

AIR QUALITY PERMIT

Permit No.
4911-103-0012-P-01-0

Effective Date
Dec 27 2001

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to or in effect under that Act,

Effingham County Power, LLC
P. O. Box 1551 CPB9A
410 S. Wilmington Street
Raleigh, NC 27602-1551

Is issued a Permit for the construction and operation of electrical power plant including following:

Simple-Cycle mode: Two GE 7FA combustion turbines nominally rated at 185MW, a 2.06 MMBtu per hour diesel-fired water pump, and one 8.75 MMBtu per hour natural gas fired fuel preheater.

Combined-Cycle mode: Equipment listed above plus two heat recovery steam generators (with no duct firing), one steam turbine generator nominally rated at 155MW, one 17 MMBtu per hour natural gas fired auxiliary boiler (source code AB1) and one cooling tower (source code CT1).

Facility location: Effingham County Facility
3440 McCall Road
Rincon, Effingham County, Georgia 31326

This Permit 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 or in effect under that Act, or any other condition of this Permit.

This Permit 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 the application dated December 21, 2000 (**Application No. 12727**), **additional information listed in Note A** and supporting data entered therein or attached thereto, or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditions upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 18 pages, which 18 pages are a part of this Permit.

Director
Environnemental Protection Division

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 1 of 18

NOTE A

Subsequent Submittals for Application No. 12727 dated December 19, 2000

Date	Description
December 27, 2000	Site location & topography
July 3, 2001	Subpart GG, Section 60.333 standard for nitrogen oxides calculation

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 2 of 18

NOTE B

FACILITY DESCRIPTION

Emission Units		Air Pollution Control Devices	
ID No.	Description	ID No.	Description
CTG1	GE 7FA Combustion Turbine nominally rated at 185 MW	SCR1	Selective Catalytic Reduction Unit (SCR) (combined cycle mode only)
CTG2	GE 7FA Combustion Turbine nominally rated at 185 MW	SCR2	Selective Catalytic Reduction Unit (SCR) (combined cycle mode only)
DWP1	Diesel Fuel Pump, 235 BHP (2.06 mmBtu/hr)	NA	NA
FP1	Fuel Preheater, 8.75 mmBtu/hr	NA	NA
AB1	Auxiliary Boiler, 17 mmBtu/hr	NA	NA
CT1	Cooling Tower, 10 cells, mechanical draft counter-flow	NA	NA
HRSG1	Heat Recovery Steam Generator (no duct firing)	NA	NA
HRSG2	Heat Recovery Steam Generator (no duct firing)	NA	NA
STG1	Steam Turbine Generator nominally rated at 155 MW	NA	NA

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Permit No. 4911-103-0012-P-01-0

Page 3 of 18

1.0 General Requirements

- 1.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall to the extent practicable maintain and operate this source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 1.2 The Permittee shall cause to be conducted a performance test at any specified emission point when so directed by the Division. The test results shall be submitted to the Division within 30 days of the completion of the testing. Any tests shall be performed and conducted using methods and procedures, which have been previously approved by the Division.
- 1.3 The Permittee shall provide the Division thirty (30) days prior written notice of the date of any performance test(s) to afford the division the opportunity to witness and/or audit the test, and shall provide with a notification a test plan in accordance with Division guidelines.

2.0 Allowable Emissions

- Note:** Except where an applicable requirement specifically states otherwise, the averaging times of any Emission 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.
- 2.1 The Permittee shall commence construction within 18 months of the date of issuance of this Permit. Approval to construct this facility shall become invalid if construction is not commenced by that date. For purposes of this Permit, the definition of “commence” is given in 40 CFR 52.21(b)(9). [40 CFR 52.21(r)]
 - 2.2 The construction of *Simple-Cycle* combustion mode which includes: combustion turbines (source codes **CTG1**, **CTG2**), diesel-fired water pump (source code **DWPI**), and fuel preheater (source code FP1) shall be completed within 12 months from the effective date of the final permit to construct and the date that such construction is legally authorized to commence without interruption, and the construction of *Combined-Cycle* mode which additionally includes: auxiliary boiler (source code **AB1**), two heat recovery steam generators (source codes **HRS1**, **HRS2**), one steam turbine generator (source code **STG1**) and cooling tower (source code **CT1**) shall be completed within 24 months from the effective date of the final permit to construct and the date that such construction is legally authorized to commence without interruption. In the event that construction of any of these units is not completed by the date specified, and absent approval by the Division for an extension of the completion date, this Permit shall become null and void with respect to that unit and all units yet to be constructed. The Permit will remain in full force and effect with regard to any units for which construction has been completed by the applicable construction deadline. [40 CFR 52.21(r)(2)]

