
- 3.1.j. PEMS -- Predictive Emission Monitoring System.
- 3.1.k. SO₂ -- sulfur dioxide.
- 3.1.l. Tph -- tons per hour.
- 3.1.m. Yr -- year.

§45-40-4. Applicability.

4.1. The owner or operator of a unit that has a maximum design heat input greater than 250 mmBtu/hr, except for any unit subject to the federal Cross-State Air Pollution Rule (CSAPR) NO_x Ozone Season Group 2 Trading Program established under 40 CFR part 97, subpart EEEEE, or an equivalent trading

45CSR40

program established under 45CSR43 and approved as a state implementation plan revision pursuant to 40 CFR §52.38(b)(9), shall comply with the ozone season NO_x emission limitation, and monitoring, recordkeeping and reporting requirements for ozone season emissions of NO_x set forth in sections 5 and 6 below.

4.2. Effective May 1, 2009, the owner or operator of a large NO_x SIP Call engine shall comply with the ozone season NO_x reduction, compliance plan, monitoring, recordkeeping and reporting requirements set forth in section 9 below.

4.3. Effective May 1, 2009, the owner or operator of a kiln that meets the following applicability requirements shall comply with the ozone season NO_x control standards, ozone season NO_x compliance plan, reporting, monitoring and recordkeeping requirements set forth in section 10 below:

4.3.a. Long dry kilns \geq 12 TPH process rate;

4.3.b. Long wet kilns \geq 10 TPH process rate;

4.3.c. Preheater kilns \geq 16 TPH process rate; and

4.3.d. Precalciner and preheater/precalciner kilns \geq 22 TPH process rate.

§45-40-5. Ozone season NO_x emission limitation.

5.1. Ozone season NO_x limitation. -- Beginning May 1, 2016, the owner or operator of a unit that meets the applicability requirements set forth in subsection 4.1 shall limit emissions of NO_x during an ozone season pursuant to a NO_x emission rate for each unit contained in a permit issued under 45CSR13, 45CSR14, 45CSR19 or via consent order issued by the Secretary in accordance with W.Va. Code §22-5-4(a)(5). Such ozone season NO_x limitation may also include a limitation on operating time for a unit during the ozone season.

§45-40-6. Monitoring, recordkeeping and reporting requirements.

6.1. The owner or operator of an applicable unit under subsection 4.1 shall comply with the provisions of 40 CFR part 75, subpart H (including use of any of the emissions monitoring methodologies which the unit qualifies to use under 40 CFR part 75) or shall install and operate a certified continuous emission monitoring system (CEMS) or a certified predictive emission monitoring system (PEMS) as necessary to attribute ozone season mass emissions of NO_x to each unit in accordance with subsection 6.2, 6.3, 6.4 or 6.5 below. Nitrogen oxides mass emissions measurements recorded and reported in accordance with subsection 6.2, 6.3, 6.4 or 6.5 shall be used to determine a unit's compliance with the ozone season NO_x emission limitation set forth in section 5.

6.2. An owner or operator that elects to demonstrate compliance in accordance with 40 CFR part 75, subpart H, shall meet the following requirements:

6.2.a. Install, calibrate, certify, maintain, monitor, and operate all required monitoring systems in accordance with 40 CFR part 75, subpart H;

6.2.b. Maintain records in accordance with 40 CFR part 75, subpart H ; and

6.2.c. Submit reports in accordance with 40 CFR part 75, subpart H.

6.3. An owner or operator that elects to demonstrate compliance using a CEMS in accordance with 40 CFR part 60, subpart Db and 45CSR16 shall meet the following requirements:

45CSR40

6.3.a. Install and certify the CEMS in accordance with Performance Specification 2 in Appendix B to 40 CFR part 60;

6.3.b. Operate and maintain the CEMS in accordance with 40 CFR §60.46b on a continuous basis;

6.3.c. Install, calibrate, maintain and operate the CEMS in accordance with the continuous monitoring requirements of:

6.3.c.1. 40 CFR §§60.48b and 60.13; or

6.3.c.2. 40 CFR §§60.47b(e) and 60.13;

6.3.d. For each month of the ozone season:

