Part 70 Operating Permit Amendment

Permit Amendment No.: **4911-157-0034-V-04-1** **Effective Date:**

Facility Name: **Dahlberg Combustion Turbine Electric Generating Plant**
585 Jarrett Road
Nicholson, Georgia 30565, Jackson County

Mailing Address: 585 Jarrett Road
Nicholson, Georgia 30565

Parent/Holding Company: Southern Company/Southern Power Company

Facility AIRS Number: 04-13-157-00034

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction permit for:

> The construction and operation of four simple cycle combustion turbines (Source Codes: CT11, CT12, CT13, CT14) that can produce 760 MW of electricity and are capable of firing natural gas and ultra low sulfur fuel oil. New auxiliary support equipment will include one fuel oil storage tank.

This Permit Amendment is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit Amendment and Permit No. 4911-157-0034-V-04-0. Unless modified or revoked, this Permit Amendment expires upon issuance of the next Part 70 Permit for this source.

This Permit Amendment may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 18326 dated July 8, 2008; any other applications upon which this Permit Amendment or Permit No. 4911-157-0034-V-04-0 are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **17** pages, which pages are a part of this Permit Amendment, and which hereby become part of Permit No. 4911-157-0034-V-04-0.

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Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.3 Process Description of Modification

The Combustion Turbine Electric Generating Plant currently operates ten simple cycle combustion turbines (Source Codes: CT01-CT10). Each existing combustion turbine generates a base load rating of approximately 75 megawatts (for natural gas combustion) and 77 megawatts (for fuel oil combustion) at 95 deg ^{o}F; auxiliary support equipment includes four fuel gas heaters and one fuel oil storage tank. The facility proposes to construct and operate four additional simple cycle combustion turbines (Source Codes: CT11-CT14) that can produce nominally 760 MW of electricity and are capable of firing natural gas and ultra low sulfur fuel oil; new auxiliary support equipment will include one fuel oil storage tank.

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1.1 Additional Emission Units

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements/Standards**	**Corresponding Permit Conditions**	**ID No.**	**Description**
CT11	Combustion Turbine	391-3-1-.02(2)(g) 391-3-1-.02(2)(b) 391-3-1-.03(8)(c) 40 CFR 52.21(j) 40 CFR 60, Subpart A 40 CFR 60, Subpart KKKK 40 CFR 64 Acid Rain Regulations	3.3.17 to 3.3.33, 3.4.2, 3.4.3, 4.1.3, 4.2.1, 4.2.2, 5.2.8 to 5.2.14, 6.1.7, 6.2.11 to 6.2.21, 7.14.1	DRY11 WAT11	Dry Low NOx Combustor Water Injection
CT12	Combustion Turbine	391-3-1-.02(2)(g) 391-3-1-.02(2)(b) 391-3-1-.03(8)(c) 40 CFR 52.21(j) 40 CFR 60, Subpart A 40 CFR 60, Subpart KKKK 40 CFR 64 Acid Rain Regulations	See CT11	DRY12 WAT12	Dry Low NOx Combustor Water Injection
CT13	Combustion Turbine	391-3-1-.02(2)(g) 391-3-1-.02(2)(b) 391-3-1-.03(8)(c) 40 CFR 52.21(j) 40 CFR 60, Subpart A 40 CFR 60, Subpart KKKK 40 CFR 64 Acid Rain Regulations	See CT11	DRY13 WAT13	Dry Low NOx Combustor Water Injection
CT14	Combustion Turbine	391-3-1-.02(2)(g) 391-3-1-.02(2)(b) 391-3-1-.03(8)(c) 40 CFR 52.21(j) 40 CFR 60, Subpart A 40 CFR 60, Subpart KKKK 40 CFR 64 Acid Rain Regulations	See CT11	DRY14 WAT14	Dry Low NOx Combustor Water Injection

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

3.3 Equipment Federal Rule Standards

NEW CONDITIONS

3.3.17 The Permittee shall not burn in combustion turbines (Source Codes: CT11-CT14) natural gas or fuel oil, which contains sulfur in excess of 0.0015 percent, by weight.
[40 CFR 52.21(j)(2), 40 CFR 60.4330(b)(subsumed) and 391-3-1-.02(2)(g) (subsumed)]

3.3.18 The Permittee shall install and operate, as Best Available Control Technology (BACT) for NOx on each combustion turbine (Source Codes: CT11-CT14), dry low NOx combustors for natural gas combustion and water injection for fuel oil combustion.
[40 CFR 52.21(j)(2)]

3.3.19 For purposes of this permit, the following definitions of startup and shutdown shall apply to each combustion turbine (Source Codes: CT11-CT14);
[40 CFR 52.21(j)(2)]

The time allocated to a startup are zero to 30 minutes or the time for reception of a signal from the turbine control system designating that the turbine load has reached 114 megawatts when firing natural gas and 133 megawatts when firing fuel oil, whichever is less. Time allocated to a shutdown is zero to 30 minutes.

