Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256

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Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE:

City of Gainesville, GRU
Post Office Box 147117 (A132)
Gainesville, Florida 32614

Air Permit No.:	0010129-003-AF
Revision of Air Permit No.:	0010129-002-AF
Date of Revision:	Revised Draft
Issuance Date:	March 16, 2010
Expiration Date:	March 16, 2015

Authorized Representative:
Mr. Terry Gordon, Production Manager

GRU South Energy Center
Federally Enforceable State Operation Permit (FESOP)

The purpose of this permit is to revise the Federally Enforceable State Operation Permit (FESOP), No. 0010129-002-AF for the above referenced facility. This permit authorizes the operation of:

- Emissions Unit 001 - Combustion Turbine Generator (CTG) Heat Recovery Steam Generator (HRSG) Unit No.1
- Emissions Unit 003 - Auxiliary Steam Boiler
- Emissions Unit 004 - Emergency Diesel Generator No.1
- Emissions Unit 006 - Emergency Diesel Generator No.3

The existing facility, GRU South Energy Center, is an establishment engaged in electric power generation (Standard Industrial Classification No. 4911). The facility is located in Alachua County at SW 14th Street between SW 13th and SW 14th Avenues, Gainesville, Florida. The UTM coordinates of the facility are Zone 17, 370.29 km East, and 3279.46 km North.

This final permit is organized by the following sections.

Section 1. General Information
Section 2. Administrative Requirements
Section 3. Facility-Wide Conditions
Section 4. Emissions Unit Specific Conditions
Section 5. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

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Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental

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Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Jacksonville, Florida

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Christopher L. Kirts, P. E. Date
District Air Program Administrator

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____, to the persons listed below.

Mr. Terry Gordon, Production Manager, GRU (Email: gordontm@gru.com)
Mr. Thomas W. Davis, P.E., ECT, Inc. (Email: tdavis@ECTINC.com)
Ms. Regina Embry, Electric Utility Engineer, GRU (Email: embryrg@gru.com)
Ana M. Oquendo, EPA Region 4 (Oquendo.Ana@epamail.epa.gov)

Clerk Stamp
FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), F.S., with the designated agency clerk, receipt of which is hereby acknowledged.

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_____ _____
(Clerk) (Date)

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FACILITY DESCRIPTION

Existing Facility

The facility consists of a combustion turbine generator (CTG) and a fired heat recovery steam generator (HRSG), one auxiliary steam boiler, and two emergency diesel-engine driven generators. The facility will provide steam and power to the Shands Hospital complex, as well as power to the electrical transmission grid.

Combustion Turbine Generator (CTG) & Heat Recovery Steam Generator (HRSG).

The combustion turbine generator will be fired exclusively with natural gas. In simple cycle mode, the CTG (manufacturer: Solar, Model: Mercury 50-6000R) exhaust will discharge directly to the atmosphere. In combined cycle mode, the hot exhaust gases from the CTG will be routed to a Heat Recovery Steam Generator (Manufacturer: ERI, Model: S3-3216-HRSG) to generate steam. The HRSG will include natural gas fired duct burners (low NOx burners) for supplemental steam generation by the HRSG. Following the recovery of waste heat by the HRSG, the CTG exhaust gases will be discharged to the atmosphere.

The combustion turbine generator has a nominal heat input of approximately 53 MMBtu/hour at 3200 °F and a power generation capacity of approximately 4,600 kilowatts. The heat recovery steam generator can produce up to 45,000 pounds per hour of steam and will include a natural gas fired duct burner with a nominal heat input of 36 MMBtu/hour.

The combustion turbine generator (CTG) & heat recovery steam generator (HRSG) is subject to 40 CFR 60, NSPS, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines.

Auxiliary Steam Boiler

The dual fuel (natural gas and low sulfur distillate fuel oil) fired auxiliary boiler (manufacturer: Cleaver Brooks, Model: CBL-LN (4-pass, 5 ft^2/HP)) has a heat input rate of approximately 41 MMBtu/hour.

The boiler is subject to 40 CFR 60, NSPS, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The boiler is also subject to Rule 62-296.406, F.A.C., for Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, New and Existing Emissions Units.

Emergency Diesel Engine Generators

The emergency diesel generator No.1 (manufacturer: Caterpillar, model: 3516 B TA (2.25MW)) has a rated capacity of 2,250 kW, and the emergency diesel generator No.3 (manufacturer:

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Caterpillar, model: C15 ATAAC (0.5 MW)) has a rated capacity of 500 kW. The emergency generators provide power in the event of outages.

The diesel engines are subject to 40 CFR 60, NSPS, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

The diesel engines meet the applicability of 40 CFR 63, NESHAP, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. However, pursuant to 40 CFR 63.6590(c), the engines must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII. No further requirements of Subpart ZZZZ apply for such engines.

The existing facility consists of the following emission units.

Facility ID No. 0010129

ID No.	Emission Unit Description
001	Combustion Turbine Generator (CTG) Heat Recovery Steam Generator (HRSG) Unit No.1
003	Auxiliary Steam Boiler
004	Emergency Diesel Generator No. 1
006	Emergency Diesel Generator No. 3

Proposed Project

This project will modify the visible emissions testing frequency for Emission Unit 001 from annually, every federal fiscal year to a 5-year basis, prior to permit renewal. This modification to the testing frequency is made by permit as authorized by Rule 62-297.310(7)(a)4.a., F.A.C.