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Permit No. 4911-103-0012-P-01-0

Page 4 of 18

- 2.3 The Permittee shall only fire natural gas in combustion turbines CTG1, and CTG2, the auxiliary boiler AB1, and the fuel preheater FP1. [40 CFR 52.21(j); 40 CFR 60.333(b)(subsumed, CTG1 and CTG2 only) and 391-3-1-.02(2)(g) (subsumed)]
- 2.4 The Permittee shall only fire low sulfur diesel fuel in diesel fuel pump DWP1. The diesel fuel shall not contain sulfur in excess of 0.05 percent, by weight. [40 CFR 52.21(j); and 391-3-1-.02(2)(g) (subsumed)]
- 2.5 The Permittee shall install drift eliminators on the cooling tower CT1 as BACT. [40 CFR 52.21(j)]
- 2.6 The Permittee shall limit the hours of operation of CTG1 and CTG2 in *Simple-Cycle* combustion mode such that the total hours of operation of each unit does not exceed 2,672 during any twelve consecutive months. [40 CFR 52.21(j)]
- 2.7 The Permittee shall limit the hours of operation of the auxiliary boiler AB1 such that the total hours of operation does not exceed 2,500 during any twelve consecutive months. [40 CFR 52.21(j)]
- 2.8 The Permittee shall limit the hours of operation of the diesel fired water pump DWP1 such that the total hours of operation of the unit does not exceed 500 hours during any twelve consecutive months. The total hour limit applies to operation of the pump for the purpose of routine maintenance and testing and to assure its dependability and availability during emergencies. [40 CFR 52.21(j)]
- 2.9 The Permittee shall not discharge or cause the discharge into the atmosphere, from combustion turbine CTG1 or CTG2 in *Simple-Cycle operation*, any gases which:
[40 CFR 52.21(j)]
- a. Contain Nitrogen Oxides (NO_x) in excess of 10 ppmvd, corrected to 15% oxygen.
[40 CFR 60.332(a)(1) (subsumed)]
 - b. Contain Carbon Monoxide (CO) in excess of 9.0 ppmvd, corrected to 15% oxygen.
 - c. Contain TSP/PM₁₀ in excess of 18 pounds per hour.
 - d. Exhibit greater than 10 percent opacity
[391-3-1-.02(2)(b)(subsumed)]
- 2.10 The Permittee shall not discharge or cause the discharge into the atmosphere, from combustion turbine CTG1 or CTG2 in *Combined-Cycle operation*, any gases which:
[40 CFR 52.21(j)]
- a. Contain NO_x in excess of 3.0 ppmvd, corrected to 15% oxygen.
[40 CFR 60.332(a)(1) (subsumed)]
 - b. Contain Carbon Monoxide (CO) in excess of 9.0 ppmvd, corrected to 15% oxygen.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 5 of 18

- c. Contain Carbon Monoxide (CO) in excess of 3.0 ppmvd, corrected to 15% oxygen, for more than 30% of the operating hours (not including hours during startup, shutdown, or malfunctions) during any calendar quarter.
 - d. Contain TSP/PM₁₀ in excess of 21.6 pounds per hour.
 - e. Exhibit greater than 10 percent opacity.
[391-3-1-.02(2)(b)(subsumed)]
- 2.11 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from any combustion turbine, CTG1 or CTG2:
- a. During simple-cycle operation, Nitrogen Oxides (NO_x) emissions, including emissions occurring during startup and shutdown, in excess of 112.2 tons during any twelve consecutive months. [40 CFR 52.21(j)]
 - b. During simple-cycle operation, carbon monoxide (CO) emissions, including emissions occurring during startup and shutdown, in excess of 41.1 tons during any twelve consecutive months. [40 CFR 52.21(j)]
 - c. During combined-cycle operation, NO_x emissions, including emissions occurring during startup and shutdown, in excess of 109.0 tons during any twelve consecutive months. [40 CFR 52.21(j)]
 - d. During combined-cycle operation, CO emissions, including emissions occurring during startup and shutdown, in excess of 144.5 tons during any twelve consecutive months. [40 CFR 52.21(j)]
- 2.12 The Permittee shall not discharge or cause the discharge into the atmosphere, from the fuel preheater FP1, any gases which:
[40 CFR 52.21(j)]
- a. Contain NO_x in excess of 0.05 lb/mmBtu.
 - b. Contain CO in excess of 0.082 lb/mmBtu.
- 2.13 The Permittee shall not discharge or cause the discharge into the atmosphere, from the auxiliary boiler AB1, any gases which:
[40 CFR 52.21(j)]
- a. Contain NO_x in excess of 0.098 lb/mmBtu.
 - b. Contain CO in excess of 0.082 lb/mmBtu.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 6 of 18

