Florida Department of Environmental Protection

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PERMITTEE

EFS Shady Hills, LLC.
14240 Merchant Energy Way
Spring Hill, Florida 06927

Authorized Representative:
Roy S. Belden, Vice President

Air Permit No. 1010373-012-AC (PSD-FL-402A)
Shady Hills Generating Station
Site Expansion Project
Modified and Reissued Permit
Expires: July 31, 2015

FACILITY AND LOCATION

This is the final air construction permit, which authorizes the construction of two nominal 223 megawatt (MW) simple cycle combustion turbine electric generators, and associated support equipment. This permit modifies and replaces Air Permit No. 1010373-007-AC (PSD-FL-402) issued on January 12, 2009. The proposed work will be conducted at the Shady Hills Generating Station, which is an electric utilities plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Pasco County at 14240 Merchant Energy Way in Spring Hill, Florida. The UTM coordinates are Zone 17, 347.0 kilometers (km) East, and 3139.0 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); Section 4 (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. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Parts 60 and 63 of the Code of Federal Regulations (CFR). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

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 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 Tallahassee, Florida
Division of Air Resource Management
Office of Permitting and Compliance
(Electronic Signature)

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 with Appendices) 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 the date indicated below to the following persons.

Roy S. Belden, Shady Hills Power Company, LLC: roy.belden@ge.com
Scott Osbourn, P.E., Golder Associates, Inc.: sosbourn@golder.com
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Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.
(Electronic Signature)

FACILITY DESCRIPTION

This facility consists of: three, dual-fuel, nominal 170 MW General Electric (GE) Model PG7241FA simple cycle combustion turbine-electrical generators, three exhaust stacks that are 18 feet in diameter and 75 feet tall, and one nominal 2.8-million gallon distillate fuel oil storage tank. The combustion turbine units can operate in simple-cycle mode and intermittent duty mode. The units are equipped with dry low-nitrogen oxides (NO_X) combustors and water injection capability. The three combustion turbines are regulated under Phase II of the Federal Acid Rain Program. This facility operates during peak hours of electrical use.

PROPOSED PROJECT

The proposed site expansion project is to install two, dual-fuel nominal 223 MW GE 7FA.05 simple cycle combustion turbine-electrical generators, two 75-feet exhaust stacks, an emergency generator, a natural gas heater and a nominal 2.8-million gallon distillate fuel oil storage tank.

The new emission units will be assigned the following emissions unit identification number (E.U. ID No.) within the Department's Air Resource Management System (ARMS):

Facility ID No. 1010373

ID No.	Description
005	223 MW General Electric Model 7FA.05 simple cycle combustion turbine-electrical generator
006	223 MW General Electric Model 7FA.05 simple cycle combustion turbine-electrical generator
007	2,500 kW Emergency Generator
008	10 million British thermal units per hour (MMBtu/hr) Natural Gas Heater
009	2.8 million gallon distillate fuel oil storage tank

REGULATORY CLASSIFICATION

The facility is not a major source of hazardous air pollutants (HAP).

The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).

The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.

The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

The facility operates units subject to the New Source Performance Standards (NSPS) of 40 CFR 60

The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

RELEVANT DOCUMENTS:

The permit request and additional information received to make it complete are not a part of this permit; however, the information is listed in the technical evaluation which is issued concurrently with this permit.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Office of Permitting and Compliance (OPC) in the Division of Air Resource Management of the Department. The mailing address for the OPC is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the OPC Section.

2. Compliance Authority: All documents related to compliance activities such as reports, tests and notifications shall be submitted to the Southwest District Office. The mailing address and phone number of the Southwest District Office is: 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, 813/632-7600.

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;
   d. Appendix D. Common Testing Requirements;
   e. Appendix E. Summary of Best Available Control Technology Determinations;
   f. Appendix F. NSPS, Subpart A, General Provisions and NESHAP, Subpart A, General Provisions;
   g. Appendix G. NSPS, Subpart KKKK, Requirements for Stationary Combustion Turbines;
   h. Appendix H. NSPS, Subpart IIII and NESHAP, Subpart ZZZZ; and
   i. Appendix I. NSPS, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

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: No emissions unit shall be constructed or 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.]

