Texas Chapter 117 - Control of Air Pollution From Nitrogen Compounds

SUBCHAPTER C: COMBUSTION CONTROL AT MAJOR UTILITY ELECTRIC GENERATION SOURCES IN OZONE NONATTAINMENT AREAS

DIVISION 1: BEAUMONT-PORT ARTHUR OZONE NONATTAINMENT AREA UTILITY ELECTRIC GENERATION SOURCES
Adopted by TCEQ May 23, 2007 effective June 14, 2007 (7-27).
Submitted to EPA May 30, 2007.
Approved by EPA December 3, 2008 (73 FR 73562) effective January 2, 2009 (TXd97).

Outline:

§117.1000. Applicability. 7-27 (page 253), TXd97

§117.1003. Exemptions. 7-27 (page 253), TXd97

§117.1005. Emission Specifications for Reasonably Available Control Technology (RACT). 7-27 (page 255), TXd97

§117.1010. Emission Specifications for Attainment Demonstration. 7-27 (page 258), TXd97
NOT in SIP: Subsection 117.1010(b)

§117.1015. Alternative System-Wide Emission Specifications. 7-27 (page 259), TXd97

§117.1020. System Cap. 7-27 (page 262), TXd97

§117.1035. Initial Demonstration of Compliance. 7-27 (page 266), TXd97

§117.1040. Continuous Demonstration of Compliance. 7-27 (page 268), TXd97

§117.1045. Notification, Recordkeeping, and Reporting Requirements. 7-27 (page 272), TXd97

§117.1052. Final Control Plan Procedures for Reasonably Available Control Technology. 7-27 (page 275), TXd97

§117.1054. Final Control Plan Procedures for Attainment Demonstration Emission Specifications. 7-27 (page 277), TXd97

§117.1056. Revision of Final Control Plan. 7-27 (page 279), TXd97

*****************************end outline tx7C1d097**********************mx9*****

SUBCHAPTER C: COMBUSTION CONTROL AT MAJOR UTILITY ELECTRIC GENERATION SOURCES IN OZONE NONATTAINMENT AREAS

DIVISION 1: BEAUMONT-PORT ARTHUR OZONE NONATTAINMENT AREA UTILITY ELECTRIC GENERATION SOURCES

§§117.1000, 117.1003, 117.1005, 117.1010, 117.1015, 117.1020, 117.1035, 117.1040, 117.1045, 117.1052, 117.1054, 117.1056

STATUTORY AUTHORITY

The new sections are adopted under Texas Water Code, §5.102, concerning General Powers, §5.103, concerning Rules, and §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the Texas Water Code. In addition, the sections are adopted under Texas Health and Safety Code, §382.002, concerning Policy and Purpose, which states the policy and purpose of the State of Texas and the Texas Clean Air Act; §382.011, concerning General Powers and Duties, which provides the commission with the authority to establish the level of quality to be maintained in the state's air and the authority to control the quality of the state's air; §382.012, concerning State Air Control Plan, which requires the commission to develop plans for protection of the state's air; §382.014, concerning Emission Inventory, which authorizes the commission to require submission information relating to emissions of air contaminants; §382.016, concerning Monitoring Requirements; Examination of Records, which authorizes the commission to prescribe requirements for owners or operators of sources to make and maintain records of emissions measurements; §382.017, concerning Rules, which provides the commission the authority to adopt rules consistent with the policy and purposes of the Texas Clean Air Act; §382.021, concerning Sampling Methods and Procedures, which authorizes the commission to prescribe the sampling methods and procedures; and §382.051(d), concerning Permitting Authority of Commission Rules, which authorizes the commission to adopt rules as necessary to comply with changes in federal law or regulations applicable to permits under Chapter 382. In addition, the new sections are adopted under federal mandates contained in 42 United States Code, §§7401 *et seq.*, which require states to adopt pollution control measures in order to reach specific air quality standards in particular areas of the state.

The adopted sections implement Texas Health and Safety Code, §§382.002, 382.011, 382.012, 382.014, 382.016, 382.017, 382.021, and 382.051(d).

§117.1000. Applicability.

(a) The provisions of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources) apply to utility boilers, auxiliary steam boilers, stationary gas turbines, and duct burners in turbine exhaust ducts used in an electric power generating system, as defined in §117.10 of this title (relating to Definitions), that is located within the Beaumont-Port Arthur ozone nonattainment area and is owned or operated by:

(1) a municipality or a Public Utility Commission of Texas (PUC) regulated utility, or any of their successors, regardless of whether the successor is a municipality or is regulated by the PUC; or

(2) an electric cooperative, municipality, river authority, or public utility.

(b) The provisions of this division are applicable for the life of each affected unit within an electric power generating system or until this division or sections of this title that are applicable to an affected unit are rescinded.

§117.1003. Exemptions.

(a) Reasonably available control technology. Units exempted from the provisions of §§117.1005, 117.1015, and 117.1040 of this title (relating to Emission Specifications for Reasonably Available Control Technology (RACT); Alternative System-Wide Emission Specifications; and Continuous Demonstration of Compliance), except as specified in §117.1040(h) - (j) of this title, include the following:

(1) any new units placed into service after November 15, 1992;

(2) any utility boiler or auxiliary steam boiler with an annual heat input less than or equal to $2.2(10^{11})$ British thermal units per year; or

(3) stationary gas turbines and engines, that are:

(A) used solely to power other engines or gas turbines during startups; or

(B) demonstrated to operate less than 850 hours per year, based on a rolling 12-month average.

