

RULE 4305 BOILERS, STEAM GENERATORS, AND PROCESS HEATERS - PHASE 2
(Adopted December 16, 1993; Amended March 16, 1995; Amended December 19, 1996; Amended December 19, 2002, Amended August 21, 2003)

1.0 Purpose

The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from boilers, steam generators, and process heaters.

2.0 Applicability

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a rated heat input greater than 5 million Btu per hour.

3.0 Definitions

3.1 Annual Heat Input: the actual, total heat input of fuels burned by a unit in a calendar year, as determined from the higher heating value and cumulative annual usage of each fuel.

3.2 Boiler or Steam Generator: any external combustion equipment fired with any fuel used to produce hot water or steam.

3.3 Box or Cabin Type Unit: a natural or induced draft unit with a rated heat input equal to or less than 40 MMBtu/hr, and which has a rectangular shaped radiant section with any horizontal distance between opposite inner walls of 12 feet or less. Said unit must be permanently installed at a gas processing plant or petroleum refinery and have a valid Permit to Operate on December 19, 1996.

3.4 British Thermal Unit (Btu): the amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

3.5 Dryer: any unit in which material is dried in direct contact with the products of combustion.

3.6 Gaseous fuel: any fuel which is a gas at standard conditions.

3.7 Heat Input: the heat (hhv basis) released due to fuel combustion in a unit, not including the sensible heat of incoming combustion air and fuel.

3.8 Higher Heating Value (hhv): the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resulting products are brought to their standard states at standard conditions.

- 3.9 Induced Draft Unit: a unit with an air fan located downstream of the combustion chamber, which creates negative pressure on the combustion chamber. This negative pressure draws, or induces, combustion air into the burner register.
- 3.10 Liquid Fuel: any fuel which is a liquid at standard conditions.
- 3.11 Natural Draft Unit: a unit with no combustion air fan or exhaust fan.
- 3.12 NO_x Emissions: the sum of oxides of nitrogen expressed as NO₂ in the flue gas.
- 3.13 Parts Per Million by Volume (ppmv): the ratio of the number of gas molecules of a given species, or group of species, to the number of millions of total gas molecules.
- 3.14 Process Heater: any combustion equipment fired with liquid and/or gaseous fuel and which transfers heat from combustion gases to water or process streams. This definition excludes: kilns or ovens used for drying, baking, cooking, calcining, or vitrifying; and unfired waste heat recovery heaters used to recover sensible heat from the exhaust of combustion equipment.
- 3.15 Public Utilities Commission (PUC) Quality Natural Gas: any gaseous fuel, gas-containing fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet and no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet. PUC quality natural gas also means high methane gas (at least 80% methane by volume) as specified in PUC General order 58-A.
- 3.16 PUC Quality Natural Gas Curtailment: means a shortage in the supply of Public Utility Commission (PUC) quality natural gas, due solely to supply limitations or restrictions in distribution pipelines by the utility supplying the gas, and not due to the cost of natural gas.
- 3.17 Qualified Technician: a stationary source employee or any personnel contracted by a stationary source operator who has a documented training and a demonstrated experience performing tune-ups on a unit to the satisfaction of the APCO. The documentation of tune-up training and experience shall be made available to the APCO upon request.
- 3.18 Rated Heat Input (million Btu per hour): the heat input capacity specified on the nameplate of the unit. If the unit has been physically modified such that its maximum heat input differs from what is specified on the nameplate, the modified maximum heat input shall be considered as the rated heat input and made enforceable by Permit to Operate.
- 3.19 Re-ignition: the relighting of a unit after an unscheduled and unavoidable

interruption or shut off of the fuel flow or electrical power, for a period of less than 30 minutes, due to reasons outside the control of the operator.