3.3.20 The Permittee shall comply with all applicable provisions of the New Source Performance Standards (NSPS) as found in 40 CFR 60, Subpart A – "General Provisions" and 40 CFR 60 Subpart KKKK – "Standards of Performance for Stationary Combustion Turbines," for operation of each of the combustion turbines (Source Codes: CT11-CT14).
[40 CFR 60, Subpart A and Subpart KKKK]

3.3.21 The Permittee shall limit the burning of fuel(s) in each combustion turbine (Source Codes: CT11-CT14) such that the heat input from the burning of all such fuel(s) in each combustion turbine does not exceed 3.536×10^7 Btu (approximately equivalent to 16,000 hours combined) during any twelve consecutive months. For purposes of this condition, the heat input of the fuel oil burned in a turbine shall be calculated by multiplying the fuel oil (in gallons) consumed by the turbine by 140,000 Btu per gallon. The heat input of the natural gas burned in a turbine shall be calculated by multiplying the natural gas (in cubic feet) consumed by the turbine by 1,022 Btu per cubic feet.
[40 CFR 52.21(j)(2)]

3.3.22 The firing of fuel oil shall be limited such that the total consumption does not exceed 8.516×10^6 Btu (approximately equivalent to 4,000 hours) during any twelve consecutive months in any combustion turbine (Source Codes: CT11-CT14). For purposes of this condition, the heat input of the fuel oil burned in a combustion turbine shall be calculated by multiplying the fuel oil (in gallons) consumed by the turbine by 140,000 Btu per gallon.
[40 CFR 52.21(j)(2)]

3.3.23 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine (Source Codes: CT11-CT14), when burning natural gas in the combustion turbine, any gases which contain nitrogen oxides in excess of 9.0 parts per million volumetric dry (ppmvd), corrected to 15% oxygen, excluding periods of startup and shutdown.
[40 CFR 52.21(j)(2) and 40 CFR 60.4320(a)(subsumed)]

3.3.24 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine (Source Codes: CT11-CT14), when burning natural gas in the combustion turbine, any gases which:

a. Contain carbon monoxide in excess of 9.0 ppmvd corrected to 15 percent oxygen.
[40 CFR 52.21(j)(2)]

b. Contain particulate matter in excess of 9.1 pounds per hour.
[40 CFR 52.21(j)(2)]

c. Contain volatile organic compounds in excess of 5 ppmvd corrected to 15 percent oxygen, as methane.
[40 CFR 52.21(j)(2)]

3.3.25 The Permittee shall not cause to be discharged into the atmosphere from any of the combustion turbines (Source Codes: CT11-CT14), when burning natural gas in the combustion turbine, any gases which contain nitrogen oxides in excess of 15 parts per million (ppm) at 15 percent oxygen (O_2) and 0.43 pounds per megawatt-hour (lbs/MWh) (54 nanograms per joule [ng/J] of gross useful output), excluding periods of startup and shutdown.
[Table 1 of 40 CFR 60, Subpart KKKK and 40 CFR 60.4320]

3.3.26 The Permittee shall not cause to be discharged into the atmosphere from any of the combustion turbines (Source Codes: CT11-CT14) any gases that contain sulfur dioxide in excess of 0.90 pounds per megawatt-hour (lbs/Mh) (110 nanograms per Joule [ng/J]) gross useful output.
[40 CFR 60.4330(a)(1)]

3.3.27 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine (Source Codes: CT11-CT14), when burning fuel oil in the combustion turbine, any gases which contain nitrogen oxides in excess of 42 ppmvd, corrected to 15% oxygen, excluding periods of startup and shutdown.
[40 CFR 52.21(j)(2) and 40 CFR 60.4325]