7. Source Obligation:
   a. Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
   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 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.

c. 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. Application for Title IV Permit: At least 24 months before the date on which the new unit begins serving an electrical generator greater than 25 MW, the permittee shall submit an application for a Title IV Acid Rain Permit to the Department's Office of Permitting and Compliance Section in Tallahassee and a copy to the Region 4 office of the U.S. Environmental Protection Agency (EPA) in Atlanta, Georgia. [40 CFR 72]

9. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to each Compliance Authority.
[Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Simple Cycle Combustion Turbines (EU-005 and 006)

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
005	General Electric Model 7FA.05 combustion turbine-electric generator (nominal 223 MW)
006	General Electric Model 7FA.05 combustion turbine-electric generator (nominal 223 MW)
Design Heat Input Rating: The design heat input rating of each combustion turbine is 1,923 MMBtu/hr when firing natural gas and 2,117 MMBtu/hr when firing fuel oil (based on a compressor inlet air temperature of 59° Fahrenheit (F), 60 percent (%) relative humidity, 14.7 pounds per square inch (psi) pressure, the lower heating value (LHV) of each fuel and 100% load). Actual heat input rate will vary depending upon gas turbine characteristics, ambient conditions and evaporative cooling.	

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: Determinations of the Best Available Control Technology (BACT) were conducted for nitrogen oxides (NO_X), initial carbon monoxide (CO) and particulate matter ($PM/PM_{10}/PM_{2.5}$). [Rule 62-210.200 (BACT), F.A.C.]

2. NSPS Requirements: These units shall comply with the applicable NSPS in 40 CFR 60, including: Subpart A (General Provisions) and Subpart KKKK (Standards of Performance for Stationary Gas Turbines). See Appendices F and G of this permit. The BACT emissions standards for NO_X and the fuel sulfur specifications are as stringent as, or more stringent than the NO_X and sulfur dioxide (SO_2) limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subparts. [Rule 62-204.800(7)(b), F.A.C.; 40 CFR 60, Subparts A and KKKK]

EQUIPMENT DESCRIPTION

3. Combustion Turbines: The permittee is authorized to install, tune, operate, and maintain two GE Model 7FA.05 combustion turbine-electrical generator sets and an inlet air filtration system with evaporative coolers. The combustion turbines will be designed for operation in simple cycle mode and will have dual-fuel capability. [Application 1010373-012-AC; Design]

CONTROL TECHNOLOGY

4. Combustion Technology: The permittee shall install, operate and maintain the GE dry-low NO_X (DLN 2.6) combustion system with the GE Start-up NO_X technology feature to control NO_X emissions from the combustion turbines when firing natural gas. Prior to the initial emissions performance tests required for the gas turbines, the DLN combustors and automated gas turbine control system shall be tuned to achieve the permitted levels for NO_X. Thereafter, the system shall be maintained and tuned in accordance with the manufacturer's recommendations or determined best practices.
[Design; Rule 62-212.400(10)(BACT), F.A.C.]

5. Wet Injection: The permittee shall install, operate, and maintain a water injection system to reduce NO_X emissions from the combustion turbines when firing distillate fuel oil. Prior to the initial emissions performance tests, the water injection system shall be tuned to achieve sufficiently low NO_X values to meet the NO_X limits of this permit. Thereafter, the system shall be maintained and tuned in accordance with the manufacturer's recommendations or determined best practices.
[Applicant request; Rule 62-212.400(10)(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

6. Authorized Fuels: The combustion turbines shall fire natural gas as the primary fuel, which shall contain no more than 1.5 grains of sulfur per 100 standard cubic feet (gr. sulfur/100 SCF) of natural gas. As a restricted alternate fuel, the combustion turbines may fire ultra low sulfur distillate (ULSD) fuel oil containing no more than 0.0015% sulfur by weight.
[Rules 62-210.200 (Potential to emit) and 62-212.400, F.A.C.; BACT for $PM/PM_{10}/PM_{2.5}$]