The project also modifies the visible emissions testing frequency for Emission Unit 003 from annually, every federal fiscal year to a 5-year basis, prior to permit renewal. This applies only when the unit fires natural gas. This modification to the testing frequency is made by permit as authorized by Rule 62-297.310(7)(a)4.a., F.A.C. If the unit fires No. 2 fuel oil, the unit must follow the testing standards of 40 CFR 60 Subpart Dc.

On January 28, 2009 and January 11, 2011, 40 CFR 60 Subpart Dc was amended. The applicable amendments have been included in the permit through this permit revision.

The permit is revised to include the applicable provisions of 40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

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Facility ID No. 0010129	
ID No.	**Emission Unit Description**
001	Combustion Turbine Generator (CTG) Heat Recovery Steam Generator (HRSG) Unit No.1
003	Auxiliary Steam Boiler

FACILITY REGULATORY CATEGORIES

- The facility is a not major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a synthetic Non-Title V source.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

Application for Federally Enforceable State Operation Permit received November 24, 2009
Request for Additional Information dated December 23, 2009
Additional Information received January 27, 2010
Application for Air Permit – Non-Title V Source (revision application) received March 4, 2011
Comments from Applicant received May 26, 2011

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SECTION 2. ADMINSITRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northeast District Air Program, Florida Department of Environmental Protection (Department). The Northeast District's mailing address is 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7590. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the North East District Office. The mailing address and phone number of the District Office is: 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256. The Permitting Authority's telephone number is 904/256-1700.

3. Appendices: The following Appendices are attached as part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements.
   e. Appendix E. Subpart A of NSPS – General Provision.
   f. Appendix F. BACT for Heat Recovery Steam Generator (HRSG).
   g. Appendix G. BACT for Auxiliary Boiler.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.

   [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.

   [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

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7. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]

8. A completed **Application for Non Title V Air Permit Renewal** [DEP Form No. 62-210.900(4)] shall be submitted to the Department at least 60 days prior to the expiration date of this operation permit. To properly apply for an operation permit, the permittee shall submit the appropriate application form, processing fee, and compliance test reports as required by this permit.

   [Rules 62-4.055 and 62-4.220, F.A.C.]

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1. This Federally Enforceable State Operation Permits (FESOPs) is a facility-wide permit.

   [Rule 62-210.300 (2)(b), F.A.C.]

2. Facility Wide NO_x Emissions Cap: The facility wide NO_x emissions shall not exceed 90 tons per any 12-consecutive month period. Compliance with the NO_x emissions cap shall be demonstrated with all valid NOx emissions data including during periods of startup and shutdown. The owner or operator shall maintain a record of the NO_x emissions rate on monthly basis. The latest monthly emissions rate shall be added to the NO_x emissions rate from the previous 11 consecutive months to continuously demonstrate that the facility is meeting the facility wide NO_x emissions cap. All the supporting information and records used to compute the NO_x emissions rate shall also be maintained on site. All the records shall be kept on site for at least 3 years.

   [Construction Permit No. 0010129-001-AC]

3. In accordance with Rule 62-210.370(3), F.A.C., the Annual Operating Report for Air Pollutant Emitting Facility (DEP form number 62-210.900(5)) shall be completed each year and shall be submitted to the Department by April 1 of the following year.

   [Rule 62-210.370(3), F.A.C.]

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This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	Combustion Turbine Generator (CTG) & Heat Recovery Steam Generator (HRSG) unit No.1.

The CTG and HRSG are subject to the following regulations.

- 40 CFR 60, NSPS, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
- The applicable provisions of 40 CFR 60, Subpart A – General Provisions

The HRSG is also subject to the following regulation.

- Rule 62-296.406, F.A.C. – Fossil Fuel Steam Generators with Less Than 250 MMBtu/hour of Heat Input

PERFORMANCE RESTRICTIONS

1. Hours of Operation: The hours of operation of the CTG and the HRSG are not restricted.

   [Rules 62-4.160(2) & (14)(b), 62-210.200(PTE), F.A.C.]

2. Maximum Heat Input Rate: The maximum heat input rate for the CTG and the HRSG are as described below.

Emission Unit	Maximum Heat Input Rate (MMBtu/hour, HHV @ 32 °F)	
	Combustion Turbine Generator	Heat Recovery Steam Generator
001	53	35.5

   Permitting Note: The peak load of the CTG is 45.1 MMBtu/hour at ISO condition.

   ISO conditions means 288 Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure

   [Rules 62-4.160(2) & (14)(b), 62-210.200(PTE), F.A.C.]

3. Method of Operation: The CTG is natural gas fired only and can be operated in simple cycle mode without the HRSG or combined cycle mode with the HRSG. The HRSG duct burners shall fire natural gas only. The HRSG shall not be operated independent of the CTG.

   [Rules 62-4.160(2) & (14)(b) & 62-210.200(PTE), F.A.C.; Project 0010129-001-AC Application]

EMISSION STANDARDS

Unless otherwise specified, the averaging times for Specific Conditions ***4. - 6.*** *are based on the specified averaging time of the applicable test method.*

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4. Nitrogen Oxide (NO_x) Emissions Limit- CTG & HRSG: The CTG and HRSG units shall not cause to be discharged into the atmosphere any gases which contain NO_x in excess of 42 ppmvd @ 15% O_2 **OR** 290 ng/J (2.3 lb/MWh) of useful output.