- 2.14 The following definitions of startup and shutdown shall apply in *Combined Cycle* operation: [40 CFR 52.21(j)]
- a. **Cold startup** is defined as a startup to combined cycle operation following a complete shutdown lasting at least 48 hours. The time allocated to a cold startup will be minimized to the extent allowed by best practices and the operating recommendations of the Original Equipment Manufacturer. The duration will consist of the time from initial-light off of the first gas turbine until both gas turbines have reached the operational state equivalent to 60% load output and the steam turbine has been synchronized to the grid. The amount of time to complete a cold start shall not exceed 300 minutes.
 - b. **Warm startup** is defined as a startup to combined cycle operation following a complete shutdown lasting more than two (2) hours and less than or equal to 48 hours. The time allocated to a warm startup will be minimized to the extent allowed by best practices and the operating recommendations of the Original Equipment Manufacturer. The duration will consist of the time from initial-light off of the first gas turbine until both gas turbines have reached the operational state equivalent to 60% load output and the steam turbine has been synchronized to the grid. The amount of time to complete a warm start shall not exceed 155 minutes.
 - c. **Hot startup** is defined as a startup to combined cycle operation following a complete shutdown lasting less than two (2) hours. The time allocated to a warm startup will be minimized to the extent allowed by best practices and the operating recommendations of the Original Equipment Manufacturer. The duration will consist of the time from initial-light off of the first gas turbine until both gas turbines have reached the operational state equivalent to 60% load output and the steam turbine has been synchronized to the grid. The amount of time to complete a hot start shall not exceed 80 minutes.
 - d. Unit shutdown is defined as the period of time from steady state operation to cessation of combustion turbine firing. This period shall not exceed 60 minutes for planned shutdown.
- 2.15 The following definitions of startup and shutdown shall apply to each combustion turbine, CTG1 and CTG2 in simple-cycle mode operation.
[40 CFR 52.21(j)]

The time allocated to a startup are zero to 30 minutes or the time for reception of a signal from the turbines control system designating that the turbine load is equal to or greater than 50 percent load, whichever is less. Time allocated to a shutdown is zero to 30 minutes.

For purpose of this permit, the word “startup” refers to a cold startup, warm startup, and/or hot startup.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 7 of 18

3.0 Process and Control Equipment

Not applicable.

4.0 Performance Testing

4.1 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 Section 2.0 which pertain to the emission units listed in Note B 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,
- 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 sampling time for each run shall be one hour.
- g. Method 7E shall be used for the determination of nitrogen oxide emissions. The sampling time for each run shall be one 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 one hour.
- j. Method 19 shall be used for the determination of particulate matter, carbon monoxide, and nitrogen oxides emission rates,
- k. Method 20 shall be used for the determination of nitrogen oxides concentration from the combustion turbines for 40 CFR 60 Subpart GG purposes only,
- l. Method 25 shall be used for the measurement of volatile organic compounds as total gaseous nonmethane organics as carbon. The Permittee shall convert the Method 25 measurements using a conversion factor, acceptable to the Division. The sampling time for each run shall be one hour and
- m. ASTM Test Method D129, D1552, D2622 or D4294 shall be used for the determination of fuel sulfur content.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 8 of 18

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, which, in his opinion, render those methods or procedures, or portions thereof, more reliable.