7. Hours of Operation:
   a. *Natural Gas Operation:*
      1. The two combustion turbines may operate an average of no more than 3,390 hours per year per turbine with no single unit operating more than 5,000 hours per year.
      2. If only one combustion turbine is installed, then it may operate no more than 3,390 hours per year.
   b. *ULSD Fuel Oil Operation:*
      1. The two combustion turbines combined may operate up to 1,000 hours on ULSD fuel oil per calendar year.
      2. If only one combustion turbine is installed, then it may operate up to 500 hours on ULSD fuel oil per calendar year. The single combustion turbine may fire an additional 250 hours of ULSD fuel oil, provided that for every hour of ULSD fuel fired beyond 500 hours, the combustion turbine must reduce its capability to fire natural gas by five hours (i.e. 5:1 natural gas to ULSD fuel oil ratio).

         {E.g., if the single combustion turbine operates on ULSD fuel oil for 750 hours in a calendar year, then it may only operate for only 1,640 hours on natural gas during the same calendar year [(3,390 – 500) – 5(750-500)]}

   [Rules 62-210.200(PTE, and BACT) and 62-212.400 (PSD), F.A.C.]

8. Manufacturer's Performance Curves: The permittee shall provide manufacturer's performance curves (or equations) that correct combustion turbine design heat input rating and operation for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

9. Simple Cycle, Intermittent Operation: The turbines shall operate only in simple cycle mode not to exceed the permitted hours of operation allowed by this permit. This restriction is based on the permittee's request, which formed the basis of the PSD applicability and BACT determination and resulted in the emission standards specified in this permit. For any request to convert this unit to combined cycle operation by installing/connecting to heat recovery steam generators, including changes to the fuel quality or quantity related to combined cycle conversion which may cause an increase in short or long-term emissions, the permittee may be required to submit a full PSD permit application complete with a new proposal of the BACT as if the unit had never been built. [Rules 62-212.400(12) and 62-212.400(BACT), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

10. Emission Standards: Emissions from the combustion turbines shall not exceed the following standards.

Pollutant		Emission Standard [a,b]	Basis	Compliance Method [c]	Averaging Time
NO_X	Gas	15.0 ppmvd @15% O_2	NSPS KKKK	CEMS	4-hr rolling avg.
		9.0 ppmvd @15% O_2	BACT		24-hr block avg.
		69.5 lb/hour [d]			One 24-hr block[d]
	Oil	42.0 ppmvd @15% O_2	NSPS KKKK, BACT		4-hr rolling avg.
		370.9 lb/hour [d]	BACT		One 24-hr block[d]
CO	Gas	9.0 ppmvd [e]	Initial BACT [e]	Initial and Annual Stack Tests	three 1-hr runs
		33.5 lb/hour [e]			
	Oil	20.0 ppmvd [e]			
		73.2 lb/hour [e]			
$PM/PM_{10}/PM_{2.5}$ [f]		1.5 gr. sulfur/100 SCF gas 0.0015% sulfur fuel oil [f]	**BACT**	Fuel Record Keeping	N/A
		10 percent opacity		Visible Emissions Annual Test [g]	6-minute block

a. Nitrogen oxides (NO_X) concentration emission standards are expressed in parts per million by volume, dry, corrected to 15 percent oxygen, abbreviated as ppmvd @15% O_2. Carbon monoxide (CO) concentration emissions standards in ppmvd are not corrected to 15% O_2.
b. The mass emission rate standards in pounds per hour (lb/hour) are based on a turbine inlet condition of 59°F and using the higher heating value (HHV) of the fuel. Mass emission rate shall be adjusted to actual test conditions in accordance with the performance curves and/or equations provided to the Department pursuant to Condition 8 above.
c. CEMS means continuous emissions monitoring system.
d. One time initial compliance demonstration by CEMS. Subject to the notification requirements in 62-297.310(7)(a)9., F.A.C. The demonstration period shall include all valid hours within the designated 24-hour block and not less than three valid hours during the block. Pound/hour NO_X values reported as NO_2 equivalent of nitrous oxide (NO) plus nitrogen dioxide (NO_2).
e. The stated CO emission standards represent initial BACT limits. Final BACT limits will be determined and incorporated into a future permit modification as described in Condition 35 below.
f. The fuel sulfur specifications combined with the efficient combustion design and operation of the combustion turbines represent BACT for $PM/PM_{10}/PM_{2.5}$ emissions and effectively limit the potential SO_2 project emissions to values less than 40 tons/year. Compliance with the fuel specifications, carbon monoxide (CO) standards, and visible emissions (opacity) limit shall serve as indicators of good combustion.
g. Compliance with the 10% opacity standard shall be demonstrated by conducting 30-minute tests in accordance with EPA Method 9 - Visual Determination of Opacity.