(b) Emission specifications for attainment demonstration. Stationary gas turbines and engines that are used solely to power other engines or gas turbines during startups are exempt from the provisions of §§117.1010, 117.1020, and 117.1040 of this title (relating to Emission Specifications for Attainment Demonstration; System Cap; and Continuous Demonstration of Compliance), except as specified in §117.1040(i) of this title.

(c) Emergency fuel oil firing.

(1) The fuel oil firing emission specifications of §§117.1005(c), 117.1010(a), 117.1015(b), and 117.1020 of this title do not apply during an emergency operating condition declared by the Electric Reliability Council of Texas or the Southeastern Electric Reliability Council, or any other emergency operating condition that necessitates oil firing. All findings that emergency operating conditions exist are subject to the approval of the executive director.

(2) The owner or operator of an affected unit shall give the executive director and any local air pollution control agency having jurisdiction verbal notification as soon as possible but no later than 48 hours after declaration of the emergency. Verbal notification must identify the anticipated date and time oil firing will begin, duration of the emergency period, affected oil-fired equipment, and quantity of oil to be fired in each unit, and must be followed by written notification containing this information no later than five days after declaration of the emergency.

(3) The owner or operator of an affected unit shall give the executive director and any local air pollution control agency having jurisdiction final written notification as soon as possible but no later than two weeks after the termination of emergency fuel oil firing. Final written notification must identify the actual dates and times that oil firing began and ended, duration of the emergency period, affected oil-fired equipment, and quantity of oil fired in each unit.

§117.1005. Emission Specifications for Reasonably Available Control Technology (RACT).

(a) No person shall allow the discharge into the atmosphere from any utility boiler or auxiliary steam boiler, emissions of nitrogen oxides (NO_x) in excess of 0.26 pounds per million British thermal units (lb/MMBtu) heat input on a rolling 24-hour average and 0.20 lb/MMBtu heat input on a 30-day rolling average while firing natural gas or a combination of natural gas and waste oil.

(b) No person shall allow the discharge into the atmosphere from any utility boiler, NO_x emissions in excess of 0.38 lb/MMBtu heat input for tangentially-fired units on a rolling 24-hour averaging period or 0.43 lb/MMBtu heat input for wall-fired units on a rolling 24-hour averaging period while firing coal.

(c) No person shall allow the discharge into the atmosphere from any utility boiler or auxiliary steam boiler, NO_x emissions in excess of 0.30 lb/MMBtu heat input on a rolling 24-hour averaging period while firing fuel oil only.

(d) No person shall allow the discharge into the atmosphere from any utility boiler or auxiliary steam boiler, NO_x emissions in excess of the heat input weighted average of the applicable emission specifications specified in subsections (a) and (c) of this section on a rolling 24-hour averaging period while firing a mixture of natural gas and fuel oil, as follows.

Figure: 30 TAC §117.1005(d)

$$EL = \frac{(0.26a + 0.30b)}{(a+b)}$$

Where:

EL	=	emission specification (heat input weighted average) on a rolling 24-hour average basis;
a	=	the percentage of total heat input from natural gas; and

b = the percentage of total heat input from fuel oil.

(e) Each auxiliary steam boiler that is an affected facility as defined by New Source Performance Standards (NSPS) 40 Code of Federal Regulations Part 60, Subparts D, Db, or Dc is limited to the applicable NSPS NO_x emission limit, unless the boiler is also subject to a more stringent permit emission limit, in which case the more stringent emission limit applies. Each auxiliary steam boiler subject to an emission specification under this subsection is not subject to the emission specifications of subsection (a), (c), or (d) of this section.

(f) No person shall allow the discharge into the atmosphere from any stationary gas turbine with a megawatt (MW) rating greater than or equal to 30 MW and an annual electric output in megawatt-hours (MW-hr) of greater than or equal to the product of 2,500 hours and the MW rating of the unit, NO_x emissions in excess of a block one-hour average of:

(1) 42 parts per million by volume (ppmv) at 15% oxygen (O_2), dry basis, while firing natural gas; and

(2) 65 ppmv at 15% O_2, dry basis, while firing fuel oil.

(g) No person shall allow the discharge into the atmosphere from any stationary gas turbine used for peaking service with an annual electric output in MW-hr of less than the product of 2,500 hours and the MW rating of the unit NO_x emissions in excess of a block one-hour average of:

(1) 0.20 lb/MMBtu heat input while firing natural gas; and

(2) 0.30 lb/MMBtu heat input while firing fuel oil.

(h) No person shall allow the discharge into the atmosphere from any utility boiler or auxiliary steam boiler subject to the NO_x emission specifications specified in subsections (a) - (e) of this section, carbon monoxide (CO) emissions in excess of 400 ppmv at 3.0% O_2, dry (or alternatively, 0.30 lb/MMBtu heat input for gas-fired units, 0.31 lb/MMBtu heat input for oil-fired units, and 0.33 lb/MMBtu heat input for coal-fired units), based on:

(1) a one-hour average for units not equipped with a continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS) for CO; or

(2) a rolling 24-hour averaging period for units equipped with CEMS or PEMS for CO.