   [40 CFR 60.4305; 40 CFR 60.4320(a); Table 1 of 40 CFR 60 Subpart KKKK]

5. Sulfur Dioxide (SO_2) Emissions Limit –CTG & HRSG: The CTG and HRSG units shall not burn any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input **OR** shall not cause to be discharged into the atmosphere any gases which contain SO_2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output.

   [40 CFR 60.4305; 40 CFR 60.4330(a)(1) &(a)(2)]

6. Visible Emissions Limit- HRSG: Visible emissions shall not exceed 20 percent opacity except for one six-minute period per hour during which opacity shall not exceed 27 percent.

   [Rule 62-296.406(1), F.A.C.]

7. Best Available Control Technology (BACT)- HRSG: Both particulate matter and sulfur dioxide emissions from the Heat Recovery Steam Generator shall be limited by the firing of natural gas in the duct burners.

   [Rule 62-296.406(2)&(3), F.A.C.; BACT Determination dated July 25, 2007]

GENERAL COMPLIANCE REQUIREMENTS

8. General Requirements: The owner or operator shall operate and maintain the stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing air pollution at all time including during startup, shutdown, and malfunction.

   [40 CFR 60.4333(a)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR NO_X EMISSIONS LIMIT

9. NO_x Performance Tests – Frequency: Performance tests for NO_x emissions shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test) in accordance with the requirements stated in Specific Condition Nos. 10 - 13. to demonstrate continuous compliance.

   If the NO_x emissions result from the performance test is less than or equal to 75% of the NO_x emissions limit for the combustion turbine, the owner or operator may reduce the subsequent performance to once every two years (no more than 26 calendar months following the previous performance test).

   If the results of any subsequent performance test exceed 75% of the NO_x emissions limit for the turbine, the owner or operator shall resume annual performance tests.

   [40 CFR 60.4340(a) and 40 CFR 60.4400(a)]

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10. NO_x Performance Tests Requirements: There are two general methodologies that the owner or operator may use to conduct the performance tests. For each run:

    (i) Measure the NO_x concentration (in part per million (ppm)), using EPA Method 7E or EPA Method 20. For units complying with the output based standard, concurrently measure the stack gas flowrate using EPA Method 1 and 2, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NO_x emission rate:

$$E = \frac{1.194 \times 10^{-7} * (NO_X)_c * Q_{std}}{P} \qquad \text{(Eq. 5)}$$

    Where:

    E = NO_x emission rate, in lb/MWh

    1.194×10^{-7} = conversion constant, in lb/dscf-ppm

    $(NO_x)c$ = average NO_x concentration for the run, in ppm

    Qstd = stack gas volumetric flow rate, in dscf/hr

    P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to ~~specific condition No. 15. of this section~~ 40 CFR 60.4350(f)(2); **or**

    (ii) Measure the NO_x and diluent gas concentrations, using either EPA Method 7E and 3A, or EPA Method 20. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 to calculate the NO_x emission rate in lb/MMBtu. Then, use equation 1, and if necessary, use equation 2 and 3 in ~~specific condition No. 15. of this section~~ 40 CFR 60.4350(f) to calculate the NO_x emission rate in lb/MWh.

    [40 CFR 60.4400(a)(1)]

11. NO_x Performance Tests - Sampling Traverse Points Requirements: Sampling traverse points for NO_x and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

    [40 CFR 60.4400(a)(2)]

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12. Notwithstanding Specific Condition No. 11., the owner or operator may test at fewer points than are specified in EPA Method 1 or EPA Method 20 if the following conditions are met:

    (i) The owner or operator may perform a stratification test for NO_x and diluent pursuant to

    (A) [Reserved], or

    (B) The procedures specified in section 6.5.6.1(a) through (e) of appendix A of 40 CFR 75.

    (ii) Once the stratification sampling is completed, the owner or operator may use the following alternative sample point selection criteria for the performance test:

    (A) If each of the individual traverse point NO_x concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO_2 (or O_2) from the mean for all traverse points, then the owner or operator shall may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO_x concentration during the stratification test; or

    (B) For turbines with a NO_x standard greater than 15 ppm @ 15% O_2, the owner or operator shall may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO_2 (or O_2) from the mean for all traverse points; or

    (C) For turbines with a NO_X standard less than or equal to 15 ppm @ 15% O_2, the owner or operator shall may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO_2 (or O_2) from the mean for all traverse points.

    [40 CFR 60.4400(a)(3)]

13. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. The owner or operator may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The owner or operator shall conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

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Specific Condition No. 13. Continued:

(i) For a combined cycle and CHP turbine systems with supplemental heat (duct burner), the owner or operator shall measure the total NO_x emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

(ii) Compliance with the applicable emission limit shall be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO_x emission rate at each tested level meets the applicable emission limit.

(iii) The ambient temperature must be greater than 0 °F during the performance test.

[40 CFR 60.4400(b)(2), (4), (6)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR SULFUR DIOXIDE (SO_2) LIMIT

14. <u>SO_2 Performance Tests Requirements & Frequency</u>: Performance tests for SO_2 emissions shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that the owner or operator may use to conduct the performance tests.