[Rules 62-4.070(3), 62-210.200, 62-212.400, 62-297and 40 CFR 60, Subpart KKKK]

11. Unconfined Particulate Emissions: During the construction period, unconfined PM emissions shall be minimized by dust suppressing techniques such as covering, confining, or applying water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

12. Test Methods: Required initial and annual compliance stack tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
7E	Determination of NO_X Emissions - Instrumental
9	Visual Determination of Opacity
10	Determination of Carbon Monoxide Emissions from Stationary Sources
20	Determination of NO_X, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines

The methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

13. Testing Requirements: Initial and annual tests shall be conducted at 90% or greater of the design heat input ratings provided in emissions unit description above and corrected as described therein. If it is impracticable to test within the described range, the combustion turbine may be tested at less the described range. In such case, the reported mass emission rates (corrected as described in Condition 10 above) shall be further corrected by dividing the result by the percent of the design heat rating at which the test was conducted and multiplying by 100%. [Rule 62-297.310, F.A.C.; and 40 CFR 60.8]

14. Initial Compliance Demonstration: Initial compliance stack tests while *firing natural gas* shall be conducted within 60 days after achieving the maximum production rate, but not later than 180 days after the initial startup. Initial testing *on fuel oil* shall be conducted within 60 days of any fuel oil firing in the CT. In accordance with the test methods specified in this permit, the combustion turbines shall be tested to demonstrate initial compliance with the mass emission rate standards for NO_X, CO and with the visible emissions standard. [Rules 62-4.070, 62-297.310(7)(a), F.A.C. and 40 CFR 60.8]

15. Subsequent Compliance Testing: Annual compliance tests for CO and visible emissions shall be conducted during each federal fiscal year (October 1st to September 30th) while firing natural gas. CO and visible emissions tests shall also be performed while firing fuel oil, on each combustion turbine that is fired with fuel oil, for more than 400 hours during the federal fiscal year.
[Rules 62-4.070, 62-210.200(BACT), and 62-297.310(7)(a)4, F.A.C.]

16. Continuous Compliance: Continuous compliance with the permit standard for emissions of NO_X shall be demonstrated with data collected from the required CEMS.
[Rules 62-4.070, and 62-210.200(BACT), F.A.C.]

17. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

EXCESS EMISSIONS

{Permitting Note: The following conditions apply only to the State Implementation Plan (SIP)-based emissions standards specified in Condition No. 10 of this subsection. Rule 62-210.700, F.A.C. (Excess Emissions) cannot vary or supersede any federal provision of the NSPS, NESHAP, or Acid Rain programs.}

18. Definitions:
    a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
    b. *Shutdown* is the cessation of the operation of an emissions unit for any purpose.
    c. *Malfunction* is defined as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

    [Rule 62-210.200(165, 242, and 258), F.A.C.]

19. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]

20. Data Exclusion Procedures for SIP Compliance: As per the procedures in this condition, limited amounts of CEMS emissions data, as specified in Condition 21, may be excluded from the corresponding SIP-based compliance demonstration, provided that best operational practices to minimize emissions are adhered to, the duration of data excluded is minimized, and the procedures for data exclusion listed below are followed. As provided by the Department's authority in Rule 62-210.700(5), F.A.C., the following provisions and those given in Condition 21 are adjustments to maximum and minimum factors in Rule 62-210.700(1), F.A.C.
    a. Limiting Data Exclusion. If the compliance calculation using all valid CEMS emission data indicates that the emission unit is in compliance, then no CEMS data shall be excluded from the compliance demonstration.
    b. Event Driven Exclusion. There must be an underlying event (startup, shutdown, malfunction, or fuel switching) in order to exclude data. If there is no underlying event, then no data may be excluded.
    c. Continuous Exclusion. Data shall be excluded on a continuous basis. Data from discontinuous periods shall not be excluded for the same underlying event.