(i) No person shall allow the discharge into the atmosphere from any stationary gas turbine with a MW rating greater than or equal to 10 MW, CO emissions in excess of a block one-hour average of 132 ppmv at 15% O_2, dry basis.

(j) No person shall allow the discharge into the atmosphere from any unit subject to this section, ammonia emissions in excess of 20 ppmv based on a block one-hour averaging period.

(k) For purposes of this subchapter, the following apply.

(1) The lower of any permit NO_x emission limit in effect on June 9, 1993, under a permit issued in accordance with Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification) and the NO_x emission specifications of subsections (a) - (g) of this section apply, except that gas-fired boilers operating under a permit issued after March 3, 1982, with a NO_x emission limit of 0.12 lb/MMBtu heat input, are limited to that rate for the purposes of this subchapter.

(2) For any unit placed into service after June 9, 1993, and prior to the final compliance date as specified in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources) as functionally identical replacement for an existing unit or group of units subject to the provisions of this chapter, the higher of any permit NO_x emission limit under a permit issued after June 9, 1993, in accordance with Chapter 116 of this title and the emission specifications of subsections (a) - (g) of this section apply. Any emission credits resulting from the operation of such replacement units are limited to the cumulative maximum rated capacity of the units replaced. The inclusion of such new units is an optional method for complying with the emission specifications of §117.1015 of this title (relating to Alternative System-

Wide Emission Specifications). Compliance with this paragraph does not eliminate the requirement for new units to comply with Chapter 116 of this title.

(l) This section no longer applies to any utility boiler after the appropriate compliance date(s) for emission specifications for attainment demonstration given in §117.9100(2) of this title.

§117.1010. Emission Specifications for Attainment Demonstration.

(a) Nitrogen oxides (NO_x) emission specifications. The owner or operator of each utility boiler shall ensure that emissions of NO_x do not exceed 0.10 pounds per million British thermal units (lb/MMBtu) heat input, on a daily average, except as provided in §117.1020 or §117.9800 of this title (relating to System Cap; and Use of Emission Credits for Compliance).

(b) (NOT PART OF SIP REVISION)

(c) Compliance flexibility.

(1) An owner or operator may use either of the following alternative methods of compliance with the NO_x emission specifications of this section:

(A) §117.1020 of this title; or

(B) §117.9800 of this title.

(2) An owner or operator may petition the executive director for an alternative to the CO or ammonia specifications of this section in accordance with §117.1025 of this title (relating to Alternative Case Specific Specifications).

(3) Section 117.1015 of this title (relating to Alternative System-Wide Emission Specifications) and §117.1025 of this title are not alternative methods of compliance with the NO_x emission specifications of this section.

§117.1015. Alternative System-Wide Emission Specifications.

(a) An owner or operator of any gaseous- or coal-fired utility boiler or stationary gas turbine may achieve compliance with the nitrogen oxides (NOx) emission specifications of §117.1005 of this title (relating to Emission Specifications for Reasonably Available Control Technology (RACT)) by achieving compliance with a system-wide emission specification. Any owner or operator who elects to comply with system-wide emission specifications shall reduce emissions of NOx from affected units so that, if all such units were operated at their maximum rated capacity, the system-wide emission rate from all units in the system as defined in §117.10 of this title (relating to Definitions) would not exceed the system-wide emission specification as defined in §117.10 of this title.

(1) The following units must comply with the individual emission specifications of §117.1005 of this title and must not be included in the system-wide emission specification:

(A) gas turbines used for peaking service subject to the emission specifications of §117.1005(g) of this title; and

(B) auxiliary steam boilers subject to the emission specifications of §117.1005(a), (c), (d), or (e) of this title.

(2) Coal-fired utility boilers must have a separate system average under this section, limited to those units.

(3) Oil-fired utility boilers must have a separate system average under this section, limited to those units. The NOx emission specification assigned to each oil-fired unit in the system must not exceed 0.5 pounds per million British thermal units (lb/MMBtu) based on a rolling 24-hour average.

(b) The owner or operator shall establish enforceable emission limits for each affected unit in the system calculated in accordance with the maximum rated capacity averaging in this section as follows:

(1) for each gas-fired unit in the system, in lb/MMBtu:

(A) on a rolling 24-hour averaging period; and

(B) on a rolling 30-day averaging period;

(2) for each coal-fired unit in the system, in lb/MMBtu on a rolling 24-hour averaging period;

(3) for stationary gas turbines, in the units of the appropriate emission specification of §117.1005 of this title; and

(4) for each fuel oil-fired unit in the system, in lb/MMBtu on a rolling 24-hour averaging period.

(c) An owner or operator of any gaseous and liquid fuel-fired utility boiler or gas turbine shall:

(1) comply with the assigned maximum allowable emission rates for gas fuel while firing natural gas only;

(2) comply with the assigned maximum allowable emission rate for liquid fuel while firing liquid fuel only; and

(3) comply with a limit calculated as the actual heat input weighted sum of the assigned gas-firing, 24-hour average, allowable emission specification and the assigned liquid-firing allowable emission specification while operating on liquid and gaseous fuel concurrently.

(d) Solely for purposes of calculating the system-wide emission specification, the allowable mass emission rate for each affected unit must be calculated from the emission specifications of §117.1005 of this title, as follows.

(1) The NOx emissions rate (in pounds per hour) for each affected utility boiler is determined by the following equation.