6.3.d.1. Determine total monthly heat input (in mmBtu) using fuel flowmeters and measurements or records of fuel gross calorific value, or in instances where fuel flow is not metered determine total monthly heat input (in mmBtu) from other measurements and records; and

6.3.d.2. Calculate total monthly NO_x mass emissions (in tons) by multiplying the total monthly heat input by the 30-day rolling average NO_x emission rate (in lb/mmBtu) determined under subdivisions 6.3.b and 6.3.c for the last day of the month on which the unit operated and divide by 2000;

6.3.e. Determine the total NO_x mass emissions for the ozone season (in tons) by summing the amounts of total monthly NO_x mass emissions calculated under subdivision 6.3.d for each month of the ozone season; and

6.3.f. Comply with the following reporting and recordkeeping requirements:

6.3.f.1. Maintain records in accordance with 40 CFR §60.49b and all additional records necessary to support the heat input data, 30-day rolling average NO_x emission rate data, and NO_x mass emissions computations described in subdivisions 6.3.d and 6.3.e; and

6.3.f.2. Submit to the Secretary reports in accordance with 40 CFR §60.49b and include the total monthly heat input data, 30-day rolling average NO_x emission rate data, and monthly and ozone season NO_x mass emissions computations described in subdivisions 6.3.d and 6.3.e.

6.4. An owner or operator not otherwise required to use a CEMS to demonstrate compliance with 40 CFR 60 may elect to demonstrate compliance using a PEMS and shall meet the following requirements:

6.4.a. Install and certify the PEMS in accordance with Performance Specification 16 in Appendix B to 40 CFR part 60 and the Quality Assurance Procedures for compliance PEMS in Appendix F to 40 CFR part 60;

6.4.b. Submit to the Secretary for approval a plan that identifies the operating conditions to be monitored and the records to be maintained in accordance with 40 CFR §60.49b(c). The request for plan approval shall be contained in the permit application or consent order required under subsection 6.6;

6.4.c. Operate and maintain the compliance PEMS on a continuous basis in accordance with 40 CFR §60.46b and the compliance PEMS requirements provided in Performance Specification 16 in Appendix B to 40 CFR part 60;

6.4.d. Comply with the continuous monitoring requirements of 40 CFR §§60.48b and 60.13;

6.4.e. For each month of the ozone season:

45CSR40

6.4.e.1. Determine total monthly heat input (in mmBtu) using fuel flowmeters and measurements or records of fuel gross calorific value, or in instances where fuel flow is not metered determine total monthly heat input (in mmBtu) from other measurements and records; and

6.4.e.2. Calculate total monthly NO_x mass emissions (in tons) by multiplying the total monthly heat input by the 30-day rolling average NO_x emission rate (in lb/mmBtu) determined under subdivisions 6.4.c and 6.4.d for the last day of the month on which the unit operated and divide by 2000;

6.4.f. Determine the total NO_x mass emissions for the ozone season (in tons) by summing the amounts of total monthly NO_x mass emissions calculated under subdivision 6.4.e for each month of the ozone season; and

6.4.g. Comply with the following reporting and recordkeeping requirements:

6.4.g.1. Maintain records in accordance with 40 CFR §60.49b and all additional records necessary to support the heat input data, 30-day rolling average NO_x emission rate data, and NO_x mass emissions computations described in subdivisions 6.4.e and 6.4.f; and

6.4.g.2. Submit to the Secretary reports in accordance with 40 CFR §60.49b and include the total monthly heat input data, 30-day rolling average NO_x emission rate data, and monthly and ozone season NO_x mass emissions computations described in subdivisions 6.4.e and 6.4.f.

6.5. An owner or operator of a combustion turbine unit that elects to demonstrate compliance using a CEMS shall meet the following requirements:

6.5.a. Install and certify the CEMS in accordance with Performance Specification 2 in Appendix B to 40 CFR part 60 and 45CSR16;

6.5.b. Conduct the performance tests in accordance with 40 CFR §60.4400;

6.5.c. Operate and maintain the CEMS in accordance with 40 CFR §60.4345 on a continuous basis;

6.5.d. Collect all CEMS data in accordance with 40 CFR §60.4350;

6.5.e. For each month of the ozone season:

6.5.e.1. Determine total monthly heat input (in mmBtu) using fuel flowmeters and measurements or records of fuel gross calorific value, or in instances where fuel flow is not metered determine total monthly heat input (in mmBtu) from other measurements and records; and

6.5.e.2. Calculate total monthly NO_x mass emissions (in tons) by multiplying the total monthly heat input by the 30-day rolling average NO_x emission rate (in lb/mmBtu) determined under subdivisions 6.5.c and 6.5.d for the last day of the month on which the unit operated and divide by 2000;

6.5.f. Determine the total NO_x mass emissions for the ozone season (in tons) by summing the amounts of total monthly NO_x mass emissions calculated under subdivision 6.5.e for each month of the ozone season; and

6.5.g. Comply with the following reporting and recordkeeping requirements:

6.5.g.1. Maintain records in accordance with 40 CFR §60.49b and all additional records necessary to support the heat input data, 30-day rolling average NO_x emission rate data, and NO_x mass

45CSR40

emissions computations described in subdivisions 6.5.e and 6.5.f; and

6.4.g.2. Submit to the Secretary reports in accordance with 40 CFR §60.49b and include the total monthly heat input data, 30-day rolling average NO_x emission rate data, and monthly and ozone season NO_x mass emissions computations described in subdivisions 6.5.e and 6.5.f.

6.6. An owner or operator that elects an alternative monitoring scenario that is not currently contained in a permit issued pursuant to 45CSR13, 45CSR14 or 45CSR19 or via a consent order shall:

6.6.a. Submit a request for the alternative monitoring scenario in a permit application in accordance with 45CSR13, 45CSR14 or 45CSR19. For compliance options provided in 6.3, 6.4 or 6.5, the permit application should identify how NO_x emissions (in tons) will be determined using the CEMS or PEMS data; and.

6.6.b. Obtain approval from the Secretary via a permit issued under 45CSR13, 45CSR14 or 45CSR19 or via a consent order, effective prior to the start of the ozone season.

6.7. An owner or operator electing to demonstrate compliance with 40 CFR part 75, subpart H shall not use any alternative monitoring system, alternative reference method, or any other alternative for the requirements under 40 CFR part 75, subpart H prior to obtaining written approval by the Administrator in accordance with 40 CFR §75.70(h).

6.8. An owner or operator required to demonstrate compliance with a NO_x emissions limit under 40 CFR part 60, subpart Db shall not use an alternative monitoring system, reference method, or other CEMS requirements alternative under 40 CFR part 60, subpart Db prior to obtaining written approval by the Administrator.

6.9. The owner or operator of an applicable unit under subsection 4.1 may demonstrate compliance with the NO_x ozone season emission limitation set forth in section 5 in accordance with an alternative monitoring system under 40 CFR part 60, subpart Db without obtaining approval of the Secretary, provided the owner or operator obtained written approval from the Administrator prior to the effective date of this rule.

§45-40-7. Violation.

7.1. The owner or operator of an applicable unit under subsection 4.1 shall be subject to enforcement pursuant to W.Va. Code §22-5-1 et seq. or the CAA for excess emissions of NO_x during an ozone season if the unit emitted nitrogen oxides in excess of its ozone season NO_x emission limitation set forth in section 5.

§45-40-8. Ozone season NO_x budget demonstration.

8.1. Ozone season NO_x budget. -- The ozone season NO_x budget for all units that meet the applicability requirements set forth in subsection 4.1 is 2,184 tons.

8.2. Ozone season NO_x budget demonstration. -- Through the imposition of ozone season NO_x limitations under section 5, and assumption of maximum operating capacity or use of a limitation on operating time for a unit during the ozone season, the Secretary shall demonstrate to the Administrator that the ozone season NO_x emissions from all applicable units under subsection 4.1 meets the ozone season NO_x budget for these units set forth in subsection 8.1.

8.3. New units. -- The Secretary shall revise the ozone season NO_x budget demonstration under subsection 8.2 to accommodate the ozone season NO_x emissions of any new unit that meets the applicability requirements set forth in subsection 4.1. The ozone season NO_x emissions from any such new unit shall

not cause the ozone season NO_x budget set forth in subsection 8.1 to be exceeded.

§45-40-9. Ozone season NO_x reduction requirements for stationary internal combustion engines.

