2.119 Fuel Burning Equipment

2.119.1 Applicability and Definition of Affected Facility

(a) The affected facility to which this source category applies is any fuel burning equipment which is subject to the Georgia Rules for Air Quality Control, (Georgia Rule), Chapter 391-3-1.02(2)(lll), including rule 391-3-1.02(6)(a)2.(xii).

2.119.2 Compliance and Performance Testing for Nitrogen Oxides

(a) In conducting the performance tests required in Section 1.2, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this text or other methods and procedures as specified in this section, except as provided in Section 1.2(b). Acceptable alternative methods and procedures are given in Section 2.119.2(d). Affected facilities that meet the criteria described in 40 CFR 60.44b(k)* are not required to install the continuous monitoring systems described in this paragraph and shall used the testing procedures specified in paragraph 2.119.2(b) to determine compliance with the applicable standard.

(b) For affected facilities with a maximum design heat input capacity below 100 million BTU/hr, the owner or operator shall determine compliance as follows:

(1) Sample points shall be located as specified in Method 7E, Section 8.1.2.

(2) Method 3B shall be used for the determination of the oxygen concentration. For each run, the multi-point, integrated sampling and analytical procedure of Method 3B shall be used. The sample shall be taken simultaneously with, and at the same location, as the NO_x sample.

(3) Method 7 shall be used to determine the NO_x concentration.

(i) Each run shall consist of a minimum of four grab samples, with each sample taken at about 15-minute intervals. The NO_x concentration shall be the arithmetic average of the four grab samples.

(ii) The NO_x concentration shall be corrected to 3 percent oxygen using the following equation:

$$C_{corr} = C_{meas} (20.9-3)/(20.9-\%O_2)$$

where:

C_{corr} = corrected pollutant concentration, ppm corrected to 3 percent oxygen;

C_{meas} = pollutant concentration measured on a dry basis;

(20.9-3)	=	20.9 percent oxygen - 3 percent oxygen (defined oxygen correction basis);
20.9	=	oxygen concentration in air, percent; and
$\%O_2$	=	oxygen concentration measured on a dry basis, percent.

(c) To determine compliance with the emission limits for nitrogen oxides for affected emissions units with a maximum design heat input capacity equal to or greater than 100 million BTU/hr, the owner or operator of an affected facility shall conduct the performance test as required under Section 1.2 using the continuous monitoring system for nitrogen oxides as specified in Section 2.119.3(a).

(1) For the initial performance test, nitrogen oxides from the unit are monitored for 30 successive operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards. 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) For each hour of operation, the owner or operator shall compute the concentration of nitrogen oxides corrected to 3 percent oxygen using the equation in paragraph 2.119.2(b)(3)(ii) of this section.

(3) Except as provided in paragraph 2.119.2(c)(4) of this section, following the date on which the initial performance test is completed or required to be completed under Section 1.2, whichever date comes first, the owner or operator of an affected facility shall, upon request, determine compliance with the applicable nitrogen oxides standards through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to Section 2.119.3(a)(4)(i) or (ii) are used to calculate a 30-day rolling average emission rate on a daily basis and to prepare excess emission reports. A new 30-day rolling average emission rate is calculated each operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 operating days.

(4) In the event there are less than 30 operating days by the end of the period from May 1 to September 30, then the performance test or monitoring averaging period shall include all the operating days for that period.

(d) As an alternative to Method 7, Method 7A, 7C, 7D, or 7E may be used.

(e) For the purposes of this section, an operating day shall be defined as a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the affected unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

2.119.3 Emission Monitoring

(a) The owner or operator of an affected facility, with a maximum design heat input capacity equal to or greater than 100 million BTU/hr, shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides and oxygen concentration discharged to the atmosphere and record the output of the system. Affected facilities that meet the criteria described in 40 CFR 60.44b(k)* are not required to install the continuous monitoring systems described in this paragraph and shall follow the monitoring procedures specified in paragraph 2.119.3(b) to monitor emissions of nitrogen oxides.

(1) The continuous monitoring systems shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

(2) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor shall be expressed in parts per million by volume (ppm) corrected to 3 percent oxygen and shall be used to calculate the average emission rate. The 1-hour averages shall be calculated using the data points required under Section 1.4(h). At least 2 data points must be used to calculate each 1-hour average.

(3) The procedures under Section 1.4 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. The span value for nitrogen oxides shall be set at 90 ppm.

(4) The owner or operator of an affected facility may elect to:

(i) Comply with the provisions of paragraphs 2.119.3(a)(1), (2), and (3), of this section, or

(ii) Monitor operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to Section 2.119.4(d).

(b) The owner or operator of an affected facility, with a maximum design heat input capacity equal to or greater than 10 million BTU/hr, but less than 100 million BTU/hr, shall monitor the emissions of nitrogen oxides during the period from May 1 through September 30 each year by performing a tune-up to demonstrate that the nitrogen oxides concentrations of the emissions are below 30 ppm corrected to 3 percent oxygen. The tune-up shall use the following procedures:

(1) The tune-up shall be performed no earlier than March 1 and no later than May 1 of each calendar year. In case of initial startups that occur during the period from May 1 to September 30, a tune-up shall be performed within the first 120 hours of operation. The tune-up shall be performed at the normal maximum operating load expected during the period from May 1 to September 30 of each year.