Figure: 30 TAC §117.1015(d)(1)

$$EL_{SW} = R \times ES$$

Where:

EL_{SW}	=	system-wide emission specification in pounds per hour;
ES	=	emission specification in lb/MMBtu; and
R	=	average activity level for fuel oil firing or maximum rated capacity for gas firing, in million British thermal units per hour (MMBtu/hr).

(2) The NOx emissions rate (in pounds per hour) for each affected stationary gas turbine is determined by the following equations.

Figure: 30 TAC §117.1015(d)(2)

$$C_{instack} = A_{NO_X} \times \left(1 - \frac{\%H_2O}{100}\right) \times \left[\left(20.9 - \frac{\%O_2}{\left(1 - \frac{\%H_2O}{100}\right)}\right) \times \frac{1}{5.9}\right]$$

$$EL_{SW} = C_{instack} \times MF \times \left(\frac{46}{28} \times 10^{-6}\right)$$

Where:

$C_{instack}$	=	the NOx in-stack concentration in parts per million by volume (ppmv);
A_{NOX}	=	the applicable NOx emission specification of §117.1005(f) or (g) of this title, in ppmv NOx at 15% oxygen (O_2), dry basis;

$\%H_2O$ = the volume percent of water in the stack gases, as calculated from the manufacturer's data, or other data as approved by the executive director, at megawatt (MW) rating and International Standards Organization (ISO) flow conditions;

$\%O_2$ = the volume percent of O_2 in the stack gases on a wet basis, as calculated from the manufacturer's data or other data as approved by the executive director, at MW rating and ISO conditions;

EL_{SW} = system-wide emission specification in pounds per hour; and

MF = the turbine manufacturer's rated exhaust flow rate, in pounds per hour at MW rating and ISO flow conditions.

§117.1020. System Cap.

(a) An owner or operator of an electric generating facility (EGF) may achieve compliance with the nitrogen oxides (NOx) emission specifications of §117.1010 of this title (relating to Emission Specifications for Attainment Demonstration) by achieving equivalent NOx emission reductions obtained by compliance with a daily and 30-day system cap emission limitation in accordance with the requirements of this section.

(b) Each EGF within an electric power generating system, as defined in §117.10 of this title (relating to Definitions), that would otherwise be subject to the NOx emission rates of §117.1010 of this title must be included in the system cap.

(c) The system cap must be calculated as follows.

(1) A rolling 30-day average emission cap must be calculated using the following equation.

Figure: 30 TAC §117.1020(c)(1)

$$Cap_{30day} = \sum_{i=1}^{N} (H_i \times R_i)$$

Where:

Cap_{30day} = the NOx 30-day rolling average emission cap in pounds per day;

i = each EGF in the electric power generating system;

N = the total number of EGFs in the emission cap;

H_i = the average of the daily heat input for each EGF in the emission cap, in million British thermal units per day, as certified to the executive director, for the system highest 30-day period in the nine months of July, August, and September 1996, 1997, and 1998. For an EGF exempt from the 40 Code of Federal Regulations (CFR) Part 75 monitoring requirements, if the heat input data corresponding to the system highest 30-day period (as determined for an EGF in the system subject to 40 CFR Part 75 monitoring) is not available, the daily average of the highest calendar month heat input in 1996 - 1998 may be used; and

R_i = the emission specification of §117.1010(a) of this title.

(2) A maximum daily cap must be calculated using the following equation.

Figure: 30 TAC §117.1020(c)(2)

$$Cap_{daily} = \sum_{i=1}^{N} (H_{mi} \times R_i)$$

Where:

Cap_{daily} = the NOx maximum daily cap in pounds per day;

i = as defined in paragraph (1) of this subsection;

N = as defined in paragraph (1) of this subsection;

H_{mi} = the maximum daily heat input, as certified to the executive director, allowed or possible (whichever is lower) in a day; and

R_i = as defined in paragraph (1) of this subsection.

(3) Each EGF in the system cap is subject to the emission limits of both paragraphs (1) and (2) of this subsection at all times.

(d) The NOx emissions monitoring required by §117.1040 of this title (relating to Continuous Demonstration of Compliance) for each EGF in the system cap must be used to demonstrate continuous compliance with the system cap.

(e) For each operating EGF, the owner or operator shall use one of the following methods to provide substitute emissions compliance data during periods when the NOx monitor is off-line:

(1) if the NOx monitor is a continuous emissions monitoring system (CEMS):

(A) subject to 40 Code of Federal Regulations (CFR) Part 75, use the missing data procedures specified in 40 CFR Part 75, Subpart D (Missing Data Substitution Procedures); or

(B) subject to 40 CFR Part 75, Appendix E, use the missing data procedures specified in 40 CFR Part 75, Appendix E, §2.5 (Missing Data Procedures);

(2) use Appendix E monitoring in accordance with §117.1040(d) of this title;

(3) if the NOx monitor is a predictive emissions monitoring system (PEMS):

(A) use the methods specified in 40 CFR Part 75, Subpart D; or

(B) use calculations in accordance with §117.8110(b) of this title (relating to Emission Monitoring System Requirements for Utility Electric Generation Sources); or

(4) use the maximum block one-hour emission rate as measured by the 30-day testing.