(a) If the owner or operator chooses to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see 40 CFR 60.17) for natural gas or ASTM D4177 (incorporated by reference, see 40 CFR 60.17) for oil. Alternatively, for oil, the owner or operator may follow the procedures for manual pipeline sampling in section 14 of ASTM D4057 (incorporated by reference, see 40 CFR 60.17). The fuel analyses may be performed either by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453 (all of which are incorporated by reference, see 40 CFR 60.17); or

(ii) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17).

(b) Measure the SO_2 concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in appendix A of this part. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19–10–1981–Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see 40 CFR 60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in Appendix A of this permit, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO_2 emission rate:

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Specific Condition No. 14. Continued:

$$E = \frac{1.664 \times 10^{-7} * (SO_2)_c * Q_{std}}{P} \qquad \text{(Eq. 6)}$$

Where:

E = SO_2 emission rate, in lb/MWh

1.664×10^{-7} = conversion constant, in lb/dscf-ppm

$(SO_2)_c$ = average SO_2 concentration for the run, in ppm

Q_{std} = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to ~~specific condition No. 13 of this section~~ 40 CFR 60.4350(f)(2); or

(c) Measure the SO_2 and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in Appendix A of this permit. In addition, the owner or operator may use the manual methods for sulfur dioxide ASME PTC 19–10–1981–Part 10 (incorporated by reference, see 40 CFR 60.17). Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in Appendix A of this permit to calculate the SO_2 emission rate in lb/MMBtu. Then, use equation 1, and if necessary, use equation 2 and 3 in ~~Specific Condition No. 13. of this section~~ 40 CFR 60.4350(f) to calculate the SO_2 emission rate in lb/MWh.

[40 CFR 60.4415]

DETERMINATION OF THE TOTAL SULFUR CONTENT OF THE TURBINE'S COMBUSTION FUEL

15. Total Sulfur Content Monitoring- CTG: The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in Specific Condition No. 16.

    The sulfur content of the fuel must be determined using total sulfur methods described in Specific Condition No. 14. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17), which measure the major sulfur compounds, may be used.

    [40 CFR 60.4360]

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16. Total Sulfur Content Monitoring Exemption Criteria- CTG: The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. The owner or operator shall use one of the following sources of information to make the required demonstration:

    (a) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for noncontinental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and 140 grains of sulfur or less per 100 standard cubic feet for noncontinental areas, has potential sulfur emissions of less than less than 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for continental areas and has potential sulfur emissions of less than less than 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for noncontinental areas; or

    (b) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for continental areas or 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for noncontinental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR 75 is required.

    [40 CFR 60.4365]

17. The Frequency of Determining the Sulfur Content of the Fuel- CTG: The frequency of determining the sulfur content of the fuel shall be as follows:

    (a) *Gaseous fuel.* If the owner or operator elects not to demonstrate sulfur content using options in Specific Condition No. 16., and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day.

    (b) *Custom schedules.* Notwithstanding the requirements of paragraph (a) of this condition, operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (b)(1) and (b)(2) of this condition, custom schedules shall be substantiated with data and shall be approved by the Department before they can be used to comply with the standard in Specific Condition No. 4.

        (1) The two custom sulfur monitoring schedules set forth in paragraphs (i) through (iv) and in paragraph (b)(2) of this condition are acceptable, without prior Department approval:

            (i) The owner or operator shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the applicable methods specified. Based on the results of the 30 daily samples, the required frequency for

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Specific Condition No. 17. Continued:

subsequent monitoring of the fuel's total sulfur content shall be as specified in paragraph (1)(ii), (iii), or (iv) of this condition, as applicable.

(ii) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in paragraph (1)(iii) of this condition. If any measurement exceeds the applicable limit, follow the procedures in paragraph (1)(iv) of this condition.

(iii) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:

(A) Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (b)(1)(iv) of this condition. Otherwise, follow the procedures in paragraph (b)(1)(iii)(B) of this condition.

(B) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (b)(1)(iv) of this condition. Otherwise, follow the procedures in paragraph (b)(1)(iii)(C) of this condition.

(C) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in paragraph (b)(1)(iv) of this condition. Otherwise, continue to monitor at this frequency.

(iv) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to paragraph (b)(1)(i) of this condition. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of paragraph (b)(1)(ii) or (iii) of this condition shall be followed.

(2) The owner or operator may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to 40 CFR75 to determine a custom sulfur sampling schedule, as follows:

(i) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 grains/100 scf, no additional monitoring of the sulfur content of the gas is required, for the purposes of 40 CFR 60, subpart KKKK.

(ii) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 grains/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12 month intervals.

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Specific Condition No. 17. Continued:

(iii) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of paragraph (b)(1)(iii) of this condition.

(iv) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of paragraph (b)(1)(iv) of this condition.

[40 CFR 60.4370(b),(c)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR OPACITY LIMIT

18. Visible Emissions Performance Testing- HRSG: By permit, the owner or operator shall conduct a visible emissions test for the Heat Recovery Steam Generator to demonstrate compliance with the emission limit in Specific Condition No. 6. once every 5 years, prior to obtaining a renewed operating permit. The test method for visible emissions shall be DEP Method 9.

    The test shall be conducted by an observer certified in accordance with the requirements of Rule 62-297.320, F.A.C. – Standards for Persons Engaged in Visible Emissions Observations.

    For a combined cycle and CHP turbine systems with supplemental heat (duct burner), the owner or operator shall measure the opacity of the visible emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

    [Rules 62-4.070, 62-297.310(7)(a)3. and 4., 62-297.320,F.A.C.]