(2) The tune-up shall be performed using the manufacturer recommended settings for reduced NO_x emissions or by using a NO_x analyzer. Adjustments shall be made, as needed, so that NO_x emissions are reduced in a manner consistent with good combustion practices and safe fuel-burning equipment operation.

(3) Following the adjustments, or determining adjustments are not required, the owner and/or operator shall carry out a measurement consisting of a minimum of three test runs to demonstrate that the average emissions are less than or equal to 30 ppm corrected to 3 percent oxygen. Each test run shall be a minimum of 30 minutes of operational data in length. Following emissions measurements in which the average is determined to be greater than 30 ppm corrected to 3 percent oxygen, the owner and/or operator shall make adjustments to the affected facility and conduct a new measurement prior to May 1, or within one day if the initial measurement is conducted during the period of May 1 through September 30. Subsequent adjustments followed by measurements shall be continued until another measurement (average of three test runs) shows the nitrogen oxides emissions are less than or equal to 30 ppm corrected to 3 percent oxygen.

(4) All measurements of NO_x and oxygen concentrations in paragraphs 2.119.3(b)(2) and (b)(3) of this section shall be conducted using the procedures of the American Society for Testing and Materials Standard (ASTM) *Test Method for Determination of NO_x, Carbon Monoxide (CO), and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers*, ASTM D 6522; or procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) *Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers*, or Procedures of EPA Reference Methods 7E and 3A.

(5) The owner and/or operator shall maintain records of all tune-ups performed in accordance with this section. These records shall indicate the date and time the tune-up was performed, the NO_x and Oxygen values determined during the measurement, state what operating parameters were adjusted to minimize NO_x emissions and explain how those settings were determined.

(6) Following the tune-up, from the period May 1 through September 30 of each year, the owner and/or operator shall operate the affected facility using the settings determined during the annual tune-up. If no parameters can be monitored to indicate the performance of the affected facility, the owner and/or operator shall certify that no adjustments have been made to the affected facility by the owner, operator and/or any third party since the measurements in Section 2.119.3(b)(3) were conducted. This certification shall be made in writing no later than October 15 of each year and shall be maintained with the records required to be maintained in paragraph 2.119.3(b)(5) of this section.

(c) As an alternative to complying with the annual tune-up requirement of Section 2.119.3(b), the owner or operator of an affected source capable of operating with a NO_x emission rate of less than or equal to 15 ppm corrected to 3 percent oxygen may conduct measurements of NO_x at a reduced frequency following an tune-up and verification demonstrating that the affected facility is capable of a NO_x emission rate of less than or equal to 15 ppm corrected to 3 percent oxygen. The Permittee may conduct subsequent tune-ups at 48 calendar month intervals. Measurements of NO_x and oxygen concentrations shall be conducted demonstrating the NO_x concentration of the emissions of the affected unit to be less than 15 ppm corrected to 3 percent oxygen using the procedures of the American Society for Testing and Materials Standard (ASTM) *Test Method for Determination of NO_x, Carbon Monoxide (CO), and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers*, ASTM D 6522, or procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) *Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers*, or Procedures of EPA Reference Methods 7E and 3A. The owner/operator shall continue to make annual certifications of no adjustments since the previous tune-up.

2.119.4 Reporting and Recordkeeping Requirements

(a) All records required under Section 2.119 shall be maintained by the owner or operator of the affected facility for a period of 5 years following the date of such record.

(b) The owner or operator of an affected facility subject to the continuous monitoring requirements for nitrogen oxides under Section 2.119.3(a) shall maintain records of the following information for each operating day:

(1) Calendar date.

(2) The average hourly nitrogen oxides emission rates (expressed as ppm corrected to 3 percent oxygen), unless the affected facility was not in operation for the day.

(3) The 30-day average nitrogen oxides emission rates (expressed as ppm corrected to 3 percent oxygen) calculated at the end of each operating day from the measured hourly nitrogen oxide emission rates for the preceding 30 operating days.

(4) Identification of any operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions limits with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of any operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(7) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(8) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(c) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under Section 2.119.3(a) shall submit a quarterly report containing the information recorded under paragraph (b) of this section with the exception of item (b)(2). All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(d) The owner or operator of each affected facility who seeks to demonstrate compliance with the applicable nitrogen oxides emissions standards through the monitoring of operating conditions under the provisions of Section 2.119.3(a)(4)(ii) shall submit to the Director for approval a plan that identifies the operating conditions to be monitored under Section 2.119.3(a)(4)(ii). This plan shall be submitted to the Director for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ppm corrected to 3 percent oxygen). Operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(3) Identify how these operating conditions, including load, will be monitored under Section 2.119.3(a)(4) on an hourly basis by the owner or operator during the period of operation of the affected facility and the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate.

If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including load, identified in the plan.

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*Code of Federal Regulations, Title 40, Part 60