(f) The owner or operator of any EGF subject to a system cap shall maintain daily records indicating the NOx emissions and fuel usage from each EGF and summations of total NOx emissions and fuel usage for all EGFs under the system cap on a daily basis. Records must also be retained in accordance with §117.1045 of this title (relating to Notification, Recordkeeping, and Reporting Requirements).

(g) The owner or operator of any EGF subject to a system cap shall report any exceedance of the system cap emission limit within 48 hours to the appropriate regional office. The owner or operator shall then follow up within 21 days of the exceedance with a written report to the regional office that includes an analysis of the cause for the exceedance with appropriate data to demonstrate the amount of emissions in excess of the applicable limit and the necessary corrective actions taken by the company to assure future compliance. Additionally, the owner or operator shall submit semiannual reports for the monitoring systems in accordance with §117.1045 of this title.

(h) The owner or operator of any EGF subject to a system cap shall demonstrate initial compliance with the system cap in accordance with the schedule specified in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources).

(i) An EGF that is permanently retired or decommissioned and rendered inoperable may be included in the system cap emission limit, provided that the permanent shutdown occurred after January 1, 1999. The system cap emission limit is calculated in accordance with subsection (b) of this section.

(j) Emission reductions from shutdowns or curtailments that have been used for netting or offset purposes under the requirements of Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification) may not be included in the baseline for establishing the cap.

(k) For the purposes of determining compliance with the system cap emission limit, the contribution of each affected EGF that is operating during a startup, shutdown, or emissions event as defined in §101.1 of this title (relating to Definitions) must be calculated from the NO_x emission rate measured by the NO_x monitor, if operating properly. If the NO_x monitor is not operating properly, the substitute data procedures identified in subsection (e) of this section must be used. If neither the NO_x monitor nor the substitute data procedure are operating properly, the owner or operator shall use the maximum daily rate measured during the initial demonstration of compliance, unless the owner or operator provides data demonstrating to the satisfaction of the executive director and the United States Environmental Protection Agency that actual emissions were less than maximum emissions during such periods.

(l) An owner or operator of a source of NOx who is participating in the system cap under this section may exceed their system cap provided that the owner or operator is complying with the requirements of §117.9800 of this title (relating to Use of Emission Credits for Compliance) or Chapter 101, Subchapter H, Division 1, 4, or 5 of this title (relating to Emission Credit Banking and Trading; Discrete Emission Credit Banking and Trading; and System Cap Trading).

(m) In the event that a unit within an electric power generating system is sold or transferred, the unit must become subject to the transferee's system cap.

§117.1035. Initial Demonstration of Compliance.

(a) The owner or operator of all units that are subject to the emission specifications of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources) shall test the units as follows.

(1) The units must be tested for nitrogen oxides (NOx), carbon monoxide (CO), and oxygen (O_2) emissions.

(2) Units that inject urea or ammonia into the exhaust stream for NOx control must be tested for ammonia emissions.

(3) Testing must be performed in accordance with the schedules specified in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources).

(b) The tests required by subsection (a) of this section must be used for determination of initial compliance with the emission specifications of this division. Test results must be reported in the units of the applicable emission specifications and averaging periods. If compliance testing is based on 40 Code of Federal Regulations Part 60, Appendix A reference methods, the report must contain the information specified in §117.8010 of this title (relating to Compliance Stack Test Reports).

(c) Continuous emissions monitoring systems (CEMS) or predictive emissions monitoring systems (PEMS) required by §117.1040 of this title (relating to Continuous Demonstration of Compliance) must be installed and operational before testing under subsection (a) of this section. Verification of operational status must, at a minimum, include completion of the initial monitor certification and the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(d) Initial compliance with the emission specifications of this division for units operating with CEMS or PEMS in accordance with §117.1040 of this title must be demonstrated after monitor certification testing using the NOx CEMS or PEMS as follows.

(1) To comply with the NOx emission specification in pounds per million British thermal units (lb/MMbtu) on a rolling 30-day average, NOx emissions from a unit are monitored for 30 successive unit operating days and the 30-day average emission rate is used to determine compliance with the NOx emission specification. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) To comply with the NOx emission specification in lb/MMBtu on a rolling 24- hour average, NOx emissions from a unit are monitored for 24 consecutive operating hours and the 24-hour average emission rate is used to determine compliance with the NOx emission specification. The 24-hour average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 24-hour test period. Compliance with the NOx emission specification for fuel oil firing must be determined based on the first 24 consecutive operating hours a unit fires fuel oil.

(3) For any electric generating facility (EGF) complying with §117.1020 of this title (relating to System Cap), a rolling 30-day average of total daily pounds of NOx emissions from the EGF must be monitored (or calculated in accordance with §117.1020(e) of this title) for 30 successive system operating days and the 30-day average emission rate is used to determine compliance with the NOx emission specification. The 30-day average emission rate is calculated as the average of all daily emissions data recorded by the monitoring and recording system during the 30-day test period. There must be no exceedances of the maximum daily cap during the 30-day test period.

(4) To comply with the NOx emission specification in pounds per hour or parts per million by volume (ppmv) at 15% O_2 dry basis, on a block one-hour average, any one-hour period while operating at the maximum rated capacity, or as near thereto as practicable, after CEMS or PEMS certification testing required in §117.1040 of this title is used to determine compliance with the NOx emission specification.

(5) To comply with the CO emission specification in ppmv on a rolling 24-hour average, CO emissions from a unit are monitored for 24 consecutive hours and the rolling 24-hour average emission rate is used to determine compliance with the CO emission specification. The rolling 24-hour average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 24-hour test period.

