Florida Department of Environmental Protection

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PERMITTEE

Florida Power & Light Company (FPL)
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Juno Beach, Florida 33408

Authorized Representative:
Mr. Randall R. LaBauve, Vice President,
Environmental Services

Air Permit No. 0110037-013-AC
(PSD-FL-423A)
Lauderdale Plant
Peaking Unit Replacement Project
Expires: December 31, 2018

FACILITY AND LOCATION

This is the final air construction permit, which authorizes the replacement of 24 existing gas turbines (GTs) peaking units' (GT1 to GT24) generation capacity at the FPL Lauderdale Plant. The 24 GTs are composed of two banks of 12 GTs each with each bank having a nominal capacity of 504 megawatts (MW). The new CTs will be designated Units 6A through 6E at the Lauderdale Plant. Twenty-two of the 24 existing GTs will be decommissioned permanently, while two will remain for black start and generation capability. The Lauderdale Plant is an electric utilities plant categorized under Standard Industrial Classification No. 4911. The Lauderdale Plant is located within the City of Dania Beach in Broward County, Florida. The facility can be accessed from Southwest 42nd Avenue and Griffin Road. The UTM coordinates are Zone 17, 580.2 kilometers (km) East, and 2883.3 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.). 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.

Executed in Tallahassee, Florida

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For:

Jeffery F. Koerner, Deputy Director
Division of Air Resource Management

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.

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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.

Lynn Scearce

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FACILITY DESCRIPTION

At the Lauderdale Plant, GT Units 1 through 12 began operation in August 1970 while GT Units 13 through 24 began operation in August 1972. The Lauderdale Plant is located in Broward County.

In addition to units GT1 through GT24, the Lauderdale Plant consists of two combined-cycle generating units (Unit 4 and Unit 5) and five fuel storage tanks. Each combined-cycle unit consists of two CTs which each exhaust through a separate heat recovery steam generator (HRSG). Each HRSG converts the heat from the CT exhaust into steam. The steam produced from the two HRSG units drives one steam turbine electrical generator (STEG). Each combined-cycle unit has a net summer continuous capability of 430 MW.

PROPOSED PROJECT

The generation capacity of 22 of the 24 existing peaking GTs will be replaced with five nominal 200 MW CTs to provide equivalent peaking resources to reduce emissions while providing far superior emission profiles and efficiency. The new CTs will be designated Units 6A through 6E. Two of the 24 existing GTs will be retained for the purposes of black start capability and generation. The Lauderdale project will add a 300 horsepower (hp) fire pump engine using ULSD oil. Finally, the Lauderdale project will also use two 3-million gallon ULSD fuel oil storage tanks.

This permit revises Permit No. 0110037-011-AC, which was the original air construction permit for this project. This revision includes a determination of Best Available Control Technology for greenhouse gases and sulfur dioxide/sulfuric acid mist.

A summary of the regulated existing emission units and corresponding emissions unit identification number (E.U. ID No.) within the Department's Air Resource Management System (ARMS) at the Lauderdale Plant is given below.

EU ID No.	Brief Description
035	Combined-Cycle Combustion Turbine with Heat Recovery Steam Generator (CT 4A)
036	Combined-Cycle Combustion Turbine with Heat Recovery Steam Generator (CT 4B)
037	Combined-Cycle Combustion Turbine with Heat Recovery Steam Generator (CT 5A)
038	Combined-Cycle Combustion Turbine with Heat Recovery Steam Generator (CT 5B)
003	Bank of 12 Combustion Turbines (Nos. 1 to 12)*
015	Bank of 12 Combustion Turbines (Nos. 13 to 24)*
027	Fuel Oil Storage Tank #2 (80,000 barrel (bbl), Light Distillate Fuel Oil)
028	Fuel Oil Storage Tank #3 (150,000 bbl, Light Distillate Fuel Oil)
029	Fuel Oil Storage Tank #5 (75,000 bbl, Light Distillate Fuel Oil)
030	2 Fuel Oil Dump Tanks (2,500 gallon and 110 gallon)
039	Site Solvent Usage
042	Auxiliary Boiler used to provide steam to the turbine shaft seals during a cold start of the plant. Maximum designed heat input rate is 15.5 million British Thermal Units per hour (MMBtu/hr).
044	Emergency Diesel Fire Pump Engine

* Once all of the new CTs covered by this construction permit become commercially operational, 22 of the 24 turbines comprising these existing emission units will no longer be used to supply generation to FPL's system. Two of the existing GTs from E.U. Nos. 003 and 015 will be retained for black start and generation after the new CTs are commissioned on each fuel. These two turbines will be designated as E.U. No. 003 regardless of their current E.U. affiliation.