[391-3-1-.02(3)(a); and 40 CFR 60.335(c) and (d) for combustion turbines (subsumed)]

- 4.2 Within 60 days after achieving the maximum production rate at which each affected source will be operated, but not later than 180 days after initial startup, the Permittee shall conduct the following performance tests to demonstrate compliance with the emission limits listed in Section 2 of this permit and furnish to the Division a written report of the results of such performance tests:
- a. For *Simple Cycle* mode, Performance tests on each combustion turbine for nitrogen oxides emissions to demonstrate compliance with the nitrogen oxides emission standard in Condition 2.9a.
[40 CFR 52.21, 40 CFR 60.13, (subsumed); 40 CFR 60.335 (subsumed), 391-3-1-.02(6)(b)1.(i), and Approval of Routine Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated Under New Source Performance Standards Approved by U.S. EPA, May 26, 2000]
 - b. For *Simple Cycle* mode: Performance tests on each combustion turbine for CO emissions at base load and at the point at which Mode 6Q is achieved (not to exceed 60% load), CO CEMs are required, however they may not be used to satisfy this testing requirement. [40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]
 - c. For *Combined Cycle* mode, Performance tests on each combustion turbine for nitrogen oxides emissions to demonstrate compliance with the nitrogen oxides emission standard in Condition 2.10a.
[40 CFR 52.21, 40 CFR 60.13, (subsumed); 40 CFR 60.335 (subsumed), 391-3-1-.02(6)(b)1.(i), and Approval of Routine Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated Under New Source Performance Standards Approved by U.S. EPA, May 26, 2000]
 - d. For *Combined Cycle* mode, Performance tests on each combustion turbine for CO emissions at base load and at the point at which Mode 6Q is achieved (not to exceed 60% load), CO CEMs are required, however they may not be used to satisfy this testing requirement.
[40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]
 - e. For *Combined Cycle* mode, Performance tests on each combustion turbine for VOC emissions at base load and at the point at which Mode 6Q is achieved (not to exceed 60% load), to demonstrate that the facility is not subject to BACT review for VOC emissions.
[40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]
 - f. The CO and VOC tests shall be conducted concurrently.
[40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Permit No. 4911-103-0012-P-01-0

Page 9 of 18

- 4.3 Within 60 days after achieving the maximum production rate at which the affected source will be operated, but not later than 180 days after the initial startup, the Permittee shall conduct the following performance tests and furnish to the Division a written report of the results of such performance tests:
- a. Performance test on FP1 for nitrogen oxides at the maximum heat input rate for the equipment to demonstrate compliance with the nitrogen oxides standard in Conditions 2.12a. [40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]
 - b. Performance test on AB1 for nitrogen oxides at the maximum heat input rate for the equipment to demonstrate compliance with the nitrogen oxides standard in Conditions 2.13a. [40 CFR 52.21 and 391-3-1-.02(6)(b)1.(i)]

5.0 Monitoring Requirements

- 5.1 Any continuous monitoring system required by the Permit shall be in continuous operation and data recorded as set forth in this Permit during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data shall be recorded during calibration checks and zero and span adjustments. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service. [391-3-1-.02(6)(b)1]
- 5.2 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 52.21 and 40 CFR 60.334]
- a. A Continuous Emissions Monitoring System (CEMS) for measuring NO_x concentration and diluent (either oxygen or carbon dioxide) discharge to the atmosphere from each combustion turbine in either *Simple-Cycle and/or Combined-Cycle mode*. 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. [40 CFR 52.21; 391-3-1-.02(6)(b)1, 40 CFR 60.13]
 - b. A Continuous Emissions Monitoring System (CEMS) for measuring carbon monoxide concentration, and diluent (either oxygen or carbon dioxide) discharge to the atmosphere from each combustion turbine in either *Simple-Cycle and/or Combined-Cycle mode*. The one-hour average carbon monoxide emissions rates shall also be recorded in pound per million Btu heat input and ppm, corrected to 15 percent oxygen on a dry basis. [40 CFR 52.21 and 391-3-1-.02(6)(b)1]
- 5.3 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
- a. The quantity of natural gas, in cubic feet burned in the natural gas-fired preheater FP1. Data shall be recorded monthly. [391-3-1-.02(6)(b)1 and 40 CFR 52.21]

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Permit No. 4911-103-0012-P-01-0

