2.120 Stationary Gas Turbines and Stationary Engines used to Generate Electricity

2.120.1 Applicability

(a) The affected facility to which this section applies is any stationary gas turbine or stationary engine which is subject to the requirements of the Georgia Rules for Air Quality Control (Georgia Rule), Chapter 391-3-1-.02(2)(mmm).

2.120.2 Compliance and Performance Testing for Nitrogen Oxides

(a) In conducting the performance tests required in Section 1.2, the owner and/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).

(b) The owner and/or operator shall determine compliance with the applicable nitrogen oxides emission standards 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 7E shall be used to determine the NO_x concentration.

(i) The sampling time for each run shall be at least 60 minutes.

(ii) The NO_x concentration shall be adjusted to 15 percent oxygen using the following equation:

$$C_{adj} = C_{meas}\,(20.9 - 15)/(20.9 - \%\,O_2)$$

where:

C_{adj} = pollutant concentration adjusted to 15 percent oxygen;

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

(20.9-15) = 20.9 percent oxygen - 15 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

(4) The performance test shall be performed at 100 percent of maximum load which for purposes of this section is 100 percent of the maximum manufacturer's design capacity at engine site conditions (Site Rated Horsepower).

2.120.3 Emission Monitoring

(a) The owner and/or operator of an affected facility which uses a Non Selective Catalytic Reduction (NSCR) or Selective Catalytic Reduction (SCR) system to achieve the Nitrogen Oxides emission standard shall install, calibrate, maintain, and operate a system to continuously monitor the catalyst inlet temperature. Data shall be recorded each hour or portion of each hour of operation of the catalyst.

(b) The owner and/or operator of an affected facility which uses a NSCR or SCR system to achieve the Nitrogen Oxides emission standard shall install, calibrate, maintain, and operate a monitoring device to measure the pressure drop across the catalyst.

(c) The owner and/or operator of an affected facility which uses a NSCR or SCR system to achieve the Nitrogen Oxides emission standard shall install, calibrate, maintain and operate a system to continuously monitor the reagent injection rate. Data shall be recorded each hour or portion of each hour of operation of the injection system.

(d) Following the initial performance test, the owner or operator of an affected facility shall monitor the emissions of Nitrogen Oxides during the period from May 1 through September 30 each year by performing a test measurement to demonstrate that the Nitrogen Oxides concentrations corrected to 15 percent Oxygen are below the applicable standard. The test measurements shall use the following procedures:

(1) The measurements shall be performed no earlier than March 1 and no later than May 1 of each calendar year. Should an affected facility become operational during the period from May 1 to September 20, a measurement shall be performed within the first 120 hours of operation.

(2) The measurement shall be performed using the manufacturer recommended settings for reduced Nitrogen Oxides emissions. In the event an SCR is also used to achieve the Nitrogen Oxides emissions standard, the settings for reagent (e.g., urea or ammonia) injection rate at each load level shall be recorded and maintained. Should a change in the reagent injection rate be required at any load, a new measurement at that load range shall be conducted to demonstrate that the Nitrogen Oxides concentrations of the emissions are below the applicable standard. The operation and maintenance of the SCR shall be conducted in a manner consistent with good operation practices and in a manner to minimize excess emissions of ammonia.

(3) The owner and/or operator shall carry out a measurement consisting of a minimum of three test measurements to demonstrate that the average emissions are less than or equal to the applicable standards. Each test

measurement shall be a minimum of 30 minutes in length. One test measurement shall be conducted at the minimum load during the past 12 months, one test measurement at the highest load operated during the past 12 months, and one test measurement at the average load operated during the past 12 months

(4) All measurements of Nitrogen Oxides emissions and Oxygen concentrations 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 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 or the* Procedures of EPA Reference Methods 7E and 3A.

(5) The owner and/or operator shall maintain records of all measurements performed in accordance with this section. These records shall indicate the date and time the measurements were performed, the Nitrogen Oxides and Oxygen values determined during the measurements, the reagent injection rate settings of the SCR (at 10% - 100% load as tested), if applicable, the average inlet temperature to the catalyst bed, and the pressure drop across the catalyst bed at the beginning of the measurement.

(6) Following the measurements, 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 measurement. 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 2.120.3(c)(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 2.120.3(c)(5).