3.3.28 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine (Source Codes: CT11 - CT14), when burning fuel oil in the combustion turbine, any gases which:

a. Contain carbon monoxide in excess of 30.0 ppmvd corrected to 15 percent oxygen.
[40 CFR 52.21(j)(2)]

b. Contain particulate matter in excess of 69 pounds per hour.
[40 CFR 52.21(j)(2)]

c. Contain volatile organic compounds in excess of 5 ppmvd corrected to 15 percent oxygen, as methane.
[40 CFR 52.21(j)(2)]

3.3.29 Ultra low sulfur fuel oil fired in combustion turbines (Source Codes: CT11-CT14) shall not contain more than 0.0015 percent sulfur by weight [equivalent to 15 ppm]. Fuel oil fired in combustion turbines (Source Codes: CT11-CT14) shall meet the specifications for Ultra Low Sulfur No. 1-D S-15A or Ultra Low Sulfur No. 2-D S-15A as defined by the American Society for Testing and Materials (ASTM) in ASTM D975 – "Standard Specifications for Diesel Fuel Oils."
[40 CFR 52.21(j)(2), 40 CFR 60.4330 and 391-3-1-.02(2)(g) (subsumed)]

3.3.30 Approval to construct the combustion turbines (Source Codes: CT11-CT14) shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Division may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date. For purposes of this Permit, the definition of "commence" is given in 40 CFR 52.21(b)(9).
[40 CFR 52.21(r)(2)]

3.3.31 At least 30 days prior to commencement of operation of the combustion turbines (Source Codes: CT11-CT14), the Permittee shall provide documentation to the Division of the possession of sufficient offsets required as specified under Georgia Rule 391-3-1-.03(8)(c)15. Emission reduction credits for nitrogen oxide emissions shall be in the amount of 1309 tons per year for use as offsets as required by the Non-Attainment New Source Review permitting regulations.
[391-3-1-.03(8)(c)12 and 391-3-1-.03(8)(c)15]

3.3.32 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine (Source Codes: CT11-CT14), when burning natural gas in the turbine, any gases which contain nitrogen oxides in excess of 15 ppmvd, corrected to 15% oxygen, during any thirty (30) day rolling average. The 30-day rolling average is calculated for each "generating unit operating day" and includes periods of startup and shutdown. For purposes of this Permit, "generating unit operating day" means a 24-hour period between

12:00 midnight and the following midnight during which natural gas is combusted at any time in the combustion turbine. It is not necessary for the natural gas to be completely combusted continuously for the entire 24-hour period.
[40 CFR 52.21(j)(2)]

3.3.33 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from each combustion turbine (Source Codes: CT11-CT14) NOx emissions, including emissions occurring during startup and shutdown, in excess of 297 tons during any twelve consecutive months.
[40 CFR 52.21(j)(2)]

3.4 Equipment SIP Rule Standards

3.4.2 The Permittee shall not cause, let, permit, suffer, or allow emissions from any combustion turbine (Source Codes: CT11-CT14), the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)1]

3.4.3 The Permittee shall not fire fuel containing more than 3.0 percent sulfur, by weight, in any combustion turbine (Source Codes: CT11-CT14).
[391-3-1-.02(2)(g)2]

PART 4.0 REQUIREMENTS FOR TESTING

4.1 General Testing Requirements

4.1.3 Performance and compliance tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. The methods for the determination of compliance with emission limits listed under Sections 3.2, 3.3, 3.4 and 3.5 are as follows:

a. Method 1 shall be used for the determination of sample point locations,

b. Method 2 shall be used for the determination of stack gas flow rate,

c. Method 3 or 3A shall be used for the determination of stack gas molecular weight,

d. Method 3B shall be used for the determination of the emissions rate correction factor or excess air. Method 3A may be used as an alternative to Method 3B,

e. Method 4 shall be used for the determination of stack gas moisture,

f. Method 5T shall be used for the determination of particulate matter concentration. The minimum sampling time for each run shall be one hour.

g. Method 7 or 7E shall be used for the determination of nitrogen oxides emissions. Sampling time shall be 1 hour.

h. Method 9 and the procedures contained in Section 1.3 of the above reference document shall be used for the determination of opacity,

i. Method 10 shall be used for the determination of carbon monoxide concentration. The sampling time for each run shall be at least one hour.

j. Method 19, when applicable, Section 12.5.2.1 shall be used, when applicable, to convert particulate matter, carbon monoxide, volatile organic compounds, and nitrogen oxides concentrations (i.e. grains/dscf for PM, ppm for gaseous pollutants), as determined using other methods specified in this section, to emission rates (i.e., lb/MMBtu).