EXCESS EMISSIONS AND MONITORING DOWNTIME FOR SO_2

19. Fuel Sulfur Content – Definition of Excess Emissions and Monitoring Downtime -CTG: If the owner or operator chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined as follows:

    (a) For samples of gaseous fuel obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

    (b) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

    [40 CFR 60.4385(a) and (c)]

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REPORTING REQUIREMENTS

20. Fuel Sulfur Content – Excess Emissions Report- CTG: For the unit that is required to periodically determining the fuel sulfur content, the owner or operator shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

    [40 CFR 60.4375(a)]

21. NO_x and SO_2 Performance Test Reports- CTG: For the unit that performs annual performance tests in accordance with Specific Condition No. 9., the owner or operator shall submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

    [40 CFR 60.4375(b)]

22. All reports required under 40 CFR 60.7(c) must be postmarked by the 30th day following the end of each 6-month period.

    [40 CFR 60.4395]

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This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
003	Auxiliary Steam Boiler

The unit is subject to the following regulations.

- Rule 62-296.406, F.A.C. – Fossil Fuel Steam Generators with Less Than 250 MMBtu/hour of Heat Input
- 40 CFR 60, NSPS, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
- The applicable provisions of 40 CFR 60, Subpart A – General Provisions

PERFORMANCE RESTRICTIONS

1. Hours of Operation: The hours of operation are not restricted.

   [Rules 62-4.160(2)&(14)(b), 62-210.200(PTE), F.A.C.]

2. Maximum Heat Input Rate: The maximum heat input rate of the auxiliary boiler is 41.4 MMBtu/hour, HHV.

   [Rules 62-4.160(2)&(14)(b), 62-210.200(PTE), F.A.C.]

3. Method of Operation: The boiler may combust natural gas continuously. The boiler is allowed to combust low sulfur distillate fuel oil for no more than 500 hours per year as backup fuel.

   [Rules 62-4.160(2) & (14)(b), 62-210.200(PTE), F.A.C., BACT and Construction Permit No. 0010129-001-AC]

EMISSION STANDARDS

*Unless otherwise specified, the averaging times for Specific Condition **4.** is based on the specified averaging time of the applicable test method.*

4. Visible Emissions Limit: The owner or operator shall comply with the following visible emissions limits:

   a. Distillate Fuel Oil – NSPS: When burning distillate fuel oil, visible emissions shall not exceed 20 percent opacity except for one six-minute period per hour during which opacity shall not exceed 27 percent. [40 CFR 60.43c(c)]

   b. Distillate Fuel Oil & Natural Gas – State BACT: When burning natural gas or distillate fuel oil, visible emissions shall not exceed 20 percent opacity except for one six-minute period per hour during which opacity shall not exceed 27 percent.

      [Rule 62-296.406(1), F.A.C.]

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5. Particulate Matter (PM) Emissions Limit: The owner or operator shall comply with the following particulate matter emissions limits:

   Distillate Fuel Oil - NSPS: Because the owner or operator is only authorized to combust fuel oil that contains no more than 0.05[1] weight percent sulfur, the auxiliary boiler is not subject to the 40 CFR 60.43c(e)(1) PM standard of not exceeding 13 ng/J (0.030 lb/MMBtu) heat input.

   [1] The NSPS standard in 40 CFR 60.43c(e)(1) is 0.5 weight percent sulfur, however the auxiliary boiler is also subject to State Rule 62-296.406(2), F.A.C. which limits the maximum weight percent to 0.05 in the BACT Determination dated July 25, 2007.

   [40 CFR 60.43c(e)(1), 40 CFR 60.43c(e)(4)]

   Distillate Fuel Oil – State BACT: The maximum sulfur content of distillate fuel oil is limited to 0.05 %, by weight. [Rule 62-296.406(2), F.A.C.; BACT Determination dated July 25, 2007]

   Natural Gas – State BACT: Particulate matter emissions shall be limited by the firing of natural gas as the primary fuel.

   [Rule 62-296.406(2),F.A.C.; BACT Determination dated July 25, 2007]

6. Sulfur Dioxide Limit: The owner or operator shall comply with the following sulfur dioxide emission limits:

   Distillate Fuel Oil – NSPS: When burning distillate fuel oil, the maximum fuel sulfur content shall not exceed 0.5 percent by weight[1]. [40 CFR 60.42c(d)]

   Distillate Fuel Oil – State BACT: The maximum sulfur content of distillate fuel oil is limited to 0.05 %, by weight. [Rule 62-296.406(2), F.A.C.; BACT Determination dated July 25, 2007]

   Natural Gas – State BACT: Sulfur dioxide emissions shall be limited by the firing of natural gas as the primary fuel.

   [1] GRU South Energy Center elected this weight percent sulfur content alternative to the 40 CFR 60.42c(d) SO_2 standard of no owner or operator shall cause to be discharged into the atmosphere from the affected unit any gases that contain SO_2 in excess of 0.50 lb/MMBtu (215 ng/J) heat input.

   [Air Construction Permit No. 0010129-001-AC; Rule 62-296.406(2), F.A.C.; BACT Determination dated July 25, 2007]

7. Visible Emission and Particulate Matter- NSPS (Applicable when distillate fuel oil is fired in the boiler): The NSPS opacity and particulate matter standards (Specific Condition Nos. 4.a. and 5.) apply at all times, **except** during periods of startup, shutdown, or malfunction.