Page 10 of 18

- b. The quantity of natural gas in cubic feet burned in the combustion turbines CTG1 and CTG2. Data shall be recorded hourly. [391-3-1-.02(6)(b)1 and 40 CFR 52.21]
 - c. The cumulative total hours of operation, during all periods of operation, for each of the following: DWP1 and AB1. Data shall be recorded monthly. [391-3-1-.02(6)(b)1 and 40 CFR 52.21].
 - d. The cumulative total hours of operation, during all periods of operation, for each of the following: CTG1 and CTG2. This applies only during *Simple Cycle* operation. Data shall be recorded monthly. [391-3-1-.02(6)(b)1 and 40 CFR 52.21].
- 5.4 The sulfur content of the natural gas burned in CTG1 and CTG2 shall be monitored by the submittal of a semiannual analysis of the gas by the supplier.
[391-3-1-.02(6)(b)1.; Approval of Routine Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated Under New Source Performance Standards Approved by U.S. EPA, May 26, 2000 and 40 CFR 60.334(b)(subsumed)]
- 5.5 No determination of the nitrogen content of the natural gas burned in the combustion turbines shall be required.
[Authority for Approval of Custom Fuel Monitoring Schedules under NSPS GG Approved by U.S. EPA August 14, 1987 and 40 CFR 60.334(b)(subsumed)]
- 5.6 For each hour of operation of the combustion turbines CTG1 and CTG2, the Permittee shall measure and record the combustor inlet absolute pressure on each combustion turbine in operation, as well as the ambient temperature (^oF) and absolute humidity (grams water/grams air) at the facility. In lieu of measuring the ambient temperature and absolute humidity, the Permittee may obtain from the nearest National Weather Service station hourly records of the ambient temperature, relative humidity, and barometric pressure for the hours of operation during that calendar day.
[391-3-1-.02(6)(b)1, and Approval of Routine Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated Under New Source Performance Standards Approved by U.S. EPA Region 4, May 26, 2000]
- 5.7 The Permittee shall, using the procedures of Appendix F, Procedure 1 (*Quality Assurance Requirements for Gas Continuous Emissions Monitoring Systems Used for Compliance Determination*) contained in the Division's **Procedures for Testing and Monitoring Sources of Air Pollutants**, assess the quality and accuracy of the data acquired by the carbon monoxide CEMS required by Condition 5.2.b. The Permittee shall maintain records specifying the results of the daily CEMS drift tests and quarterly accuracy assessments under Appendix F, Procedure 1. In addition, the Permittee shall maintain records which identify the Out-of-Control Periods (as defined in Appendix F, Procedure 1) for the CO CEMS during each calendar quarter. The following exceptions to Appendix F, Procedure 1 are allowed: [391-3-1-.02(6)(b)1]
- a. The cylinder gas audit (CGA) is only required to be conducted in a calendar quarter if the turbine is operated during the quarter.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 11 of 18

- b. A Relative Accuracy Test Audit (RATA) shall be conducted annually or every four operating quarters (not to exceed eight calendar quarters) which every is greater. For the purpose of this condition an operating quarter is defined as any calendar quarter during which the turbine is operated.

- 5.8 Permittee shall obtain CO emissions data for at least 75 percent of the operating hours for each turbine during each calendar month that a turbine is operated. If this minimum data requirement is not met using the CO CEMS required by Condition 5.2.b, the Permittee may supplement the emissions data with data obtained by conducting sampling using the methods prescribed in Condition 4.1. The Permittee shall maintain records which identify periods during each calendar month for which CO emissions data have not been obtained for 75 percent of the turbine operating hours during the month, including reasons for not obtaining sufficient data and a description of corrective actions taken. [391-3-1-.02(6)(b)1]

6.0 Ambient Monitoring

Not applicable

7.0 Fugitive Emissions

- 7.1 The Permittee shall take all reasonable precautions with any operation, process, handling, transportation, or storage facilities to prevent fugitive emissions of air contaminants.