- 3.20 Replacement Standby Unit: a unit permanently installed at a single stationary source that replaces a primary unit during breakdown or maintenance of the primary unit. Simultaneous operation of the replacement standby unit and the primary unit shall not occur except during start-up, shutdown, or tune-up of the primary unit.
- 3.21 Shutdown: The period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off.
- 3.22 Small Producer: a person who is engaged exclusively in the production of oil, and who produces an average of less than 6000 barrels of crude oil per day from all operations in any one county within the District, and who does not engage in refining, transporting or marketing of refined petroleum products.
- 3.23 Solid Fuel: any fuel which is a solid at standard conditions.
- 3.24 Standard Conditions: standard conditions as defined in Rule 1020 (Definitions).
- 3.25 Start-up: the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation.
- 3.26 Unit: any boiler, steam generator or process heater as defined in this rule.
- 3.27 Vertical Cylindrical Process Heater: a bottom-firing, cylindrical natural draft process heater with a rated heat input equal to or less than 40 million Btu/hr. Such unit shall be located at a petroleum refinery.

4.0 Exemptions

- 4.1 This rule shall not apply to:
 - 4.1.1 Solid fuel fired units.
 - 4.1.2 Dryers and glass melting furnaces.
 - 4.1.3 Kilns and smelters where the products of combustion come into direct contact with the material to be heated.

- 4.1.4 Unfired or fired waste heat recovery boilers that are used to recover or augment heat from the exhaust of combustion turbines or internal combustion engines.
- 4.1.5 Any unit in which the rated heat input of each burner is less than or equal to 5 million Btu per hour as specified on the Permit to Operate, and in which each burner's products of combustion do not come into contact with the products of combustion of any other burner.
- 4.2 The requirements of Section 5.1 and 5.3 shall not apply to a unit when burning any fuel other than PUC quality natural gas during PUC quality natural gas curtailment provided fuels other than natural gas are burned no more than 336 cumulative hours in a calendar year plus 48 hours per calendar year for equipment testing, as limited by Permit to Operate.
- 4.3 Except for the provisions of Section 6.1 and either Section 5.2.1 or 5.2.2, this rule shall not apply to units operated exclusively in the months of November, December, January, or February for less than 500 hours during these four consecutive months as limited by Permit to Operate.

5.0 Requirements

All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen in accordance with Section 8.1.

5.1 Except for units subject to Section 5.2, NOx emissions shall not exceed:

5.1.1	Operated on Gaseous fuel	Operated on Liquid Fuel
For all units, except box or cabin type units and vertical cylindrical process heaters	30 ppmv or 0.036 lb/MMBtu	40 ppmv or 0.052 lb/MMBtu
For box or cabin type units, and vertical cylindrical process heaters	147 ppmv or 0.18 lb/MMBtu	155 ppmv or 0.2 lb/MMBtu

5.1.2 When a unit is operated on combinations of gaseous fuel and liquid fuel the NOx limit shall be the heat input weighted average of the limits specified in Section 5.1.1, as calculated by the equation below.

$$\text{Weighted Average Limit} = \frac{(\text{NO}_x \text{ limit for gaseous fuel} \times G) + (\text{NO}_x \text{ limit for liquid fuel} \times L)}{G + L}$$

Where: G = annual heat input from gaseous fuel
 L = annual heat input from liquid fuel

5.2 For each unit that is operated with an annual heat input less than 30 billion Btu as made enforceable by Permit to Operate, or any permitted replacement standby unit that is operated with an annual heat input less than 90 billion Btu as made enforceable by Permit to Operate, the operator shall comply with one of the following:

5.2.1 tune the unit at least once each calendar year in which it operates by a qualified technician in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters); or

5.2.2 operate the unit in a manner that maintains exhaust oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis; or

5.2.3 operate the unit in compliance with the applicable emission requirements of Sections 5.1 and 5.3.

5.3 For units subject to Section 5.1, carbon monoxide emissions shall not exceed 400 ppmv.

5.4 Monitoring Provisions

5.4.1 The operator of any unit which simultaneously fires gaseous and liquid fuels, and is subject to the requirements of Section 5.1 and 5.3, shall install and maintain an operational non-resettable, totalizing mass or volumetric flow meter in each fuel line to each unit. Volumetric flow measurements shall be compensated for temperature and pressure.