   [40 CFR 60.43c(d)]

8. Distillate Fuel Oil Sulfur Content: The fuel oil sulfur limits apply at all times, **including** periods of startup, shutdown, and malfunction.

   [40 CFR 60.42c(i)]

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9. Compliance with the fuel oil sulfur limit may be determined based on a certification from the fuel supplier in accordance with Specific Condition No. 10.

   [40 CFR 60.42c(h)(1)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR SULFUR DIOXIDE

10. Fuel Supplier Certification: If the owner or operator seeks to demonstrate compliance with the SO_2 standards in Specific Condition No. 6. Based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier.

    Fuel supplier certification shall include the following information:

    (1) For distillate oil:

    (i) The name of the oil supplier;

    (ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and

    (iii) The sulfur content or maximum sulfur content of the oil.

    (2) For other fuels:

    (i) The name of the supplier of the fuel;

    (ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

    (iii) The method used to determine the potential sulfur emissions rate of the fuel.

    [40 CFR 60.44c(h), 40 CFR 60.48c(f)(1) and (f)(4), Air Construction Permit No. 0010129-001-AC]

EMISSIONS MONITORING FOR SULFUR DIOXIDE

11. Sulfur Dioxide Monitoring Exemption: The monitoring requirements of 40 CFR 60.46c(a) and (d) shall not apply to the unit if the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification described in Specific Condition No. 10.

    [40 CFR 60.46c(e)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR PARTICULATE MATTER/OPACITY

12. Visible Emissions Performance Test - The test shall be conducted by an observer certified in accordance with the requirements of Rule 62-297.320, F.A.C. – Standards for Persons Engaged in Visible Emissions Observations. [Rule 62-297.320,F.A.C.]

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Specific Condition No. 12. Continued:

a. Fuel Oil: As requested by the Department, the owner or operator shall conduct a visible emissions performance test to demonstrate compliance with the emission limit in Specific Condition No. 4.a. using Method 9 of appendix A–4 of Part 60 and the procedures in 40 CFR 60.11.

The owner or operator is also subject to the emissions monitoring requirements (additional visible emissions observations) as specified in Specific Condition No. 14 because the auxiliary boiler has fired fuel oil. [40 CFR 60.45c(a)(8)]

b. Natural Gas: By permit, the owner or operator shall conduct a visible emissions test for the auxiliary boiler to demonstrate compliance with the emission limit in Specific condition No. 4.b. once every 5 years, prior to obtaining a renewed operation permit. The test method for visible emissions shall be DEP Method 9.

[Rule 62-297.310(7)(a)3.and 4., F.A.C.]

13. Particulate Matter Emissions – Fuel Oil Certification: To demonstrate compliance with the NSPS fuel oil weight percent sulfur standard in Specific Condition No. 5. , the owner or operator shall follow the procedures in Specific Condition No. 10.

[40 CFR 60.45c(d)]

EMISSIONS MONITORING FOR PARTICULATE MATTER/OPACITY

14. Visible Emissions– If Fuel Oil is Fired in Boiler: The owner or operator of an affected facility combusting oil that is subject to the opacity standard in Specific Condition No. 4.a. shall conduct a performance test using Method 9 of appendix A–4 of Part 60 and the procedures in 40 CFR 60.11 to demonstrate compliance with the emission limit in Specific Condition No. 4.a. within 180 days of initially firing the oil in the boiler.

The performance test shall be conducted while the affected facility is combusting oil. The observation period for the Method 9 of appendix A–4 of Part 60 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

The owner or operator shall also comply with either paragraphs (1), (2), or (3) of this Specific Condition.

(1) Except as provided in paragraph (2) and (3) of this Specific Condition, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of Part 60 performance tests using the procedures in this Specific Condition according to the applicable schedule in paragraphs (1)(i) through (1)(iv) of this Specific Condition, as determined by the most recent Method 9 of appendix A–4 of Part 60 performance test results.

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(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of Part 60 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of Part 60 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of Part 60 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of Part 60 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of Part 60 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of Part 60 performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of Part 60 according to the procedures specified in paragraphs (2)(i) and (ii) of this Specific Condition.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of Part 60 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A–4 of Part 60 performance test using the procedures in this Specific Condition within 45 calendar days according to the requirements in ~~Specific Condition No. 13~~ 40 CFR 60.45c(a)(8) -Specific Condition No. 12a.

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

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Specific Condition No. 14. Continued:

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of Part 60 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (2) of this Specific Condition. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

[40 CFR 60.47c(a)]

15. Continuous Opacity Monitor System Exemption: Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5[1] weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO_2 or PM emissions and that are subject to a NSPS opacity standard in Specific Condition No. 4.a. are not required to operate a COMS if they follow the applicable procedures in Specific Condition No. 10.

[1] The NSPS standard in 40 CFR 60.43c(e)(1) is 0.5 weight percent sulfur, however the auxiliary boiler is also subject to State Rule 62-296.406(2), F.A.C. which limits the maximum weight percent to 0.05 in the BACT Determination dated July 25, 2007.