The new emission units resulting from this project, which were added in Permit No. 0110037-011-AC have been assigned the following E.U. ID No. within the Department's ARMS:

New EU ID No.	Description
046	Simple cycle combustion turbine-electrical generator (Unit 6B)
047	Simple cycle combustion turbine-electrical generator (Unit 6C)
048	Simple cycle combustion turbine-electrical generator (Unit 6D)
049	Simple cycle combustion turbine-electrical generator (Unit 6E)
051	300 hp Emergency diesel fire pump engine
052	Two 3-million gallon ultra-low sulfur distillate (ULSD) fuel oil storage tanks
053	Simple cycle combustion turbine-electrical generator (Unit 6A)

The permittee has decided not to construct one emissions unit (four emergency generators) which was added in Permit No. 0110037-011-AC. In addition, Tank #5 (E.U. 029) will be removed during construction of the new CTs**.** These EUs will be removed:

EU ID No.	Description
050	Four nominal 3,100 kW emergency generators
029	Fuel Oil Storage Tank #5 (75,000 bbl, Light Distillate Fuel Oil)

In addition to the emissions units added in Permit No. 0110037-011-AC, one new emissions unit, consisting of approximately nine circuit breakers, resulting from this project will be added in this permit:

EU ID No.	Description
054	Circuit breakers

REGULATORY CLASSIFICATION

The following federal regulations apply to the Lauderdale Plant and this project.

- The existing facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality and Rule 62-210.200 (Definitions), F.A.C.
- This project (as discussed below) **does** trigger a PSD review and a requirement to conduct Best Available Control Technology (BACT) determinations pursuant to Department Rule 62-212.400, F.A.C.
- The existing facility is a major source of hazardous air pollutants (HAP).
- The existing facility has units regulated under Clean Air Act, Title IV, Acid Rain provisions, Phase II.
- The existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The proposed project includes units subject to Clean Air Interstate Rule (CAIR).
- The proposed project includes units subject to the New Source Performance Standards (NSPS) of 40 CFR 60.
- The proposed project includes units subject to the National Emission Standards of Hazardous Air Pollutants NESHAP of 40 CFR 63.

RELEVANT DOCUMENTS

The permit application and additional information received to make it complete are not a part of this permit. However this information can be accessed at the following Webpage.

FPL Lauderdale Peaker Unit Replacement Project (GHG/SO_2 PSD application)

PERMIT REVISION

This permit replaces Permit No. 0110037-011-AC (PSD-FL-423).

GENERAL 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 Southeast District Office. The mailing address and phone number of the Southeast District Office is: 400 North Congress Avenue, 3rd Floor, West Palm Beach, Florida 33401, (561) 681-6600.

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 Subpart A. NSPS Subpart A and NESHAP Subpart A - Identification of General Provisions;
   f. Appendix KKKK. NSPS Subpart KKKK Requirements for Gas Turbines and Duct Burners;
   g. Appendix XS. Semiannual NSPS Excess Emissions Report;
   h. Appendix ZZZZ. NESHAP Requirements for Reciprocating Internal Combustion Engines from 40 CFR 63, Subpart ZZZZ;
   i. Appendix IIII. NSPS Subpart IIII Requirements for Stationary Compression Ignition Internal Combustion Engines; and
   j. Appendix YYYY. NESHAP Subpart YYYY Requirements for Stationary Combustion Turbines.

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.]

7. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Office of Permitting and Compliance at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]

8. 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.]

9. 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]

10. 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.]

11. Annual Operating Report (AOR): The owner or operator shall submit an AOR for the Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) to the Department annually pursuant to subsection 62-210.370(3), F.A.C.