    [Rule 62-210.700, F.A.C.]

21. Allowable Data Exclusions: The following data may be excluded from the corresponding SIP-based compliance demonstration for each of the events listed below in accordance with the Data Exclusion Procedures of Condition 200:
    a. *Startup and Shutdown:* Up to 60 minutes of CEMS data may be excluded for each combustion turbine startup and shutdown cycle. For startups and shutdowns of less than 60 minutes in duration, only those minutes attributable to startup and shutdown may be excluded.

b. *Malfunction*: Up to 120 minutes (in any operating day) of CEMS data may be excluded due to a documented malfunction. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic email.

c. *DLN Tuning*: CEMS data collected during initial or other DLN tuning sessions may be excluded from the compliance demonstrations provided the tuning session is performed in accordance with the manufacturer's specifications or determined best practices. Prior to performing any tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Design; Rule 62-4.070(3), F.A.C.]

d. *Fuel Switching*: Up to 60 minutes of CEMS data may be excluded for each fuel switch. For fuel switches of less than 60 minutes in duration, only those minutes attributable to fuel switching may be excluded.

All valid emissions data (including data collected during startup, shutdown, malfunction, DLN tuning, and fuel switching) shall be used to report emissions for the Annual Operating Report.

[Rules 62-210.200(BACT), 62-210.370, and 62-210.700, F.A.C.]

22. Notification Requirements: The owner or operator shall notify the Compliance Authority within one working day of discovering any emissions that demonstrate non-compliance for a given averaging period. [Rule 62-4.070, F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

23. CEMS: Subject to the following, the permittee shall install, calibrate, operate, and maintain a CEMS to measure and record the emissions of NO_X from the combustion turbines in terms of the applicable standards. The monitoring system shall be installed, and functioning within the required performance specifications by the time of the initial compliance demonstration.

a. *NO_X Monitor:* Each NO_X monitor shall be certified pursuant to the specifications of 40 CFR 75. Quality assurance procedures shall conform to the requirements of 40 CFR 75. The annual and required RATA tests required for the NO_X monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60.

b. *Diluent Monitor:* The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where NO_X is monitored to correct the measured emissions rates to 15% O_2. If a CO_2 monitor is installed, the O_2 content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

[Rules 62-4.070(3), 62-210.200(BACT), F.A.C., and 40 CFR 60, Subpart 75]

24. Moisture Correction: If necessary, the owner or operator shall determine the moisture content of the exhaust gas and develop an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). [Rules 62-4.070(3), 62-210.200(BACT), F.A.C]

25. CEMS Data Requirements for BACT Standards:

{Permitting Note: The following conditions apply only to the SIP-based NO_X emissions standards specified in Condition No. 10 of this section. These requirements cannot vary or supersede any federal provision of the NSPS, or Acid Rain programs. Additional reporting and monitoring may be required by the individual subparts.}

a. *Data Collection*: Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions shall be monitored and recorded during all operation including startup, shutdown, and malfunction.

b. *Operating Hours and Operating Days*: An hour is the 60-minute period beginning at the top of each hour. Any hour during which an emissions unit is in operation for more than 15 minutes is an operating hour for that emission unit. A day is the 24-hour period from midnight to midnight. Any day with at least one operating hour for an emissions unit is an operating day for that emission unit.

c. *Valid Hour*: Each CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour.

(1) Hours that are **not operating** hours are **not valid** hours.

(2) For each operating hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, there is insufficient data and the 1-hour block average is not valid.