k. Method 25A for the determination of concentrations of volatile organic compounds. The concentration of formaldehyde measured using Method 320 shall be added to the VOC concentration. The Permittee may use Method 18 for determining methane and ethane concentrations to subtract from the results of Method 25A.

l. ASTM Test Method D129, D1552, D2622 or D4294 shall be used for the determination of fuel sulfur content.

m. ASTM D4057 shall be used for the collection of fuel oil samples.

n. Test Method 320; ASTM D6348-03 provided that %R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70% and less than or equal to 130%; or other methods approved by the Division for the determination of formaldehyde concentrations for combustion turbines CT11, CT12, CT13, and CT14.

Minor changes in methodology may be specified or approved by the Director or his designee when necessitated by process variables, changes in facility design, or improvement or corrections that, in his opinion, render those methods or procedures, or portions thereof, more reliable.
[391-3-1-.02(3)(a)]

4.2 Specific Testing Requirements

NEW CONDITIONS

4.2.1 Within 60 days after achieving the maximum production rate at which each combustion turbine (Source Codes: CT11-CT14) will be operated, but no later than 180 days after the initial startup of each combustion turbine, the Permittee shall conduct the initial and subsequent performance tests for NOx emissions and NOx CEMS performance evaluation as specified in 40 CFR 60.4400 and 40 CFR 60.4405 for each of the combustion turbines (Source Codes: CT11-CT14) and associated NOx CEMS as required in §60.8. Subsequent NOx performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). Performance testing for NOx emissions shall be conducted using the methodologies as specified in 40 CFR 60.4400(a). The Performance tests shall be conducted both while firing natural gas and firing fuel oil.
[40 CFR 60.4400 and 40 CFR 60.4405]

4.2.2 Within 60 days after achieving the maximum production rate at which each combustion turbine (Source Codes: CT11-CT14) will be operated, but no later than 180 days after the initial startup of each turbine, the Permittee shall conduct performance tests for VOC, CO and PM on each combustion turbine. The Permittee shall conduct separate tests while firing natural gas and fuel oil in each turbine. The results of the performance tests shall be used to demonstrate compliance with the emission limits in Conditions 3.3.24 and 3.3.28. The Permittee shall furnish to the Division a written report of the results of such performance tests.
[391-3-1-.02(3), 391-3-1-.03(2)(c) and 40 CFR 52.21]

PART 5.0 REQUIRE MENTS FOR MONITORING (Related to Data Collection)

5.2 Specific Monitoring Requirements

NEW CONDITIONS

5.2.8 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated pollutants on the following equipment. Each system shall meet the applicable performance specification(s) of the Division's monitoring requirements. [391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), 40 CFR 52.21, 40 CFR 60.13, 40 CFR 60.4335b, and 40 CFR 64]

a. A Continuous Emissions Monitoring System (CEMS) for measuring nitrogen oxides concentrations in ppm and diluent (either oxygen or carbon dioxide) discharge to the atmosphere from each simple cycle combustion turbine (Source Codes: CT11-CT14). The one-hour average nitrogen oxides emissions rates shall also be recorded in pound per million Btu heat input, and ppm corrected to 15 percent oxygen on a dry basis. The diluent concentration shall be expressed in percent.

5.2.9 The following pollutant specific emission unit(s) (PSEU) is/are subject to the Compliance Assurance Monitoring (CAM) Rule in 40 CFR 64.

Emission Unit	Pollutant
CT11, CT12, CT13 and CT14	NOx

Permit conditions in this permit for the PSEU(s) listed above with regulatory citation 40 CFR 70.6(a)(3)(i) are included for the purpose of complying with 40 CFR 64. In addition, the Permittee shall meet the requirements, as applicable, of 40 CFR 64.7, 64.8, and 64.9. [40 CFR 64]

5.2.10 The Permittee shall comply with the performance criteria listed in the table below for the NOx emissions from combustion turbines (Source Codes: CT11-CT14). [40 CFR 64.6(c)(1)(iii)]

Performance Criteria [64.4(a)(3)]	Indicator No. 1 CEMS NOx Value
A. Data Representativeness [64.3(b)(1)]	NOx and CO_2 are monitored continuously by the CEMS.
B. Verification of Operational Status (new/modified monitoring equipment only) [64.3(b)(2)]	NOx and CO_2 CEMS will be installed and certified according to PS2 in 40 CFR Part 60.