8.0 Notification, Reporting, and Record Keeping

Record Keeping Requirements

- 8.1 The Permittee shall maintain files of all measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices. These files shall be kept in a permanent form suitable for inspection and submission to the Division, and shall be maintained for a period of at least five (5) years following the date of such measurements, reports, maintenance and records. [391-3-1-.03(10)(d)1(i), 391-3-1-.02(2)(6)(b)1(i)]
- 8.2 The Permittee shall retain monthly records of natural gas usage in each combustion turbine, CTG1 and CTG2 for *Simple-Cycle and/or Combined-Cycle mode*. [391-3-1-.02(6)(b)1.(i) and 40 CFR 52.21]
- 8.3 The Permittee shall use the hour meters required by Condition No. 5.3 to determine and record the following: [391-3-1-.02(2)(6)(b)1 and 40 CFR 52.21]
 - a. The net operating hours for each of the following during every calendar month: diesel fired water pump DWP1 and auxiliary boiler AB1.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 12 of 18

- b. The total operating hours for each of the following for the twelve consecutive month period ending with each calendar month: diesel fired water pump DWP1 and auxiliary boiler AB1.
- c. For *Simple Cycle* operation only, the net operating hours for each of the following during every calendar month: CTG1 and CTG2.
- d. For *Simple Cycle* operation only, the total operating hours for each of the following for the twelve consecutive month period ending with each calendar month: CTG1 and CTG2.

These records (including calculations) shall be maintained as part of the monthly record suitable for inspection or submittal.

- 8.4 The Permittee shall retain monthly records of natural gas usage in the natural gas fired preheater PF1.
[391-3-1-.02(6)(b)1.(i), 40 CFR 52.21 and 40 CFR 60.48c(g)(subsumed), and Alternative Fuel Usage Recordkeeping Frequency approved by EPA August 14, 1996]
- 8.5 The Permittee shall verify and document that each shipment of diesel fuel received for combustion in diesel-fired water pump DWP1 complies with the requirements of Condition 2.4 by either of the following means:
 - a. Diesel fuel receipts obtained from the fuel supplier certifying that the oil is diesel fuel oil and contains less than or equal to 0.05 percent sulfur, by weight.
 - b. Analysis of the diesel fuel conducted by methods of sampling and analysis which have been specified or approved by the Division which demonstrates that the diesel fuel oil contains less than or equal to 0.05 percent sulfur, by weight.
- 8.6 The Permittee shall use the records required by Condition 5.2.a to determine the monthly mass emission rate, in tons per month, of nitrogen oxides, from each combustion turbine, CTG1, and CTG2 in simple-cycle and combined-cycle modes. These records (including calculations) shall be maintained as part of the monthly record suitable for inspection or submittal.
[391-3-1-.02(6)(b)1 and 40 CFR 52.21]
- 8.7 The Permittee shall use the records required by Condition 8.6 to determine the twelve consecutive month total of nitrogen oxides emissions (in tons) from each combustion turbine, CTG1, and CTG2, for each month in simple-cycle and combined-cycle modes. 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 (including calculations) shall be maintained as part of the monthly record suitable for inspection or submittal.
[391-3-1-.02(6)(b)1 and 40 CFR 52.21]

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 13 of 18

8.8 The Permittee shall, using the hourly heat input rate (million Btu per hour), determined in accordance with the procedures of Appendix F, 40 CFR Part 75, and the one-hour average carbon monoxide (CO) emission rate (pound per million Btu), determined in accordance with Condition 5.2.b, calculate the hourly carbon monoxide mass emission rate (pounds per hour) for each hour of operation of each turbine in simple-cycle and combined-cycle modes. Only the one-hour average carbon monoxide emission rates (pound per million Btu) that have been determined, in accordance with the procedures required by Condition 5.7, to be valid hourly emission rates shall be used to calculate hourly mass emission rates.

[391-3-1-.02(6)(b)1 and 40 CFR 52.21]

8.9 The Permittee shall use the valid hourly CO mass emission rates (pounds per hour), determined in accordance with the requirements of Condition 8.8, and all hourly mass emissions rates acquired in order to meet the minimum data requirement of Condition 5.8 to determine the monthly mass emission rate, in tons per month, of carbon monoxide, from each combustion turbine, CTG1, and CTG2 in simple-cycle and combined-cycle modes. The carbon monoxide mass emission rate from each turbine shall be calculated as follows:

$$\text{CO emissions (tons/month)} = \text{ECO} * (\text{TOT} / \text{TGD}) / 2000$$

Where, ECO equals the total carbon monoxide mass emissions (sum of the valid hours of mass emissions including all hourly mass emissions data acquired to meet the minimum data requirement) for the month, TOT equals the total operating time (hours) of the combustion turbine during the month, and TGD equals the number of hours of valid emissions data including all hourly emissions data acquired to meet the minimum data requirement contained in Condition 5.8. These records (including calculations) shall be maintained as part of the monthly record suitable for inspection or submittal.