(3) During fuel switching an hour in which fuel oil is fired is attributed towards compliance with the permit standards for oil firing.

d. *24-hour Block Averages*: A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive valid hourly average concentration values. If a unit operates less than 24 hours during the block, or there are less than 24 valid hourly averages available, the 24-hour block average shall be the average of all available valid hourly average concentration values for the 24-hour block. *{Permitting Note: For purposes of determining compliance with the 24-hour CEMS standards, the missing data substitution methodology of 40 CFR Part 75, Subpart D, shall not be utilized. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block and periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance reports. For example, the "24-hr block average" may consist of only 6 valid operating hours for the day.}*

e. *4-hour Rolling Averages:* A 4-hour rolling average is the arithmetic average of the average emission concentration measured by the CEMS for a given hour and the three unit operating hour average concentrations immediately preceding that unit operating hour.

f. *Data Exclusion:* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, DLN tuning, and fuel switches. Some of the CEMS emissions data recorded during these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Conditions 20 and 211 of this subsection.

g. *Availability*: The quarterly excess emissions report shall identify monitor availability for each quarter in which the unit operated.

[Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

CEMS REQUIREMENTS FOR ANNUAL EMISSIONS

26. CEMS Annual Emissions Requirement: The owner or operator shall use data from the NO_X CEMS when calculating annual emissions for purposes of computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for purposes of computing emissions pursuant to the reporting requirements of Rule 62-210.370(3), F.A.C. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit. [Rules 62-210.200, and 62-210.370(3), F.A.C.]

REPORTING AND RECORD KEEPING REQUIREMENTS

27. Monitoring of Operations: The permittee shall monitor and record the operating rate of the combustion turbines on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown, malfunction, DLN tuning, and fuel switching). Such monitoring shall be made by monitoring daily rates of consumption and heat content of each allowable fuel in accordance with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

28. Monthly Operations Summary: By the 15th calendar day of each month, the permittee shall record the following for each fuel in a written or electronic log for the combustion turbines for the previous month of operation: fuel consumption, hours of operation on each fuel, and the updated calendar year totals for each. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. The fuel consumption shall be monitored in accordance with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-210.200(BACT), F.A.C.]

29. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.
    a. *Natural Gas Sulfur Limit*: Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D4468-85, D5504-01, D6228-98 and D6667-01, D3246-81 or more recent versions.
    b. *Distillate Fuel Oil Sulfur Limit*: Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM methods D5453-00, D129-91, D1552-90, D2622-94, or D4294-90. More recent versions of these methods may be used. For each subsequent fuel delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor. At the request of the Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

    The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

30. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to the Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. and in Appendix D of this permit. [Rule 62-297.310(8), F.A.C.].

31. Excess Emissions Reporting:
    a. *Malfunction Notification:* If emissions in excess of a standard (subject to the specified averaging period) occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident.
    b. *SIP Quarterly Report*: Within 30 days following the end of each calendar-quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of NO_X emissions in excess of the BACT permit standard following the NSPS format in 40 CFR 60.7(c), Subpart A. A summary of data excluded from SIP compliance calculations should also be provided. In addition, the report shall summarize the NO_X CEMS system monitor availability for the previous quarter.

    [Rules 62-4.130, 62-204.800, 62-210.700(6) and 62-212.400(BACT), F.A.C., and 40 CFR 60.7 and 60.4375]

32. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating hours and emissions from this facility in accordance with Rule 62-210.370. Annual operating reports shall be submitted to the Compliance Authority by April 1st of each year. [Rule 62-210.370(2), F.A.C.]

33. Single Combustion Turbine Option – Fuel Oil Use Notification: If only one combustion turbine is constructed, the permittee shall submit a notification to the Compliance Authority no later than 15 days after the combustion turbine has operated for more than 500 hours ULSD fuel oil in a calendar year. Thereafter, the permittee shall, upon request, promptly provide the Department with year-to-date records of hours of operation on ULSD fuel oil and natural gas for that calendar year. [Rule 62-4.070, F.A.C.]

FINAL BACT DETERMINATION FOR CARBON MONOXIDE

34. Temporary CO Continuous Emission Monitoring System (CO-CEMS): Within 270 days after the initial startup of the first combustion turbine authorized by this permit, the permittee shall install and certify a temporary CO-CEMS using the methodology described in 40 CFR 60, Appendix B, Performance Specification 4 or 4A. If two combustion turbines are constructed, the permittee may select to install a temporary CO-CEMs on only one unit and the emission data shall be used to establish a limit for both combustion turbine units. The permittee shall for a period of 365 consecutive calendar days collect and preserve the collected data and shall code the data for inclusion and identification of data obtained during startups, shutdowns, malfunctions, low load conditions and normal operations. [Rules 62-070(3), 62-210.200 (BACT Definition), and 62-212.400, F.A.C.]