5.4.2 The operator of any unit subject to the applicable emission limits in Section 5.1, 5.2.3, and 5.3 shall either install and maintain an operational APCO approved Continuous Emissions Monitoring System (CEMS) for NO_x, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved Alternate Monitoring System. An APCO approved CEMS shall comply with the requirements of 40 Code of Federal Regulation (CFR) Part 51, 40 CFR Parts 60.7 and 60.13 (except subsection h), 40 CFR 60 Appendix B (Performance Specifications) and 40 CFR 60 Appendix F (Quality Assurance Procedures, and applicable provisions of Rule 1080 (Stack Monitoring). An APCO approved

Alternate Emission Monitoring System shall monitor one or more of the following:

- 5.4.2.1 periodic NOx and CO exhaust emission concentrations,
- 5.4.2.2 periodic exhaust oxygen concentration,
- 5.4.2.3 flow rate of reducing agent added to exhaust,
- 5.4.2.4 catalyst inlet and exhaust temperature,
- 5.4.2.5 catalyst inlet and exhaust oxygen concentration,
- 5.4.2.6 periodic flue gas recirculation rate,
- 5.4.2.7 other operational characteristics.

5.4.3 For units subject to the requirements of Section 5.2.1 or 5.2.2, monitor operational characteristics recommended by the manufacturer and approved by the APCO.

5.4.4 The operator of any unit subject to Section 5.2.1 or 5.2.2 shall install and maintain an operational non-resettable, totalizing mass or volumetric flow meter in each fuel line to each unit. Volumetric flow measurements shall be periodically compensated for temperature and pressure. A master meter, which measures fuel to all units in a group of similar units, may satisfy these requirements if approved by the APCO in writing. The cumulative annual fuel usage may be verified from utility service meters, purchase or tank fill records, or other acceptable methods, as approved by the APCO.

5.5 Compliance Determination

5.5.1 The operator of any unit shall have the option of complying with either the heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.1. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling).

5.5.2 All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance with the requirements of Section 5.1 or 5.3 shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Until February 21, 2004, no determination of compliance with the requirements of Section 5.1 or 5.3 shall be established during start-up or shutdown.

5.5.3 All Continuous Emissions Monitoring System (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes

to demonstrate compliance with the applicable emission limits of this rule. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule.

- 5.5.4 For emissions monitoring pursuant to Sections 5.4.2, 5.4.2.1, and 6.3.1 using a portable NOx analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period.
- 5.5.5 For emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.
- 5.5.6 Start-up and Shutdown Requirements

On and after February 22, 2004, the emission limits in Sections 5.1, 5.2.3, and 5.3 shall not apply during start-up or shutdown provided the operator complies with the requirements specified below.

- 5.5.6.1 The duration of each start-up or each shutdown shall not exceed two hours.
- 5.5.6.2 The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown.
- 5.5.6.3 Notwithstanding the requirement of Section 5.5.6.1, an operator may submit an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.5.6.3.1 through 5.5.6.4.
 - 5.5.6.3.1 The maximum allowable duration of start-up or shutdown will be determined by the APCO. The allowable duration of start-up shall not exceed twelve hours and the allowable duration of shutdown shall not exceed nine hours.

5.5.6.3.2 The APCO will only approve start-up or shutdown duration longer than two hours when the application meets the following conditions.

5.5.6.3.2.1 clearly identifies the control technologies or strategies to be utilized; and

5.5.6.3.2.2 describes what physical conditions prevail during start-up or shutdown periods that prevent the controls from being effective; and

5.5.6.3.2.3 provides a reasonably precise estimate as to when the physical conditions will have reached a state that allows for the effective control of emissions.