§117.1040. Continuous Demonstration of Compliance.

(a) Nitrogen oxides (NOx) monitoring. The owner or operator of each unit subject to the emission specifications of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources), shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS), predictive emissions monitoring system (PEMS), or other system specified in this section to measure NOx on an individual basis. Each NOx monitor (CEMS or PEMS) is subject to the relative accuracy test audit relative accuracy requirements of 40 Code of Federal Regulations (CFR) Part 75, Appendix B, Figure 2, except the concentration options (parts per million by volume (ppmv) and pounds per million British thermal units) do not apply. Each NOx monitor must meet either the relative accuracy percent requirement of 40 CFR Part 75, Appendix B, Figure 2, or an alternative relative accuracy requirement of $\pm$ 2.0 ppmv from the reference method mean value.

(b) Carbon monoxide (CO) monitoring. The owner or operator shall monitor CO exhaust emissions from each unit subject to the emission specifications of this division using one or more of the methods specified in §117.8120 of this title (relating to Carbon Monoxide (CO) Monitoring).

(c) CEMS requirements. The owner or operator of any CEMS used to meet a pollutant monitoring requirement of this section shall comply with the requirements of §117.8110(a) of this title (relating to Emission Monitoring System Requirements for Utility Electric Generation Sources).

(d) Acid rain peaking units. The owner or operator of each peaking unit as defined in 40 CFR §72.2, may:

(1) monitor operating parameters for each unit in accordance with 40 CFR Part 75, Appendix E, §1.1 or §1.2 and calculate NOx emission rates based on those procedures; or

(2) use CEMS or PEMS in accordance with this section to monitor NOx emission rates.

(e) Auxiliary steam boilers. The owner or operator of each auxiliary steam boiler as defined in §117.10 of this title (relating to Definitions) shall:

(1) install, calibrate, maintain, and operate a CEMS in accordance with this section; or

(2) comply with the appropriate (considering boiler maximum rated capacity and annual heat input) industrial boiler monitoring requirements of §117.140 of this title (relating to Continuous Demonstration of Compliance).

(f) PEMS requirements. The owner or operator of any PEMS used to meet a pollutant monitoring requirement of this section shall comply with the following. The required PEMS and fuel flow meters must be used to demonstrate continuous compliance with the emission specifications of this division.

(1) The PEMS must predict the pollutant emissions in the units of the applicable emission specifications of this division.

(2) The PEMS must meet the requirements of §117.8110(b) of this title.

(g) Stationary gas turbine monitoring for NOx reasonably available control technology (RACT). The owner or operator of each stationary gas turbine subject to the emission specifications of §117.1005 of this title (relating to Emission Specifications for Reasonably Available Control Technology (RACT)), instead of monitoring emissions in accordance with the monitoring requirements of 40 CFR Part 75, may comply with the following monitoring requirements:

(1) for stationary gas turbines rated less than 30 megawatts (MW) or peaking gas turbines (as defined in §117.10 of this title) that use steam or water injection to comply with the emission specifications of §117.1005(g) of this title:

(A) install, calibrate, maintain, and operate a CEMS or PEMS in compliance with this section; or

(B) install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the average hourly fuel and steam or water consumption. The system must be accurate to within ± 5.0%. The steam-to-fuel or water-to-fuel ratio monitoring data must be used for demonstrating continuous compliance with the applicable emission specification of §117.1005 of this title; and

(2) for stationary gas turbines subject to the emission specifications of §117.1005(f) of this title, install, calibrate, maintain, and operate a CEMS or PEMS in compliance with this section.

(h) Totalizing fuel flow meters. The owner or operator of units listed in this subsection shall install, calibrate, maintain, and operate totalizing fuel flow meters to individually and continuously measure the gas and liquid fuel usage. A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer. In lieu of installing a totalizing fuel flow meter on a unit, an owner or operator may opt to assume fuel consumption at maximum design fuel flow rates during hours of the unit's operation. The units are:

(1) any unit subject to the emission specifications of this division;

(2) any stationary gas turbine with an MW rating greater than or equal to 1.0 MW operated more than 850 hours per year; and

(3) any unit claimed exempt from the emission specifications of this division using the low annual capacity factor exemption of §117.1003(a)(2) of this title (relating to Exemptions).

(i) Run time meters. The owner or operator of any stationary gas turbine using the exemption of §117.1003(a)(3) or (b) of this title shall record the operating time with an elapsed run time meter approved by the executive director.

(j) Loss of exemption. The owner or operator of any unit claimed exempt from the emission specifications of this division using the low annual capacity factor exemptions of §117.1003(a)(2) or (3) of this title, shall notify the executive director within seven days if the applicable limit is exceeded.

(1) If the limit is exceeded, the exemption from the emission specifications of this division is permanently withdrawn.

(2) Within 90 days after loss of the exemption, the owner or operator shall submit a compliance plan detailing a plan to meet the applicable compliance limit as soon as possible, but no later than 24 months after exceeding the limit. The plan must include a schedule of increments of progress for the installation of the required control equipment.

(3) The schedule is subject to the review and approval of the executive director.