9.1. Ozone season NO_x reduction. -- Effective May 1, 2009, the following owners or operators must reduce ozone season NO_x emissions by an amount equal to or greater than the applicable ozone season NO_x reduction listed in the table below. The applicable ozone season NO_x reduction is binding on the listed owners or operators, their successors and assigns:

Company	Ozone Season NO_x Reduction
Dominion	668 tons
Columbia Gas Transmission	235 tons
Total	903 tons

9.2. Compliance plan. -- Effective May 1, 2009, an owner or operator of a large stationary internal combustion engine under subsection 4.2 must not operate such engine in the period May 1 through September 30 of 2009 and any subsequent year unless the owner or operator demonstrates the applicable ozone season NO_x reduction under subsection 9.1 through the requirements of an approved compliance plan. The compliance plan shall meet the following provisions:

9.2.a. Reserved;

9.2.b. Reserved;

9.2.c. The compliance plan must demonstrate quantifiable and enforceable NO_x emission reductions equal to or greater than the applicable ozone season NO_x reduction set forth in subsection 9.1, taking into account any creditable reduction in NO_x emissions under subdivisions 9.2.e, 9.2.f, 9.2.g, 9.2.h or 9.2.i;

9.2.d. The compliance plan may include and affect some or all stationary internal combustion engines or other significant NO_x emitting equipment at an individual facility, at several facilities, or at all facilities in West Virginia that are controlled by the same owner or operator;

9.2.e. The compliance plan may include credit for reductions in NO_x emissions due to the installation and operation of NO_x control equipment on large stationary internal combustion engines under subsection 9.1. The owner or operator will demonstrate to the satisfaction of the Secretary any creditable reductions in NO_x emissions from the installation and operation of such NO_x control equipment. The credit for reductions in NO_x emissions must be quantified based on the difference between uncontrolled and controlled NO_x emission rates, and ozone season operating hours;

9.2.f. The compliance plan may include credit for reductions in NO_x emissions due to the installation and operation of NO_x control equipment on uncontrolled stationary internal combustion engines not under subsection 4.2. The owner or operator will demonstrate to the satisfaction of the Secretary any creditable reductions in NO_x emissions from the installation and operation of such NO_x control equipment. Creditable reductions must be limited to reductions achieved after 1995 and from controls that were not part of the NO_x SIP Call engine inventory. The credit for reductions in NO_x emissions must be quantified based on the difference between uncontrolled and controlled NO_x emission rates, and ozone season operating hours;

9.2.g. The compliance plan may include credit for reductions in NO_x emissions due to replacement of any stationary internal combustion engines or other significant NO_x emitting equipment. The owner or operator will demonstrate to the satisfaction of the Secretary that the historic ozone season

load capacity of any stationary internal combustion engine or other significant NO_x emitting equipment no longer in operation has been or would be replaced by one or more new stationary internal combustion engines, electric motors or turbines during each ozone season. The credit for reductions in NO_x emissions must be quantified based on the replaced engine's or other significant NO_x emitting equipment's ozone season NO_x emission rate and ozone season operating hours, and the projected emission rate and ozone season operating hours of any new replacement stationary internal combustion engines, electric motors or turbines;

9.2.h. The compliance plan may include credit for reductions in NO_x emissions due to reductions from shifting historic load capacity from an uncontrolled engine to a controlled engine, electric motor or turbine. The owner or operator will demonstrate to the satisfaction of the Secretary that a quantifiable net reduction in NO_x emissions has occurred or will occur due to a direct shift of ozone season load capacity from an uncontrolled engine to a controlled engine, electric motor or turbine. The credit for reductions in NO_x emissions must be quantified based on the uncontrolled engine's historic ozone season load capacity, NO_x emission rate (in g/bhp-hr), ozone season operating hours (in hr/ozone season), and the shifted ozone season load capacity, NO_x emission rate (in g/bhp-hr) and ozone season operating hours (in hr/ozone season) of the controlled stationary internal combustion engine, electric motor or turbine;