5.5.6.4 The operator shall submit to the APCO any information deemed necessary by the APCO to determine the appropriate length of start-up or shutdown. The information shall include, but is not limited to the following:

5.5.6.4.1 a detailed list of activities to be performed during start-up or shutdown and a reasonable explanation for the length of time needed to complete each activity; and

5.5.6.4.2 a description of the material process flow rates and system operating parameters, etc., the operator plans to evaluate during the process optimization; and

5.5.6.4.3 an explanation of how the activities and process flow affect the operation of the emissions control equipment; and

5.5.6.4.4 basis for the requested additional duration of start-up or shutdown

5.5.6.5 Permit to Operate modification solely to include start-up or shutdown conditions shall be exempt from the Best Available Control Technology (BACT) and offset

requirements of Rule 2201 (New and Modified Stationary Source Review Rule) for applications for Authority to Construct that are submitted and are approved by the APCO before February 21, 2004.

- 5.6 The operator of any functionally identical replacement for a box or cabin type unit shall not operate such unit in a manner which results in a measured NOx emissions concentration of greater than 30 ppmv when firing on gaseous and 40 ppmv when firing on liquid fuel.

6.0 Administrative Requirements

6.1 Recordkeeping

The records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records that demonstrate compliance or that documents the applicable exempt status requirements of this rule shall constitute a violation of this rule.

- 6.1.1 The operator of any unit operated under the exemption of Section 4.2 shall monitor and record for each unit the cumulative annual hours of operation on each fuel other than natural gas during natural gas curtailment and during equipment testing. Failure to maintain records required by Section 6.1.1 or information contained in the records that demonstrates noncompliance with the conditions for exemption under Section 4.2 will result in loss of exemption status. On and after August 21, 2003, any unit losing an exemption status shall be brought into full compliance with this rule as specified in Section 7.5.
- 6.1.2 The operator of any unit operated under the exemption of Section 4.3 shall monitor and record for each unit the cumulative annual hours of operation. Failure to maintain the records required by Section 6.1.2 or information contained in the records that demonstrate noncompliance with the conditions for exemption under Section 4.3 will result in loss of exemption status. On and after August 21, 2003, any unit losing an exemption status shall be brought into full compliance with this rule as specified in Section 7.5.
- 6.1.3 The operator of any unit subject to Section 5.2.1 or Section 5.2.2 shall record the amount of fuel use on a monthly basis for each unit, or for a group of units as specified in Section 5.4.4.
- 6.1.4 On and after August 21, 2003, the operator of any unit subject to Section 5.2.1 or Section 6.3.1 shall maintain records to verify that tune-up and

monthly monitoring of the operational characteristics of the unit have been performed.

- 6.1.5 On and after August 21, 2003, the operator of any unit performing start-up or shutdown pursuant to Section 5.5.6 shall keep records of the duration of start-up or shutdown.

6.2 Test Methods

The following test methods shall be used unless otherwise approved by the APCO and EPA.

- 6.2.1 Fuel hhv shall be certified by third party fuel supplier or determined by:
 - 6.2.1.1 ASTM D 240-87 or D 2382-88 for liquid hydrocarbon fuels;
 - 6.2.1.2 ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.
- 6.2.2 Oxides of nitrogen (ppmv) - EPA Method 7E, or ARB Method 100.
- 6.2.3 Carbon monoxide (ppmv) - EPA Method 10, or ARB Method 100.
- 6.2.4 Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100.
- 6.2.5 NOx Emission Rate (Heat Input Basis) - EPA Method 19.
- 6.2.6 Stack gas velocities - EPA Method 2.
- 6.2.7 Stack gas moisture content - EPA Method 4.

6.3 Compliance Testing

- 6.3.1 Each unit subject to Section 5.1 or 5.2.3 shall be source tested to determine compliance with the applicable requirements of Section 5.1 and 5.3 at least once every 12 months. Gaseous fuel fired units demonstrating compliance on two consecutive 12-month source tests may defer the following source test for up to 36 months. On and after August 21, 2003, during the 36-month source testing interval, the operator shall tune the unit in accordance with the provisions of Section 5.2.1, and shall monitor, at least on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the emission limits specified in Sections 5.1.1 and 5.2.3. Tune-ups required by Sections 5.2.1 and 6.3.1 do not need to be performed for units that operate an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored. If the result of the 36-month source testing demonstrates that the unit does not meet the applicable emission limits specified in Sections 5.1.1 and 5.3, the source testing frequency shall revert to at least once every 12 months. Failure to comply with the requirements Section 6.3.1, or any source test results that exceed the emission limits in Sections 5.1.1 and 5.2.3 shall constitute a violation of this rule.