[40 CFR 60.47c(c)]

PERFORMANCE TESTING AND COMPLIANCE DEMONSTRATION FOR NO_X EMISSIONS CAP

16. Nitrogen Oxides Emissions testing shall comply with Rule 62-297.401(7)(e), F.A.C. ~~EPA Method 7E shall be used to measure the NO_x concentration, EPA Methods 1 through 4 shall be used to measure the volumetric flow rate and EPA Method 3A or 3B shall be used to measure the oxygen concentration to correct the NO_x concentration, incorporated and adopted by reference in Chapter 62-297, F.A.C.). After the initial compliance test, the subsequent performance tests shall be performed at least once every two years.~~

The test result shall be used to estimate the annual NO_x emissions generated from the unit and demonstrate~~s~~ that the facility-wide NO_x emissions cap of 90 tons per any 12-consecutive month period. After the initial compliance test, the subsequent performance tests shall be performed at least once every two years.

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There are two general methodologies that the owner or operator may use to conduct the performance tests. For each run:

(i) Measure the NO_x concentration (in part per million (ppm)), using EPA Method 7E. For units complying with a mass based emission standard, concurrently measure the stack gas flowrate using EPA Method 1 and 2. Then, use the following equation to calculate the NO_x emission rate:

$E = 1.194X10^{-7} * (NO_X)_c * Qstd$

Where:

E = NO_x emission rate, in lb/hr
1.194×10^{-7} = conversion constant in lb/scf-ppm

$(NO_x)_c$ = average NO_x concentration for the run, in ppm.

Qstd = stack gas volumetric flow rate, in scf/hr

Note: NO_X and Flow must both be on same moisture basis (wet or dry)

Or

(ii) Measure the NO_x and diluent gas (O_2 or CO_2) concentrations using EPA Method 7E and 3A. Concurrently measure and record the heat input to the unit, using a fuel flowmeter (or flowmeters). Use EPA Method 19 to calculate the NO_x emission rate in lb/MMBtu. Then, calculate the mass emissions using the following formula:

NO_X lb/hr = NO_Xlb/mmBTU * Heat Input

Where:

Heat Input = mmBTU/hr calculated from fuel flowmeters and HHV of the fuel

(iii) Sampling Traverse Points Requirements: Sampling traverse points for NO_x and diluent gas are to be selected following EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points. The owner or operator may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point diluent concentrations differs by no more than ±0.15 percent CO_2 (or O_2) from the mean for all traverse points.

[Air Construction Permit No. 0010129-001-AC; Applicant Request received May 26, 2011]

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NOTIFICATION, REPORTING AND RECORDKEEPING REQUIREMENTS

17. Performance Test Data Reports: The owner or operator subject to the NSPS opacity limit of Specific Condition No. 4.a., shall submit to the Department the performance test data from the initial and any subsequent performance tests.

    [40 CFR 60.48c(b)]

18. Excess Emissions Reports: In addition to the applicable requirements in 40 CFR 60.7, the owner or operator subject to the NSPS opacity limit of Specific Condition No. 4.a., shall submit excess emission reports for any excess emissions from the auxiliary boiler that occur during the reporting period and maintain records according to the requirements specified in paragraphs (1) through (3) of this Specific Condition, as applicable to the visible emissions monitoring method used.

    (1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

    (i) Dates and time intervals of all opacity observation periods;

    (ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

    (iii) Copies of all visible emission observer opacity field data sheets;

    (2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

    (i) Dates and time intervals of all visible emissions observation periods;

    (ii) Name and affiliation for each visible emission observer participating in the performance test;

    (iii) Copies of all visible emission observer opacity field data sheets; and

    (iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

    (3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

    [40 CFR 60.48c(c)]

19. Reporting: The owner or operator shall keep records and submit reports to the Department, including the following information, as applicable.

    (1) Calendar dates covered in the reporting period

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Specific Condition No. 19. Continued:

(2) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification information as described in Specific Condition 10. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

[40 CFR 60.48c(d) & (e)(1) and (e)(11)]

20. Recordkeeping: Except as provided below, the owner or operator shall record and maintain records of the amount of each fuel combusted during each operating day.

    As an alternative to meeting the requirements above, the owner or operator that combusts only natural gas, fuels using fuel certification in Specific Condition No. 10. To demonstrate compliance with the SO_2 standard, or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

    The owner or operator shall also record and maintain records of the hours of operation of distillate fuel oil combustion.

    [40 CFR 60.48c(g)(1) and (g)(2), Rule 62-4.070, F.A.C.]

21. Reporting Period: The reporting period for the reports required by the NSPS subpart is each six-month period. All reports shall be submitted to the Department and shall be postmarked by the 30th day following the end of each reporting period.

    [40 CFR 60.48c(j)]

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This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
004	Emergency Generator No. 1
006	Emergency Generator No. 3

The emergency generators are subject to the following regulation:

- 40 CFR 60, NSPS, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
- 40 CFR 63, NESHAP, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

1. NESHAP Subpart ZZZZ Applicability: These diesel engines are new, stationary Liquid Fueled Reciprocating Internal Combustion Engine (RICE) and shall comply with applicable provisions of 40 CFR 63 Subpart ZZZZ. Pursuant to 40 CFR 63.6590(c), the engines must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII. No further requirements of Subpart ZZZZ apply for such engines.

   40 CFR 63, Subpart A-General Provision: Pursuant to 40 CFR 63.6665, because the engines are considered to be new stationary RICE located at an area source of HAP emissions, compliance with the requirements of 40 CFR 63, Subpart A-General Provision as specified in Table 8 to 40 CFR 63 Subpart ZZZZ is not required.