[391-3-1-.02(6)(b)1 and 40 CFR 52.21]

8.10 The Permittee shall use the records required by Condition 8.9 to determine the twelve consecutive month total of carbon monoxide emissions (in tons) from each combustion turbine, CTG1, and CTG2, for each month in simple-cycle and combined-cycle modes. 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 (including calculations) shall be maintained as part of the monthly record suitable for inspection or submittal.

[391-3-1-.02(6)(b)1 and 40 CFR 52.21]

8.11 The Division will deal with excess emissions as described below.

a. Excess emissions resulting from startup, shutdown, malfunction of any source which occur though ordinary diligence is employed shall be allowed provided that: [391-3-1-.02(2)(a)7(i)]

i. The best operational practices to minimize emissions are adhered to;

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 14 of 18

- ii. All associated air pollution control equipment is operated in a manner consistent with good air pollution control practice for minimizing emissions; and
- iii. The duration of excess emissions is minimized.
- b. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction are prohibited and are violations of this Permit. [391-3-1-.02(2)(a)7(ii)]
- c. Paragraphs (a) and (b) of this condition shall not apply if precluded by any other State or Federal regulation or specifically excluded in paragraph (d) of this condition. [391-3-1-.02(2)(a)7(iii)]
- d. Paragraphs (a) and (b) of this condition do not apply to Condition 2.11 [tpy NO_x and CO limits] regarding startup and shutdown emissions. Emissions during startup and shutdown shall be counted toward the mass emission limits in this permit condition. [391-3-1-.02(2)(a)7(iii)]

Reporting Requirements

- 8.12 The Permittee shall furnish the Division written notification as follows:
[40 CFR 52.21; 40 CFR 60.7]
 - a. A notification of the actual date of initial startup of each combustion turbine (CTG1 and CTG2) and each heat recovery steam generator (HRSG1 and HRSG2), postmarked within 15 days after such date. For purposes of this condition, “startup” shall mean the setting in operation of an affected facility for any purpose.
 - b. Certification that a final inspection has shown that construction of each combustion turbine (CTG1 and CTG2) and each heat recovery steam generator (HRSG1 and HRSG2) has been completed in accordance with the application, plans, specifications and supporting documents submitted in support of this permit. The certification shall be included with the notification in paragraph (a).
- 8.13 In addition to any other reporting requirements of this Permit, the Permittee shall report to the Division in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emission control equipment for a period of four hours or more which results in excessive emissions.

The Permittee shall submit a written report which shall contain the probable cause of the deviation(s), duration of the deviation(s), and any corrective actions or preventive measures taken.

[391-3-1-.02(6)(b)1.(iv) and 391-3-1-.03(10)(d)1(i)]

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 15 of 18

- 8.14 The Permittee shall submit a report of the following information for each quarterly period ending March 31, June 30, September 30, and December 31 of each year. The reports shall be postmarked by the 30th day following the end of the quarterly period (April 30, July 30, October 30, and January 30, respectively).
- a. Hours of operation of the auxiliary boiler AB1 and the diesel fired water pump DWP1 for each month during the quarter.
 - b. The twelve consecutive month total hours of operation of the auxiliary boiler AB1 and the diesel fired water pump DWP1 for each month in the quarterly reporting period.
 - c. Hours of operation of CTG1 and CTG2 for each month during the quarter. This shall apply during *Simple Cycle* operation only.
 - d. The twelve consecutive month total hours of operation of CTG1 and CTG2 for each month in the quarterly reporting period. This shall apply during *Simple Cycle* operation only.
- 8.15 The Permittee shall submit a written report containing excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each quarterly period ending March 31, June 30, September 30, and December 31 of each year. All reports shall be postmarked by the 30th day following the end of each reporting period, April 30, July 30, October 30, and January 30, respectively. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's Procedures for Testing and Monitoring Sources of Air Pollutants and shall contain the following:
[391-3-1-.02(6)(b)1]
- a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.
 - b. Total operating time during each reporting period.
 - c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.
 - d. Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Permit No. 4911-103-0012-P-01-0