- 6.3.2 In lieu of compliance with Section 6.3.1, compliance with the applicable limits shall be demonstrated by submittal of annual emissions test results to the District from a unit or units that represents a group of units, provided:
- 6.3.2.1 All units in the group are initially source tested. The emissions from all test runs from units within the group are less than 90% of the permitted value, and the emissions do not vary greater than 25% from the average of all test runs; and
 - 6.3.2.2 All units in a group are similar in terms of rated heat input, make and series, operational conditions, fuel used, and control method. No unit with a rated heat input greater than 100 MMBtu shall be considered as part of the group; and
 - 6.3.2.3 The group is owned by a single owner and is located at a single stationary source; and
 - 6.3.2.4 Selection of the representative unit(s) is approved by the APCO prior to testing; and
 - 6.3.2.5 The number of representative units source tested shall be at least 30% of the total number of units in the group. The representative tests shall rotate each year so that within three years all units in the group have been tested at least once; and
 - 6.3.2.6 All units in the group shall have received the similar maintenance and tune-up procedures as the representative unit(s). By December 30, 2003, the operator shall submit to the APCO the specific maintenance procedures to be performed on each unit that will be included in the group for representative testing. Such maintenance procedures shall be specified in the Permit to Operate for units that are included in the group for representative testing. Any maintenance work on a unit which has no effect on emissions standards and which is not specified in the maintenance procedures shall be submitted to the APCO for approval before such unit can be included as part of the group for representative testing. Any unit that necessitates any maintenance work which has an effect on emission standards and is beyond the maintenance procedures identified in the Permit to Operate, shall not be included as part of the group for representative testing. The unit shall be source tested in accordance with the provisions of Section 6.3.1; and

6.3.2.7 Should any of the representative units exceed the required emission limits, each of the units in the group shall demonstrate compliance by source testing. Failure to complete source testing of each unit in the group within 90 days of the failed representative testing shall result in the untested units in the group being in violation of this rule. After compliance with the requirements of Section 6.3.2.7 has been demonstrated, subsequent source testing shall be performed pursuant to Sections 6.3.1 or 6.3.2.

6.4 Emission Control Plan

Effective December 19, 1996, the owner of any unit shall submit to the APCO for approval an Emissions Control Plan according to the schedule in Section 7.1. For each unit, the plan shall contain the following:

- 6.4.1 Permit to Operate number,
- 6.4.2 Fuel type and hhv,
- 6.4.3 Annual fuel consumption (Btu/yr),
- 6.4.4 Current emission level, including method used to determine emission level, and
- 6.4.5 Plan of actions, including a schedule of increments of progress, which will be taken to satisfy the requirements of Section 5.0 and the compliance schedule in Section 7.0.

7.0 Compliance Schedule

7.1 Group I through Group VII units, as defined in Sections 7.1.1 through 7.1.7, shall be in compliance with applicable requirements according to the schedule listed in Table 1.

TABLE 1 - Compliance Schedules

Group	Emission Control Plan	ATC Application	Full Compliance
I	6/16/95	6/16/95	12/16/97
II	6/16/95	6/16/97	12/16/99
III	6/16/95, except as provided in Section 7.3	6/16/98	12/31/2000
IV			12/16/94
V	6/19/97		12/19/97
VI	6/19/97	6/19/97	5/31/99
VII	6/19/97	5/31/99	5/31/2001

7.1.1 Group I units are those with annual heat input equal to or greater than 90 billion Btu requiring the installation of equipment to comply with applicable requirements.