12. Shutdown of Existing GT Units: Upon completion of commissioning and testing on each fuel in Units 6A through 6E (EU 046 through 049, and 053), 22 turbines from the existing GT units (EU003 and 015) shall no longer be used to provide peaking generation to FPL's system. Two existing GTs from EU Nos. 003 and 015 will be kept for black start capability and generation at the facility; these two turbines will be re-designated as E.U. No. 003. The Title V permit revision required by **Condition 10** of this section shall contain the designation of those GTs that will remain and those GTs that no longer will be in service.
[Applications 0110037-011-AC and 0110037-013-AC; Rules 62-210.200 (Potential to emit) and 62-212.400 (BACT), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Simple Cycle CT (EU ID No. 046 to 049 and 053)

This section of the permit addresses the following emissions units.

EU ID No.	Emission Unit Description
053	Nominal 200 MW Combustion turbine-electric generator (Unit 6A)
046	Nominal 200 MW Combustion turbine-electric generator (Unit 6B)
047	Nominal 200 MW Combustion turbine-electric generator (Unit 6C)
048	Nominal 200 MW Combustion turbine-electric generator (Unit 6D)
049	Nominal 200 MW Combustion turbine-electric generator (Unit 6E)

The CT proposed for the Project is the General Electric (GE) 7F.05. Each CT will utilize inlet air cooling and wet compression.

Nominal Design Heat Input Ratings

- GE 7F.05 CT: 2,089.1 MMBtu/hr when firing natural gas and 2,211.3 MMBtu/hr when firing fuel oil, based on a compressor inlet air temperature of 59 Fahrenheit (°F), evaporative cooling and wet compression, 60 percent (%) relative humidity, 14.7 pounds per square inch (psi) pressure, the lower heating value (LHV) of each fuel and 100% load.

{Note: Actual heat input rate will vary depending upon gas turbine characteristics, ambient conditions and inlet air cooling.}

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: Determinations of the Best Available Control Technology (BACT) were conducted for nitrogen oxides (NO_X), carbon monoxide (CO), particulate matter ($PM/PM_{10}/PM_{2.5}$), sulfur dioxide and sulfuric acid mist (SO_2 and SAM) and greenhouse gases (GHGs). [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 Subpart A and KKKK 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.; and NSPS 40 CFR 60, Subparts A and KKKK]

   {Permitting Note: These turbines are subject to the notification, recordkeeping and reporting requirements for natural gas-fired simple-cycle turbines contained in NSPS 40 CFR 60, Subpart TTTT, for greenhouse gas emissions from new combustion turbines. As of the date of issuance of this permit, Subpart TTTT had not yet been published in the Federal Register. The pre-publication version of the subpart is available on the EPA website.}

3. NESHAP Requirements: These units shall comply with the applicable NESHAP in 40 CFR 63, including: Subpart A (General Provisions) and Subpart YYYY (National Emission Standard for Hazardous Air Pollutants for Stationary Combustion Turbines). See Appendices Subpart A and YYYY of this permit. This NESHAP provision has a maximum achievable control technology (MACT) limit of 91 parts per billion by volume dry (ppbvd) corrected to 15% oxygen (O_2), i.e., 91 ppmvd @15% O_2, for formaldehyde (CH_2O). This emission limit of Subpart YYYY shall apply if the facility exceeds 1,000 turbine fired hours cumulatively in any one year. Some separate reporting and monitoring may be required by the individual subparts. [Rule 62-204.800(7)(b), F.A.C.; and NESHAP 40 CFR 63, Subparts A and YYYY]

EQUIPMENT DESCRIPTION

4. Combustion Turbines: The permittee is authorized to install, tune, operate, and maintain five GE 7F.05 CTs with a nominal generating capacity of 200 MW each and an inlet air filtration system with inlet air cooling

(i.e. evaporative cooling and wet compression). The CT will be designed for operation in simple cycle mode and will have dual-fuel capability (natural gas and ULSD fuel oil). [Applications 0110037-011-AC and 0110037-013-AC; Design]

CONTROL TECHNOLOGY

5. Combustion Technology: The permittee shall install, operate and maintain the dry-low NO_X (DLN) combustion system or its equivalent with a start-up NO_X technology on each CT to control NO_X emissions from the CT when firing natural gas. Prior to the initial emissions performance tests required for the CT, the DLN combustors or its equivalent 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.]