    {Permitting note: The Department requires ultimate submittal of all data because they may be considered in determining a final CO BACT determination that may define low load, startup, shutdown and malfunction excess emissions. The temporary CO-CEMS data do not have to be submitted until the due date of the technical report described in Condition 35. The demonstration CO-CEMS data will not be subject to the excess emission reporting requirements given in Condition 31 above.}

35. Final CO Emission Standard: Within 820 days of initial startup of the first combustion turbine, the permittee shall submit an application with a final CO emission standard proposal and compliance method consistent with the procedures for determining BACT or with procedures that demonstrate that the project is and will continue to be a minor stationary source of CO. The application shall include a technical report summarizing the data collected using the temporary CO-CEMS installed pursuant to Condition 34 above. [Rules 62-070(3), 62-210.200 (BACT Definition), and 62-212.400, F.A.C.]

B. 2500 kW Emergency Generator (EU-007)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
007	One 2,500 kilowatts Emergency Generator (model year 2011 or later)

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS, Subpart IIII Applicability: This emergency generator is a Stationary Compression Ignition Internal Combustion Engine (Stationary ICE) and is subject to 40 CFR 60, Subpart IIII. The applicant shall comply with 40 CFR 60, Subpart IIII only to the extent that the regulations apply to the emission unit and its operations (e.g. non-road, emergency, displacement, capacity and model year selected).

   [40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and Rule 62-204.800(8)(b)79., F.A.C.]

2. NESHAP, Subpart ZZZZ Applicability: This emergency generator is a Stationary Reciprocating Internal Combustion engine located at an area source of hazardous air pollutants emissions and is subject to 40 CFR 63, Subpart ZZZZ. Because this emergency generator is subject to regulation under 40 CFR 60, Subpart IIII, the Subpart ZZZZ only requires that the emergency generator meet the requirements of 40 CFR 60, Subpart IIII. No further requirements of Subpart ZZZZ apply to this emergency generator.

   [40 CFR 63, subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, section 63.6590(c) and Rule 62-204.800(11)(b)82., F.A.C.]

EQUIPMENT SPECIFICATIONS

3. Equipment: The permittee is authorized to install, operate, and maintain one fuel oil-fired emergency generator. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

EMISSIONS AND PERFORMANCE REQUIREMENTS

4. Hours of Operation and Fuel Specifications: The hours of operation shall not exceed 500 hours per year. The generator shall burn distillate fuel oil with a sulfur content of 15 parts per million (ppm) or less. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

5. Fuel: Total fuel consumption of the emergency generator and four ancillary generators shall be no more than 77,750 gallons of distillate fuel oil per year. [Application]

6. Emergency Generator Emission Limits:

Emergency Generator (> 560 kilowatts)	**CO** (g/kW-hr)[1]	**PM** (g/kW-hr)	**NMHC[2]+NO_X** (g/kW-hr)	**Diesel Fuel[3]** (sulfur)
2011 and later	3.5	0.20	6.4	15 ppm

1. g/kW-hr means grams per kilowatt-hour.
2. NMHC means Non-Methane Hydrocarbons.
3. Nonroad diesel specification of 15 ppm is from 40 CFR part 80, subpart I – Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel.

   [Applicant Request; 62-212.400(BACT), F.A.C.; NSPS Subpart IIII]

7. Emergency Generator Testing Requirements: This unit shall be stack tested to demonstrate initial compliance with the emission standards for CO and NO_X. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of this unit. As an alternative, an EPA certification of emissions characteristics of the purchased model that are at least as stringent as the BACT (NSPS Subpart IIII) values and the use of ultralow sulfur distillate fuel oil or nonroad diesel fuel with a sulfur content of 15 ppm or less can be used to fulfill this requirement. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 40 CFR 60.4211]

B. 2500 kW Emergency Generator (EU-007)

8. Test Methods: Any required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
7E	Determination of Nitrogen Oxides Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources

NOTIFICATION, REPORTING AND RECORDS

9. Notifications: Initial notifications are required pursuant to 40 CFR 60.7, 40 CFR 63.9, and 40 CFR 63.6590 (b) (i) for the 2500 kW emergency generator.