   [40 CFR 63.6585; 40 CFR 63.6665; 40 CFR 60.6590(a)(2)(iii); 40 CFR 63.6590(c)(1)]

PERFORMANCE RESTRICTIONS

2. Hours of Operation: The hours of operation for each unit are restricted to 400 hours per year.

   [Rules 62-4.160(2), 62-210.200(PTE), F.A.C.]

3. Maximum Operation Rate (Internal Combustion Engine): The maximum operation rates for the internal combustion (IC) engines are as defined in the table below.

Emissions Unit	Maximum Engine Power	Rated Speed (rpm)
EU 004	3447 Horse Power (HP)	1800
EU 006	766 Horse Power (HP)	

   [Rules 62-4.160(2), 62-210.200(PTE), F.A.C.]

4. Method of Operation- Fuels: Diesel fuel is the only permitted fuel for the internal combustion engines.

   [Rule 62-210.200(55), F.A.C.]

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EMISSION LIMITATIONS AND PERFORMANCE STANDARDS

5. Emissions Limiting Standards: The units are subject to the emissions limiting standards as shown in the table below. [40 CFR 60.4202(a)(2), Table 1 of 40 CFR 89.112]

Emissions Unit	Emissions Standards in g/KW-hr (g/HP-hr)				
	NMHC + NOx	HC	NOx	CO	PM
004	N/A	1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
006	6.4	N/A	N/A	3.5	0.20

6. Smoke emission Standard for Emissions Unit 006: Exhaust opacity from compression-ignition nonroad engines shall not exceed:

   (a) 20 percent during the acceleration mode;

   (b) 15 percent during the lugging mode; and

   (c) 50 percent during the peaks in either the acceleration or lugging modes.

   Opacity levels are to be measured and calculated as set forth in 40 CFR part 86, subpart I. Notwithstanding the provisions of 40 CFR part 86, subpart I, two-cylinder nonroad engines may be tested using an exhaust muffler that is representative of exhaust mufflers used with the engines in use.

   The following engines are exempt from the requirements of this condition:

   (a) Single-cylinder engines;

   (b) Propulsion marine diesel engines; and

   (c) Constant-speed engines.

   [40 CFR 89.113]

7. The owners and operators shall operate and maintain stationary CI ICE that achieve the emission standards according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

   [40 CFR 4206]

FUEL REQUIREMENTS

8. Beginning October 1, 2007, owners and operators of stationary CI ICE that use diesel fuel shall use diesel fuel that meets the following per-gallon standards:

   (a) Sulfur content. 500 parts per million (ppm) maximum.

   (b) Cetane index or aromatic content, as follows:

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Specific Condition No. 8. Continued:

(i) A minimum cetane index of 40; or

(ii) A maximum aromatic content of 35 volume percent.

[40 CFR 80.510(a), 40 CFR 4207 (a)]

9. Beginning October 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder that use diesel fuel shall use diesel fuel that meets the following per-gallon standards for nonroad diesel fuel.

   (a) Sulfur content.

   (i) 15 ppm maximum for NR diesel fuel.

   (ii) 500 ppm maximum for LM diesel fuel.

   (b) Cetane index or aromatic content, as follows:

   (i) A minimum cetane index of 40; or

   (ii) A maximum aromatic content of 35 volume percent.

   [40 CFR 80.510(b), 40 CFR 4207 (b)]

10. Owners and operators of pre-2011 model year stationary CI ICE may petition the Department for approval to use remaining non-compliant fuel that does not meet the fuel requirements of specific condition No. 7 and 8 beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Department.

    [40 CFR 4207 (c)]

MONITORING REQUIREMENTS

8. The owner or operator shall operate and maintain the stationary CI internal combustion engines and control devices according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The owner or operator shall also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to the units.

   [40 CFR 60.4211(a)]

12. The owner or operator shall comply with the emissions limiting standards by purchasing an engine certified to the emission standards in specific condition No.4, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

    [40 CFR 60.4211(C)]

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13. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. Anyone may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

    [40 CFR 60.4211(e)]

15. Diesel Particulate Filter Installation: If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in specific condition No.4, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

    [40 CFR 60.4209(b)]

16. Non-Resettable Hour Meter Installation: The owner or operator shall install a non-resettable hour meter prior to the startup of the engine.

    [40 CFR 60.4209(a)]

COMPLIANCE MONITORING AND TESTING REQUIREMENTS

17. Compliance Demonstration: The owner or operator shall comply with the emission standards specified in specific condition No.4 by purchasing an engine certified to the emission standards, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

17. NOx Emissions Performance Test: Pursuant to Rule 62-297.310(7), F.A.C., and to provide reasonable assurance that the facility is meeting the NOx emissions cap, the owner or operator shall conduct NOx performance test for the units upon Department's request.

    [Permit No.0010129-001-AC]

18. 40 CFR 60, Subpart A-General Provision: The internal combustion engines are subject to the requirements of 40 CFR 60, Subpart A-General Provision (attached Appendix A).

    [40 CFR 60.1]

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NOTIFICATION, REPORTING AND RECORDKEEPING

19. Recordkeeping: The owner or operator shall maintain the following records.

    (i) The fuel usage for 12-consecutive month for each unit.

    (ii) The time of operation of the units and the reason the engine was in operation during that time. The owner or operator shall keep records of the operation of the engine that are recorded through the non-resettable hour meter.

[Permit No. 0010129-001-AC]

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