Page 16 of 18

- e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - f. Certification that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- 8.16 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 8.11, the following excess emissions, exceedances, and excursions shall be reported: [40 CFR 52.21 and 391-3-1-.02(6)(b)1]
- a. Excess emissions: (means for the purpose of this Condition and Condition 8.15, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

None required to be reported in accordance with Condition 8.15.
 - b. Exceedances: (means for the purpose of this Condition and Condition 8.15, 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)
 - i. Any three hour rolling average NO_x emission rate, which exceeds 10 ppmvd at 15% oxygen for each combustion turbine. This shall apply during *Simple Cycle* operation only.
 - ii. Any three hour rolling average NO_x emission rate, which exceeds 3.0 ppmvd at 15% oxygen for each combustion turbine. This shall apply during *Combined Cycle* operation only.
 - iii. Any three hour rolling average CO emission rate, which exceeds 9.0 ppmvd at 15% oxygen for each combustion turbine. This shall apply during *Simple Cycle* operation only.
 - iv. Any three hour rolling average CO emission rate, which exceeds 9.0 ppmvd at 15% oxygen for each combustion turbine. This shall apply during *Combined Cycle* operation only.
 - v. Any startup episode, which exceeds the limit allocated in Condition 2.14.
 - vi. Any startup episode, which exceeds the limit, allocated in Condition 2.15.
 - vii. Any twelve consecutive month total nitrogen oxides emissions (tons) from turbine, CTG1 or CTG2 in simple-cycle operation, which exceeds of 112.2 tons.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 17 of 18

- viii. Any twelve consecutive month total carbon monoxide emissions (tons) from turbine, CTG1 or CTG2 in simple-cycle operation, which exceeds of 41.1 tons.
 - ix. Any twelve consecutive month total nitrogen oxides emissions (tons) from turbine, CTG1 or CTG2 in combined-cycle operation, which exceeds of 109.0 tons.
 - x. Any twelve consecutive month total carbon monoxide emissions (tons) from turbine, CTG1 or CTG2 in combined-cycle operation, which exceeds of 144.5 tons.
 - xi. Any twelve consecutive month total hours of operation of auxiliary boiler which exceeds 2,500 hours.
 - xii. Any twelve consecutive month total hours of operation of diesel fired water pump DWP1 that exceeds 500 hours.
 - xiii. Any twelve consecutive month total hours of operation of CTG1 or CTG2 which exceeds 2,672 hours. This shall apply during *Simple Cycle* operation only.
 - xiv. Any time diesel fuel combusted in diesel water pump DWP1 exceeds 0.05 percent sulfur by weight.
 - xv. Any calendar quarter in which the percentage of operating hours (not including hours during startup, shutdown, or malfunctions) with CO emissions in excess of 3.0 ppmvd at 15% oxygen exceeds 30%.
- c. Excursions: (means for the purpose of this Condition and Condition 8.15, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)
- i. Any value of the natural gas sulfur content, which exceeds 2.5 grains per 100 standard cubic foot.
- 8.17 The Permittee shall maintain the following records as they relate to the startup and shutdown of each combustion turbine (CTG1 and CTG2) in simple-cycle operation mode and combined-cycle operation mode:
[391-3-1-.02(6)(b)1(i), 40 CFR 52.21, and 40 CFR 60.7(b)]
- a. The time (minutes) attributed to the startup and the time (minutes) attributed to shutdown. If the turbine was not in operation on any given day, the record shall so note.

**STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

Permit No. 4911-103-0012-P-01-0

Page 18 of 18

9.0 Modifications

- 9.1 Prior to any source commencing a modification as defined in Georgia Rule 391-3-1-.01(pp), which may result in air pollution and not exempted by Georgia Rule 391-3-1-.03(6), the Permittee shall submit a Permit application to the Division. The application shall be submitted sufficiently in advance of any critical data involved to allow adequate time for review, discussion, or revision of plans, if necessary. Such application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity of the plant before and after the change, and the anticipated completion date of the change. The application shall be in the form of a Georgia air quality Permit application to construct or modify (otherwise known as a SIP application) and shall be submitted on forms supplied by the Division, unless otherwise notified by the Division.

10.0 Special Condition

- 10.1 At any time that the Division determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Division reserves the right to amend the provisions of this Permit pursuant to the Division's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.