9.2.i. The compliance plan may include credit for reductions in NO_x emissions due to the installation and operation of NO_x controls on significant NO_x emitting equipment other than stationary internal combustion engines. The owner or operator will demonstrate to the satisfaction of the Secretary any creditable reductions in NO_x emissions from such NO_x emitting equipment. Creditable reductions must be limited to reductions achieved after 1995 and from controls that were not part of the NO_x SIP Call inventory. The credit for reductions in NO_x emissions must be quantified based on the difference between NO_x emission rates prior to installation of controls and controlled NO_x emission rates, and ozone season operating hours;

9.2.j. The compliance plan must include the following:

9.2.j.1. A list of affected engines or affected NO_x emitting equipment subject to the plan, including the manufacturer, model number, facility location and facility identification number;

9.2.j.2. The projected ozone season hours of operation for each affected engine or affected NO_x emitting equipment and supporting documentation;

9.2.j.3. A description of the NO_x emission controls installed, or to be installed, on each affected engine or affected NO_x emitting equipment, date or proposed date of installation, and documentation to support the controlled NO_x emission rates;

9.2.j.4. The uncontrolled and controlled NO_x emission rates in lb/hr and tons per ozone season for each affected engine or affected NO_x emitting equipment, as applicable;

9.2.j.5. A numerical demonstration that the sum of creditable NO_x emission reductions (in tons) obtained from all affected engines or affected NO_x emitting equipment included under a compliance plan will be equivalent to or greater than the owner or operator's applicable ozone season NO_x reduction under subsection 9.1, taking into account any creditable reductions in NO_x emissions under subdivisions 9.2.e, 9.2.f, 9.2.g, 9.2.h or 9.2.i; and

9.2.j.6. Performance test protocol and provisions for periodic monitoring, reporting and recordkeeping for each affected engine or affected NO_x emitting equipment.

9.2.k. Any creditable reductions in NO_x emissions under subdivisions 9.2.e, 9.2.f, 9.2.g, 9.2.h or 9.2.i must be quantifiable and enforceable through limitations included in a federally enforceable permit or compliance order; and

45CSR40

9.2.1. Any owner or operator with an approved compliance plan under subsection 9.2 may amend the plan with the written approval of the Secretary. Any NO_x emission rate or limitation included in such an amendment must be reflected in a federally enforceable permit or compliance order. The Secretary will either approve by order or disapprove by certified mail the amended compliance plan within 90 days of submission, and notify the Administrator of the compliance plan amendment approval upon issuance of order.

9.3. Monitoring requirements. -- Any owner or operator of an affected engine or affected NO_x emitting equipment subject to a compliance plan under subsection 9.2 must comply with the following monitoring requirements for each affected engine or affected NO_x emitting equipment:

9.3.a. The owner or operator must complete an initial performance test consistent with the requirements of 40 CFR part 60, Appendix A and 45CSR16, following installation of NO_x emission controls required to achieve the NO_x emission rate limit specified in subdivision 9.2.k; and

9.3.b. For the ozone season beginning in 2009, and each ozone season thereafter, the owner or operator will perform periodic monitoring sufficient to yield reliable data which demonstrate compliance with the limitations specified in subdivision 9.2.k. Such periodic monitoring must include:

9.3.b.1. A continuous emission monitoring system that complies with 40 CFR part 75 or 40 CFR part 60 and 45CSR16 and the quality assurance procedures specified in 40 CFR part 60, Appendix F and 45CSR16; or

9.3.b.2. Performance tests consistent with the requirements of 40 CFR part 60, Appendix A and 45CSR16, or portable monitors using ASTM D6522-00; and

9.3.b.2.A. A parametric monitoring program that specifies operating parameters, and their ranges, that will provide reasonable assurance that each affected engine or affected NO_x emitting equipment's emissions are consistent with the requirements of a compliance plan under subsection 9.2. Any such parametric monitoring program must be approved by the Secretary; or

9.3.b.2.B. A predictive emissions measurement system that relies on automated data collection from instruments. Any such predictive emissions measurement system must be approved by the Secretary.