(k) Data used for compliance. After the initial demonstration of compliance required by §117.1035 of this title (relating to Initial Demonstration of Compliance), the methods required in this section must be used to determine compliance with the emission specifications of §117.1005 of this title or §117.1010(a) of this title (relating to Emission Specifications for Attainment Demonstration). Compliance with the emission specifications may also be determined at the discretion of the executive director using any commission compliance method.

(l) Enforcement of NO_x RACT limits. If compliance with §117.1005 of this title is selected, no unit subject to §117.1005 of this title may be operated at an emission rate higher than that allowed by the emission specifications of §117.1005 of this title. If compliance with §117.1015 of this title (relating to Alternative System-Wide Emission Specifications) is selected, no unit subject to §117.1015 of this title may be operated at an emission rate higher than that approved by the executive director in accordance with §117.1052(b) of this title (relating to Final Control Plan Procedures for Reasonably Available Control Technology).

§117.1045. Notification, Recordkeeping, and Reporting Requirements.

(a) Startup and shutdown records. For units subject to the startup and/or shutdown provisions of §101.222 of this title (relating to Demonstrations), hourly records must be made of startup and/or shutdown events and maintained for a period of at least two years. Records must be available for inspection by the executive director, United States Environmental Protection Agency, and any local air pollution control agency having jurisdiction upon request. These records must include, but are not limited to: type of fuel burned; quantity of each type fuel burned; gross and net energy production in megawatt-hours (MW-hr); and the date, time, and duration of the event.

(b) Notification. The owner or operator of a unit subject to the emission specifications of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources) shall submit notification to the appropriate regional office and any local air pollution control agency having jurisdiction as follows:

(1) verbal notification of the date of any testing conducted under §117.1035 of this title (relating to Initial Demonstration of Compliance) at least 15 days prior to such date followed by written notification within 15 days after testing is completed; and

(2) verbal notification of the date of any continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS) performance evaluation conducted under §117.1040 of this title (relating to Continuous Demonstration of Compliance) at least 15 days prior to such date followed by written notification within 15 days after testing is completed.

(c) Reporting of test results. The owner or operator of an affected unit shall furnish the Office of Compliance and Enforcement, the appropriate regional office, and any local air pollution control agency having jurisdiction a copy of any testing conducted under §117.1035 of this title or any CEMS or PEMS performance evaluation conducted under §117.1040 of this title:

(1) within 60 days after completion of such testing or evaluation; and

(2) not later than the appropriate compliance schedules specified in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources).

(d) Semiannual reports. The owner or operator of a unit required to install a CEMS, PEMS, or steam-to-fuel or water-to-fuel ratio monitoring system under §117.1040 of this title shall report in writing to the executive director on a semiannual basis any exceedance of the applicable emission specifications in this division and the monitoring system performance. All reports must be postmarked or received by the 30th day following the end of each calendar semiannual period. Written reports must include the following information:

(1) the magnitude of excess emissions computed in accordance with 40 Code of Federal Regulations §60.13(h), any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the unit operating time during the reporting period:

(A) for stationary gas turbines using steam-to-fuel or water-to-fuel ratio monitoring to demonstrate compliance in accordance with §117.1040 of this title, excess emissions are computed as each one-hour period that the hourly steam-to-fuel or water-to-fuel ratio is less than the ratio determined to result in compliance during the initial demonstration of compliance test required by §117.1035 of this title; and

(B) for utility boilers complying with §117.1020 of this title (relating to System Cap), excess emissions are each daily period that the total nitrogen oxides (NO_x) emissions exceed the rolling 30-day average or the maximum daily NO_x cap;

(2) specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected unit. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted;

(3) the date and time identifying each period that the continuous monitoring system was inoperative, except for zero and span checks and the nature of the system repairs or adjustments;

(4) when no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information must be stated in the report; and

(5) if the total duration of excess emissions for the reporting period is less than 1.0% of the total unit operating time for the reporting period and the CEMS, PEMS, or steam-to-fuel or water-to-fuel ratio monitoring system downtime for the reporting period is less than 5.0% of the total unit operating time for the reporting period, only a summary report form (as outlined in the latest edition of the commission's *Guidance for Preparation of Summary, Excess Emission, and Continuous Monitoring System Reports*) must be submitted, unless otherwise requested by the executive director. If the total duration of excess emissions for the reporting period is greater than or equal to 1.0% of the total operating time for the reporting period or the CEMS or steam-to-fuel or water-to-fuel ratio monitoring system downtime for the reporting period is greater than or equal to 5.0% of the total operating time for the reporting period, a summary report and an excess emission report must both be submitted.

(e) Recordkeeping. The owner or operator of a unit subject to the requirements of this division shall maintain records of the data specified in this subsection. Records must be kept for a period of at least five years and made available for inspection by the executive director, United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction upon request. Operating records for each unit must be recorded and maintained at a frequency equal to the applicable emission specification averaging period, or for units claimed exempt from the emission specifications based on low annual capacity factor, monthly. Records must include:

(1) emission rates in units of the applicable standards;

(2) gross energy production in MW-hr (not applicable to auxiliary steam boilers);

(3) quantity and type of fuel burned;

(4) the injection rate of reactant chemicals (if applicable); and

(5) emission monitoring data, in accordance with §117.1040 of this title, including:

(A) the date, time, and duration of any malfunction in the operation of the monitoring system, except for zero and span checks, if applicable, and a description of system repairs and adjustments undertaken during each period;

(B) the results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, or operating parameter monitoring systems; and

(C) actual emissions or operating parameter measurements, as applicable;

(6) the results of performance testing, including initial demonstration of compliance testing conducted in accordance with §117.1035 of this title; and

(7) records of hours of operation.