6. Wet Injection: The permittee shall install, operate, and maintain a water injection system with combustion control technology to reduce NO_X emissions (including startup emissions) from the CT when firing ULSD 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. [Rule 62-212.400(10)(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

7. Authorized Fuels: The combustion turbines shall fire natural gas as the primary fuel, which shall contain no more than 2 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 ULSD fuel oil containing no more than 0.0015% sulfur by weight. [Rules 62-210.200 (Potential to emit, and BACT) and 62-212.400, F.A.C.]

8. Hours of Operation:
   a. *Natural Gas Operation:* The five CTs may operate an average of no more than a total of 3,390 hours per turbine in any consecutive 12-month period.
   b. *ULSD Fuel Oil Operation:* Of the overall average 3,390 operational hours, each CT may operate on average no more than 500 hours in any consecutive 12-month period on ULSD fuel oil.

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

9. 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.]

10. 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.]

    {Permitting note: EPA has published a New Source Performance Standard for GHG emissions from combustion turbines, in 40 CFR 60, Subpart TTTT. The capacity factor threshold for triggering the base-load NSPS is equal to the design efficiency of the turbine, as a percentage, in terms of lower heating value. For the GE 7F.05 turbine, this factor is approximately 39%. These turbines are not expected to surpass this

capacity factor criterion; however, the GHG NSPS for base-load units could be triggered based on the manner in which these turbines are operated.}

EMISSIONS AND TESTING REQUIREMENTS

11. Emission Standards: Emissions from the CT 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 (for turbine loads ≥ 75%)	NSPS KKKK, Secondary BACT[d]	CEMS	4-hr rolling avg.[e]
		9.0 ppmvd @15% O_2	Primary BACT (Normal operating conditions)		24-hr block avg.
		73.8 lb/hour [f]			One 24-hr block [f]
	Oil	42.0 ppmvd @15% O_2	Primary BACT		4-hr rolling avg.[e]
		382.0 lb/hour [f]	BACT		One 24-hr block [f]
	Gas or oil	96.0 ppmvd @15% O_2 (for turbine loads < 75%)	NSPS KKKK, Secondary BACT[d]		4-hr rolling avg.[e]
CO	Gas	4.0 ppmvd @15% O_2	BACT	Initial and Annual Stack Tests	Three 1-hr runs
		20.0 lb/hour			
	Oil	9 ppmvd @15% O_2			
		49.6 lb/hour			
$PM/PM_{10}/PM_{2.5}$ [f]		2.0 gr. sulfur/100 SCF natural gas 0.0015% sulfur fuel oil	BACT	Fuel Record Keeping	N/A
		10 percent opacity		Visible Emissions Annual Test [h]	6-minute block
SO_2 and SAM[g]		2.0 gr. sulfur/100 SCF natural gas 0.0015% sulfur fuel oil	BACT	Fuel Record Keeping	N/A
GHGs	Gas	1,372 lb CO_2e/MWh	BACT	Fuel-use monitoring or CEMS [i] (40 CFR 75)	12-month or 36-month rolling avg.[j]
	Oil	1,871 lb CO_2e/MWh			
VOC	Gas	3.4 lb/hour	Reasonable Assurance	Stack Tests: Initial and prior to operating permit renewal	Three 1-hr runs
	Oil	8.4 lb/hour			

a. NO_X and CO concentration emission standards are expressed in parts per million by volume, dry, corrected to 15 percent oxygen, abbreviated as ppmvd @15% O_2; CO emissions at loads below 90%, but above the load at which compliance with NO_X emission limits are achieved, shall not exceed 29 lb/hr when firing natural gas and 62 lb/hr when firing ULSD oil.

b. The mass emission rate standards in pounds per hour (lb/hour) are based on a turbine inlet condition of 59 °F and using evaporative cooling and wet compression and 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 **Specific Condition 9** above.

c. CEMS means continuous emissions monitoring system.