9.4. Recordkeeping requirements. -- Any owner or operator of an affected engine or affected NO_x emitting equipment subject to a compliance plan under subsection 9.2 must comply with the following recordkeeping requirements:

9.4.a. Maintain all records necessary to demonstrate compliance with the requirements of the compliance plan and subsection 9.4 for a period of five calendar years at the facility where an affected engine or affected NO_x emitting equipment is located. Such records will be made available to the Secretary or Administrator upon request; and

9.4.b. For each affected engine or affected NO_x emitting equipment subject to a compliance plan under subsection 9.2, the owner or operator will maintain records of:

9.4.b.1. Identification and location of each affected engine or affected NO_x emitting equipment;

9.4.b.2. Calendar date of record;

9.4.b.3. The number of hours the affected engine or affected NO_x emitting equipment is

45CSR40

operated during each ozone season compared to projected operating hours;

9.4.b.4. Type and quantity of fuel combusted; and

9.4.b.5. The results of all compliance tests.

9.5. Reporting requirements. -- Any owner or operator of an affected engine or affected NO_x emitting equipment subject to a compliance plan under subsection 9.2 must:

9.5.a. Notify the Secretary of any performance test under paragraph 9.3.b.2 at least 15 days in advance of such test;

9.5.b. Submit results of all performance tests to the Secretary within 30 days of completion of such tests; and

9.5.c. Submit a report which documents the total ozone season NO_x emissions and certifies compliance with the compliance plan for each affected engine or affected NO_x emitting equipment to the Secretary by October 31 of each year, beginning in 2009. The report must demonstrate and certify compliance with the applicable ozone season NO_x reduction set forth in subsection 9.1.

§45-40-10. Ozone season NO_x reduction requirements for emissions of NO_x from cement manufacturing kilns.

10.1. Standard requirements. -- Effective May 1, 2009, an owner or operator of any Portland cement kiln subject to this section must not operate the kiln during May 1 through September 30 unless the kiln has installed and operates during May 1 to September 30 with low-NO_x burners, mid-kiln firing or alternative control techniques, subject to approval by the Administrator, that achieve at least the same emissions decreases as low-NO_x burners or mid-kiln firing.

10.2. NO_x compliance plan. -- Any owner or operator of a source subject to the standard requirements of subsection 10.1 may elect to use NO_x reductions from any non-affected kiln at a source with a Portland cement kiln under subsection 4.3. If the owner or operator so elects, he or she must submit for approval to the Administrator by May 1, 2009 a NO_x compliance plan which demonstrates the method(s) by which the operator will achieve NO_x reductions from non-affected kilns which achieve at least the same emissions decreases set forth in the standard requirements of subsection 10.1.

10.3. Reporting requirements. -- Any owner or operator subject to the standard requirements of subsection 10.1 must comply with the following reporting requirements:

10.3.a. By May 1, 2009, submit to the Secretary and Administrator the identification number and type of each kiln subject to this section, the name and address of the plant where the kiln is located and the name and telephone number of the person responsible for demonstrating compliance with this section; and

10.3.b. Submit a report documenting for that kiln the total NO_x emissions from May 1 through September 30 of each year to the Secretary and Administrator by October 31 of each year, beginning in 2009.

10.4. Monitoring requirements.

10.4.a. Any owner or operator of a kiln subject to this section must complete an initial performance test and subsequent annual testing consistent with the requirements of 40 CFR part 60, Appendix A, Method 7, 7A, 7C, 7D or 7E; and 45CSR16; and

10.4.b. The operator may use the results of continuous emission monitoring system (CEMS) to

45CSR40

replace the annual testing requirements set forth in subdivision 10.4.a. Such equipment must be installed and operated consistent with 40 CFR part 75.

10.5. Recordkeeping requirements. -- Any owner or operator of a kiln subject to this section must produce and maintain records which include, but are not limited to:

10.5.a. The emissions, in pounds of NO_x per ton of clinker produced from each affected Portland cement kiln;

10.5.b. The type of control used for each affected Portland cement kiln;

10.5.c. The date, time and duration of any startup, shutdown or malfunction in the operation of any of the cement kilns or the emissions monitoring equipment;

10.5.d. The results of any performance testing;

10.5.e. Daily cement kiln production records; and

10.5.f. All records required to be produced or maintained will be retained on site for a minimum of 5 years and be made available to the Secretary or Administrator upon request.

§45-40-11. Inconsistency between rules.

11.1. In the event of any inconsistency between this rule and any other rule of the Division of Air Quality, the inconsistency will be resolved by the determination of the Secretary and the determination will be based upon the application of the more stringent provision, term, condition, method or rule.