- 7.1.2 Group II units are those with annual heat input equal to or greater than 90 billion Btu requiring the installation of equipment to comply with applicable requirements, and that meet one or more of the conditions in Sections 7.1.2.1 through 7.1.2.5.
 - 7.1.2.1 On June 16, 1995, the unit's NOx emissions were within 0.025 lb/MMBtu of the applicable limit in Section 5.1, and
 - 7.1.2.1.1 the unit's Permit to Operate limited NOx emissions to within 0.025 lb/MMBtu of the applicable limit in Section 5.1, or
 - 7.1.2.1.2 a complete application for Authority to Construct had been submitted to limit the unit's NOx emissions to within 0.025 lb/MMBtu of the applicable limit in Section 5.1.
 - 7.1.2.2 On June 16, 1995, the unit had a rated heat input of less than or equal to 35 million Btu per hour; or
 - 7.1.2.3 On June 16, 1995, the unit was identified to be shutdown or replaced to comply with this rule; or
 - 7.1.2.4 On June 16, 1995, the method of achieving compliance identified a change of fuel type or quality; or
 - 7.1.2.5 On June 16, 1995, the unit was identified as, and continues to be fired exclusively on liquid fuel and is owned by a small producer.
- 7.1.3 Group III units are those associated with any petroleum refinery engaged in the production of state required reformulated fuels.
- 7.1.4 Group IV units are those with annual heat input equal to or greater than 90 billion Btu that do not require the installation of equipment to comply with applicable requirements.
- 7.1.5 Group V units are those:
 - 7.1.5.1 with annual heat input less than 90 billion Btu that do not require the installation of equipment to comply with requirements of Section 5.1, and 5.3; or
 - 7.1.5.2 subject to Section 5.2.1 or 5.2.2.

7.1.6 Group VI units are those:

7.1.6.1 with annual heat input less than 90 billion Btu and requiring the installation of equipment to comply with requirements of Section 5.1, and 5.3; or

7.1.6.2 natural draft units rated less than or equal to 40 MMBtu/hr; or

7.1.6.3 box or cabin type units; or

7.1.6.4 vertical cylindrical process heaters.

7.1.7 Group VII units are those:

7.1.7.1 with annual heat input less than 90 billion Btu for which the method of achieving compliance includes change of fuel type or quality; or

7.1.7.2 with annual heat input less than 90 billion Btu which will be shutdown or replaced to comply with this rule.

7.2 As shown in Table 1, the column labeled:

7.2.1 "Emission Control Plan" identifies the date by which the owner shall submit an Emission Control Plan pursuant to Section 6.4 which identifies all units subject to this rule and units exempted by Section 4.3. The Emission Control Plan shall identify steps to be taken to comply with this rule.

7.2.2 "ATC Application" identifies the date by which the owner shall submit a complete application for Authority to Construct for necessary modifications to each unit.

7.2.3 "Full Compliance" identifies the date by which the owner shall demonstrate that each unit is in compliance with applicable requirements.

7.3 The operator of any Group III unit shall submit an Emission Control Plan by June 19, 1997 for:

7.3.1 any unit with annual heat input less than 90 billion Btu, or

7.3.2 any natural draft unit with a rated heat input less than or equal to 40 MMBtu/hr.

7.4 The operator of any Group I, II, III, or IV unit that was not in operation on or before December 16, 1993, or any Group V, VI, or VII unit that is not in operation on or before December 19, 1996, shall:

7.4.1 comply with the schedule in Section 7.1, or

7.4.2 submit a complete application for Authority to Construct for any modifications necessary to comply with this rule prior to operation of the unit, and comply with the applicable provisions of this rule upon initial operation of the unit.

7.5 The operator of a unit which, after August 21, 2003, exceeds an hours of operation, fuel use, or heat input limit specified in Sections 4.2, 4.3, or 5.2 shall be in compliance with the applicable requirements of this rule on the date that the exemption status is lost.

8.0 Calculations

8.1 All ppmv emission limits specified in Section 5.0 are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen as follows:

$$[\text{ppm NO}_x]_{\text{corrected}} = \frac{17.95\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm NO}_x]_{\text{measured}}$$

$$[\text{ppm CO}]_{\text{corrected}} = \frac{17.95\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm CO}]_{\text{measured}}$$

8.2 All pounds per million Btu NO_x emission rates shall be calculated as pounds of nitrogen dioxide per million Btu of heat input (hhv).

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