10. Reporting: The permittee shall maintain records of the amount of liquid fuel used. These records shall be submitted to the Compliance Authority on an annual basis or upon request. [Rule 62-4.070(3), F.A.C.]

C. Natural Gas Heater (EU-008)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
008	10 MMBtu/hour Natural Gas Heater

EQUIPMENT

1. Natural Gas Heater: The permittee is authorized to install, operate, and maintain one natural gas heater for the purpose of heating the natural gas supply to the combustion turbines.
[Application]

PERFORMANCE RESTRICTIONS

2. Authorized Fuel: The natural gas heater shall fire only natural gas with a maximum fuel sulfur content of 1.5 grains/100 scf. [Application; Rules 62-210.200(PTE) and 62-296.406(BACT) F.A.C.]

3. Hours of Operation: The natural gas heater is allowed to operate 3,390 hours/year/installed CTG.
[Applicant Request and Rule 62-210.200(PTE), F.A.C.]

REGULATORY APPLICABILITY

4. Small Boiler BACT: The natural gas heater is subject to the requirements of Rule 62-296.406, F.A.C., which includes a determination of the Best Available Control Technology (BACT) for PM and SO_2 emissions. For this project, BACT for PM and SO_2 emissions is determine to be the firing of natural gas with a maximum fuel sulfur content of 1.5 grains/100 scf as the only authorized fuel.
[Rule 62-296.406, F.A.C.]

5. NSPS Subpart Dc and Subpart A Applicability: The natural gas heater is subject to all applicable requirements of 40 CFR 60, Subpart Dc which applies to Small Industrial, Commercial or Institutional Boilers and Subpart A, General Provisions. Specifically, this emission unit shall comply with 40 CFR 60.48c Reporting and Recordkeeping Requirements. The applicable conditions are given in Appendices A and Dc of this permit.
[Rule 62-204.800(7)(b) and 40 CFR 60, NSPS-Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, attached as Appendix J].

EMISSIONS STANDARDS

6. BACT Determination: The determination of BACT for this emissions unit is the requirement that the heater only fire of natural gas with a maximum fuel sulfur content of 1.5 grains/100 scf.
[Rules 62-296.406; 62-4.070(3) and 62-210.200(BACT), F.A.C.]

NOTIFICATIONS, RECORDS AND REPORTS

7. Notification: Initial notification is required for the natural gas heater. [40 CFR 60.7]

8. Reporting: The permittee shall maintain records of the amount of natural gas used in the heater. These records shall be submitted to the Compliance Authority on an annual basis or upon request.
[Rule 62-4.070(3] F.A.C.]

D. 2.8 Million Gallon Distillate Fuel Oil Tank (EU-009)

ID No.	Emission Unit Description
009	2.8 Million Gallon Ultralow Sulfur Distillate Fuel Oil Storage Tank

NSPS APPLICABILITY

1. NSPS, Subpart Kb Applicability: Based on the true vapor pressure of ultralow sulfur distillate fuel (< 3.5 kilopascals), the storage tank **is not** subject to 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. [Application; 40 CFR 60.110b(b)]

EQUIPMENT SPECIFICATIONS

2. Equipment: The permittee is authorized to operate, and maintain one nominal 2.8 million gallon distillate fuel oil storage tank to provide fuel oil to Units 005 and 006 or to other units on the site. [Application]

EMISSIONS AND PERFORMANCE REQUIREMENTS

3. Hours of Operation: The hours of operation are not restricted (8,760 hours per year). [Application]

NOTIFICATION, REPORTING AND RECORDS

4. Ultralow Sulfur Distillate Fuel Oil Records: The permittee shall keep readily accessible records showing the maximum true vapor pressure of the stored liquid. Compliance with this condition may be demonstrated by using the information from the respective manufacturers safety data sheets (MSDS) for the fuel oil stored in the tanks. [Rule 62-4.070(3) F.A.C.; avoidance of 40 CFR 60, Subpart Kb]