§117.1052. Final Control Plan Procedures for Reasonably Available Control Technology.

(a) The owner or operator of units listed in §117.1000 of this title (relating to Applicability) at a major source of nitrogen oxides (NOx) shall submit a final control report to show compliance with the requirements of §117.1005 of this title (relating to Emission Specifications for Reasonably Available Control Technology (RACT)). The report must include a list of all units listed in §117.1000 of this title, showing:

(1) the NOx emission specification resulting from application of §117.1005 of this title for each non-exempt unit;

(2) the section under which NOx compliance is being established for units specified in paragraph (1) of this subsection, either:

(A) §117.1005 of this title;

(B) §117.1015 of this title (relating to Alternative System-Wide Emission Specifications);

(C) §117.1025 of this title (relating to Alternative Case Specific Specifications); or

(D) §117.9800 of this title (relating to Use of Emission Credits for Compliance);

(3) the method of NOx control for each unit;

(4) the emissions measured by testing required in §117.1035 of this title (relating to Initial Demonstration of Compliance);

(5) the submittal date, and whether sent to the Austin or the regional office (or both), of any compliance stack test report or relative accuracy test audit report required by §117.1035 of this title that is not being submitted concurrently with the final compliance report; and

(6) the specific rule citation for any unit with a claimed exemption from the emission specifications of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources).

(b) For sources complying with §117.1015 of this title, in addition to the requirements of subsection (a) of this section, the owner or operator shall:

(1) assign to each affected unit the maximum NOx emission rate, expressed in units of pounds per million British thermal units heat input on:

(A) a rolling 24-hour average and rolling 30-day average for gaseous fuel firing; and

(B) a rolling 24-hour average for oil or coal firing;

(2) submit a list to the executive director for approval of:

(A) the maximum allowable NOx emission rates identified in paragraph (1) of this subsection; and

(B) the maximum rated capacity for each unit;

(3) submit calculations used to calculate the system-wide average in accordance with §117.1015(e) of this title; and

(4) maintain a copy of the approved list of emission specifications for verification of continued compliance with the requirements of §117.1015 of this title.

(c) The report must be submitted by the applicable date specified for final control plans in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources). The plan must be updated with any emission compliance measurements submitted for units using continuous emissions monitoring system or predictive emissions monitoring system and complying with an emission specification on a rolling 30-day average, according to the applicable schedule given in §117.9100 of this title.

§117.1054. Final Control Plan Procedures for Attainment Demonstration Emission Specifications.

(a) The owner or operator of utility boilers listed in §117.1000 of this title (relating to Applicability) at a major source of nitrogen oxides (NOx) shall submit to the executive director a final

control report to show compliance with the requirements of §117.1010 of this title (relating to Emission Specifications for Attainment Demonstration). The report must include:

(1) the section under which NO_x compliance is being established for the utility boilers within the electric generating system, either:

(A) §117.1010 of this title; or

(B) §117.1020 of this title (relating to System Cap); and as applicable,

(C) §117.9800 of this title (relating to Use of Emission Credits for Compliance);

(2) the methods of NO_x control for each utility boiler;

(3) the emissions measured by testing required in §117.1035 of this title (relating to Initial Demonstration of Compliance);

(4) the submittal date, and whether sent to the Austin or the regional office (or both), of any compliance stack test report or relative accuracy test audit report required by §117.1035 of this title that is not being submitted concurrently with the final compliance report; and

(5) the specific rule citation for any utility boiler with a claimed exemption from the emission specifications of §117.1010 of this title.

(b) For sources complying with §117.1020 of this title, in addition to the requirements of subsection (a) of this section, the owner or operator shall submit:

(1) the calculations used to calculate the 30-day average and maximum daily system cap allowable emission rates;

(2) a list containing, for each unit in the cap:

(A) the average daily heat input, H_i, specified in §117.1020(c)(1) of this title;

(B) the maximum daily heat input, H_{mi}, specified in §117.1020(c)(2) of this title;

(C) the method of monitoring emissions; and

(D) the method of providing substitute emissions data when the NOx monitoring system is not providing valid data; and

(3) an explanation of the basis of the values of H_i and H_{mi}.

(c) The report must be submitted by the applicable date specified for final control plans in §117.9100 of this title (relating to Compliance Schedule for Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources). The plan must be updated with any emission compliance measurements submitted for units using continuous emissions monitoring system or predictive emissions monitoring system and complying with the system cap rolling 30-day average emission limit, according to the applicable schedule given in §117.9100 of this title.

§117.1056. Revision of Final Control Plan.

A revised final control plan may be submitted by the owner or operator, along with any required permit applications. Such a plan must adhere to the emission specification and the final compliance dates of this division (relating to Beaumont-Port Arthur Ozone Nonattainment Area Utility Electric Generation Sources). For sources complying with §§117.1005, 117.1010, or 117.1015 of this title (relating to Emission Specifications for Reasonably Available Control Technology (RACT); Emission Specifications for Attainment Demonstration; and Alternative System-Wide Emission Specifications), replacement new units may be included in the control plan. The revision of the final control plan is subject to the review and approval of the executive director.