Performance Criteria [64.4(a)(3)]	**Indicator No. 1 CEMS NOx Value**
C. QA/QC Practices and Criteria [64.3(b)(3)]	NOx and CO_2 analyzers are calibrated daily. They are maintained according to the QA/QC program developed specifically for the plant.
D. Monitoring Frequency [64.3(b)(4)]	NOx and CO_2 are monitored continuously except during calibration and maintenance.
E. Data Collection Procedures [64.3(b)(4)]	The DAHS retains all hourly average NOx and CO_2 data.
F. Averaging Period [64.3(b)(4)]	The 1-minute data is used to calculate the 1-hour average, which is used to calculate the 3-hour rolling average.

5.2.11 For each hour of operation of the combustion turbines (Source Codes: CT11-CT14), the Permittee shall correct the emissions of nitrogen oxides to 15 percent oxygen using Division approved equations and determine the one-hour average nitrogen oxides emissions rate as follows:
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

a. For purposes of verifying compliance with Condition 3.3.23, each one-hour average emission rate must be based upon at least 30 minutes of turbine operation and include at least two data points with each representing a 15-minute period, and exclude periods of startup and shutdown. For the purposes of this condition, each clock hour begins a new one-hour period.

b. For purposes of verifying compliance with Condition 3.3.27, each one-hour average emission rate must be based upon at least 30 minutes of turbine operation and include at least two data points with each representing a 15-minute period, and exclude periods of startup and shutdown. For the purposes of this condition, each clock hour begins a new one-hour period.

c. For purposes of verifying compliance with Condition Nos. 3.3.32 and 3.3.33, each one-hour average emission rate must be based upon at least 30 minutes of turbine operation and include at least two data points with each representing a 15-minute period. This one-hour average emission rate shall include periods of startup, shutdown, and malfunction, when applicable. For purposes of this condition, each clock hour begins a new one-hour period.

d. For each hour of operation of the combustion turbines, the Permitee shall also calculate a 3-hour average emission rate (in ppmvd at 15 percent oxygen) using the NOx emission rate determined in accordance with paragraphs a and b.

5.2.12 The Permittee shall install, calibrate, maintain, and operate a system to monitor and record the indicated parameters on the following equipment. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), 40 CFR 52.21, 40 CFR 60.4335(subsumed)]

a. The quantity of natural gas, in cubic feet, burned in each combustion turbine (Source Codes: CT11-CT14). Data shall be recorded monthly.

b. The quantity of ultra low sulfur diesel fuel, in gallons, burned in each combustion turbine (Source Codes: CT11-CT14). Data shall be recorded monthly.

c. The electrical output of each combustion turbine (Source Codes: CT11-CT14) in megawatts. The average megawatts shall be recorded hourly.

d. The cumulative total hours of operation while combusting fuel oil, during all periods of operation, for each combustion turbine (Source Codes: CT11-CT14). Data shall be recorded monthly.

5.2.13 The Permittee may elect not to monitor the total sulfur content of the fuel combusted in any of the combustion turbines (Source Codes: CT11-CT14) if the fuel is demonstrated not to exceed potential sulfur emissions of 0.060 pounds sulfur dioxide per million British Thermal Units (lbs $SO_2/10^6$ Btu) (26 nanograms sulfur dioxide per Joule [ng SO_2/J]).
[40 CFR 60.4365, 391-3-1-.02(2)(g) subsumed]

5.2.14 The Permittee shall, during any period that natural gas is fired in combustion turbines (Source Codes: CT11-CT14), calculate a 30-day rolling average NOx emission rate (in ppmvd corrected to 15% oxygen) for each turbine using the NOx emissions data determined in accordance with Condition 5.2.11.c to demonstrate compliance with Condition 3.3.32. 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. For the purposes of this condition, an operating day shall be defined as a 24-hour period between 12:00 midnight and the following midnight during which any natural gas is combusted at any time in the turbine. It is not necessary for natural gas to be combusted continuously for the entire 24-hour period.
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

v. Any unit operating period in which the 4-hour rolling average NOx emission rate exceeds the applicable emission limit in Condition 3.3.25.
[40 CFR 60.4380(b)(1)]

For the purposes of 40 CFR Part 60, Subpart KKKK, a "4-hour rolling average NO_X emission rate" is the arithmetic average of the average NO_X emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NO_X emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO_X emission rate is obtained for at least 3 of the 4 hours.

b. Exceedances: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

vi. Any twelve consecutive month total heat input from burning of natural gas and fuel oil, combined, for each combustion turbine (Source Codes: CT11-CT14) that exceeds 3.536×10^7 Btu.
[391-3-1.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

vii. Any twelve consecutive month total heat input from burning fuel oil for each combustion turbine (Source Codes: CT11-CT14) that exceeds 8.516×10^6 Btu.
[391-3-1.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

viii. Any 3-hour averaging period for which the average NOx emission rate, determined in accordance with Condition 5.2.11, exceeds 9 ppmvd at 15% oxygen for each combustion turbine (Source Codes: CT11-CT14), when the combustion turbine is fired with natural gas.
[391-3-1.02(6)(b)1, 40 CFR 70.6(a)(3)(i), 40 CFR 52.21, and 40 CFR 60.4320(a)]

ix. Any 3-hour rolling average for which the average NOx emission rate, exceeds 42 ppmvd at 15% oxygen for each combustion turbine (Source Codes: CT11-CT14) when the combustion turbine is fired with fuel oil.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i); 40 CFR 52.21, and 40 CFR 60.4325)]

x. Any time fuel oil combusted in any combustion turbine (Source Codes: CT11-CT14) exceeds 0.0015 percent sulfur by weight.
[391-3-1.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

xi. Any semiannual analysis of the natural gas combusted in any combustion turbine (Source Codes: CT11-CT14) that exceeds 0.0015 percent sulfur by weight.
[391-3-1.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

xii. Any twelve consecutive month total NOx emissions (tons) for each combustion turbine (Source Codes: CT11-CT14) that exceeds 297.5 tons.
[391-3-1.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

xiii. Any thirty-day rolling average for which the average NOx emission rate, determined in accordance with Condition 5.2.14, exceeds 15 ppmvd corrected to 15% oxygen for each combustion turbine (Source Codes: CT11-CT14) when fired with natural gas.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)

iii. Any one hour average period, excluding periods of startup, shutdown, and malfunction, during which the average megawatt output of a combustion turbine (Source Codes CT11-CT14), firing natural gas, is less than 114 megawatts.

iv Any one hour average period, excluding periods of startup, shutdown, and malfunction, during which the average megawatt output of a combustion turbine (Source Codes CT11-CT14), firing fuel oil, is less than 133 megawatts.

6.2 Specific Record Keeping and Reporting Requirements

NEW CONDITIONS

6.2.11 The sulfur content of the natural gas burned in the combustion turbines (Source Codes: CT11-CT14) shall be monitored by the submittal of a semiannual analysis of the gas as certified by the supplier or analyzed by the Permittee.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), 40 CFR 52.21, and 40 CFR 60.4365]

6.2.12 The Permittee shall maintain the following records for each combustion turbine (Source Codes: CT11-CT14).
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

a. The time that startup is initiated, the date, the minutes attributed to the startup and the minutes attributed to shutdown. If the turbine was not in operation on any given day, the records shall so note.

b. Date and start time of peak firing and date and end time of peak firing.

6.2.13 The Permittee shall verify that each shipment of fuel oil received for combustion in combustion turbines (Source Codes: CT11-CT14) complies with the specifications for Grade No. 1-D S15 or Grade No. 2-D S15 as defined by the American Society for Testing and Materials (ASTM) in ASTM D975 "Standard Specifications for Diesel Fuel Oils" by fuel oil receipts obtained from the fuel supplier. Supplier certifications shall contain the name of the supplier and a statement from the supplier indicating the grade of the fuel as defined in ASTM D975. The Permittee shall maintain these receipts as records for submittal or inspection.
[391-3-1-.02(6)(b)1, 40 CFR 52.21, 40 CFR 70.6(a)(3)(i), 40 CFR 60.4365(b)]

6.2.14 The Permittee shall retain monthly records of natural gas and fuel oil usage for each combustion turbine (Source Codes: CT11-CT14).
[391-3-1-.02(6)(b)1, 40 CFR 52.21, 40 CFR 70.6(a)(3)(i), 40 CFR 60.4335(a)]

6.2.15 The Permittee shall use the data required by Condition 6.2.14 to determine and record the following on a monthly basis:
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

a. The total monthly heat input in Btu from burning natural gas and fuel oil, on a combined basis, in each combustion turbine (Source Codes: CT11-CT14).

b. The rolling twelve month total heat input in Btu from burning natural gas and fuel oil, on a combined basis, in each combustion turbine (Source Codes: CT11-CT14).

c. The total monthly heat input in Btu from burning fuel oil in each combustion turbine (Source Codes: CT11-CT14).

d. The rolling twelve month total heat input in Btu from burning fuel oil in each combustion turbine (Source Codes: CT11-CT14).

For purposes of this condition the heat input of the fuel oil burned in a combustion turbine shall be calculated by multiplying the fuel oil consumed by the combustion turbine (in gallons) by 140,000 Btu per gallon. The heat input of the natural gas burned in a combustion turbine shall be calculated by multiplying the natural gas consumed by the combustion turbine (in cubic feet) by 1,022 Btu per cubic feet. These records shall be maintained in a form suitable for inspection or submittal.

6.2.16 The Permittee shall determine and record the mass emission rate (lb/hr) of NOx from each combustion turbine (Source Codes: CT1-CT11) for each hour or portion of each hour of operation. The hourly mass emission rate from each combustion turbine shall be calculated by multiplying the total NOx emissions in units of pound per million Btu, determined in accordance with the procedures of 40 CFR Part 75, Section 3 of Appendix F, by the total heat input for that hour determined in accordance with the procedures of 40 CFR Part 75, Section 5.5 of Appendix F. These records shall be maintained in a form suitable for inspection or submittal.
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

6.2.17 The Permittee shall use the data obtained from Condition 6.2.16 to determine and record the monthly mass emission rate, in tons per month, of NOx from each combustion turbine (Source Codes: CT1-CT11). These records shall be maintained as part of the monthly record suitable for inspection or submittal.
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

6.2.18 The Permittee shall use the records required by Condition 6.2.17 to determine and record the twelve consecutive month total emission rate, in tons, of NOx emissions from each combustion turbine (Source Codes: CT1-CT11). A twelve consecutive month total shall be the total for a month in the reporting period plus the totals for the previous eleven consecutive months. These records shall be maintained as part of the monthly record suitable for inspection or submittal.
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

6.2.19 The Permittee shall submit a report of the following information for each semiannual period ending June 30 and December 31 of each year. The reports shall be postmarked by the 30th day following the end of the semiannual period (July 30 and January 30, respectively).
[391-3-1-.02(6)(b)1, 40 CFR 52.21, and 40 CFR 70.6(a)(3)(i)]

a. The rolling twelve month total heat input in Btu from burning all fuels on a per turbine (Source Codes: CT11-CT14) basis for each month in the reporting period.

b. The rolling twelve month total heat input in Btu from burning fuel oil on a per turbine (Source Codes: CT11-CT14) basis for each month in the reporting period.

c. A copy of the fuel oil supplier certifications for each shipment of fuel oil received during the reporting period and a statement signed by a responsible official that the records of fuel supplier certifications submitted represent all of the fuel oil received during the semiannual reporting period. If no fuel oil has been received during the reporting period, the report should so state.

d. The rolling twelve consecutive month total NOx emissions from each combustion turbine (Source Codes: CT11-CT14) and for each month during the reporting period.

6.2.20 The Permittee shall furnish the Division written notification as follows:
[40 CFR 52.21 and 40 CFR 60.7]

a. A notification of the actual dates of commencement of construction of each combustion turbine (Source Codes: CT11-CT14), postmarked within 15 days after such date. For purposes of this permit, the definition of "commence" is given in 40 CFR 52.21(b)(9).

b. A notification of the actual dates of initial startup of each combustion turbine (Source Codes: CT11-CT14), postmarked within 15 days after such date. For purposes of this permit, "startup" shall mean the setting in operation of an affected facility for any purpose.

c. Certifications that a final inspection has shown that construction of each combustion turbine have been completed in accordance with the application, plans, specifications and supporting documents submitted in support of this permit.

6.2.21 The Permittee shall submit to the Division the results of the Relative Accuracy Test Audits (RATA), required by Condition 5.2.8 for the NOx CEMS, within forty-five (45) days of the completion of the RATA.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i) and 40 CFR 52.21]

PART 7.0 OTHER SPECIFIC REQUIREMENTS

7.14 Specific Conditions

7.14.1 This permit amendment shall become null and void if the construction of the combustion turbines (Source Codes: CT11-CT14) is not commenced with eighteen months of the effective date of this amendment.
[40 CFR 52.21]