d. Secondary BACT emission limits are alternative emission limits for specified modes of operation, pursuant to **Specific Conditions 22 and 23**. Demonstrating compliance with the NSPS Subpart KKKK limit for NO_X shall be sufficient for demonstrating compliance with the Secondary NO_X BACT limit.

e. The composite NSPS KKKK NO_X emission limit for periods during which multiple NO_X emission standards apply shall be determined in accordance with 40 CFR 60.4380(b)(3).

f. 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). Subsequent annual testing is not required.

g. The fuel sulfur specifications combined with the efficient combustion design and operation of the combustion turbines represent BACT for $PM/PM_{10}/PM_{2.5}$ and SO_2 emissions. Compliance with the fuel specifications, CO standards, and visible emissions (opacity) limit shall serve as indicators of good combustion.

h. Compliance with the 10% opacity standard shall be demonstrated by conducting 30-minute tests in accordance with EPA Method 9 - Visual Determination of Opacity, at normal operating conditions. Visible emissions during startups, shutdowns, fuel switches and malfunctions shall not exceed 10% opacity, except for up to six 6-minute average periods during a calendar day, which shall not exceed 20% opacity.

i. GHG monitoring shall be in accordance with 40 CFR 75, which includes options for continuous monitoring of fuel use combined with the use of emissions factors for GHGs, or the use of a continuous emissions monitor for CO_2. Calculations of CO_2e emissions shall use the 100-year global warming potential values listed in Table A-1 to Subpart A of 40 CFR 98 (e.g. 1 for CO_2, 25 for CH_4 and 298 for N_2O).

j. The GHG limit applies during all periods of operation. For the first 36 months after the completion of commissioning and testing on each fuel, the five turbines will be considered collectively as one unit for GHG compliance, to demonstrate compliance on a 12-month rolling average basis, rolled monthly. Thereafter, each individual turbine shall be subject to the GHG emission limit on a 36-month rolling average basis, rolled monthly. *{Permitting note: During the 37th through 71st months of operation, information from some of the initial 36 months of operation will be part of the 36-month compliance periods.}*

[Rules 62-4.070(3), 62-210.200, 62-212.400, 62-297, F.A.C.; and 40 CFR 60, Subpart KKKK]

12. 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.]

13. 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
320	Vapor Phase Organic & Inorganic Emissions by Extractive FTIR

The methods are described in 40 CFR 60 and 63, 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 Office of Permitting and Compliance 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]

14. 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 than the described range. In such case, the reported mass emission rates (corrected as described in **Specific Condition 11** 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%. For example, if tested at 85% capacity and the measured actual mass emission rate was 50 lb/hour, the adjusted mass emission rate (ER_{adj}) would be:

$$ER_{adj} = \frac{\left(50\ {}^{lb}/_{hr}\right) x\ (100\%)}{85\%} = 58.8\ {}^{lb}/_{hr}$$

15. Composite GHG Standard: The composite GHG standard with which the permittee is required to show compliance consists of a weighted average of the natural gas and ULSD standards, weighted by the generation from each fuel over the appropriate compliance period:

$$Composite\ Standard = \frac{MWh_{gas}}{Total\ MWh} \times Limit_{gas} + \frac{MWh_{ULSD}}{Total\ MWh} \times Limit_{ULSD}$$

where MWh_{gas} = Gross output from gas firing for compliance period,
MWh_{ULSD} = Gross output from ULSD firing for compliance period,
Total MWh = Total gross output for compliance period = $MWh_{gas} + MWh_{ULSD}$
$Limit_{gas}$ = GHG BACT limit for natural gas operation = 1,372 lb CO_2 / MWh, and
$Limit_{ULSD}$ = GHG BACT limit for ULSD operation = 1,871 lb CO_2 / MWh.

For the first 36 months after the completion of commissioning and testing on each fuel, the five turbines will be considered collectively as one unit for GHG compliance, to demonstrate compliance on a 12-month rolling average basis, rolled monthly. Thereafter, each individual turbine shall be subject to the GHG emission limit on a 36-month rolling average basis, rolled monthly.

{Permitting note: During the 37th through 71st months of operation, information from some of the initial 36 months of operation are included as part of the 36-month rolling compliance periods.}

[Application 0110037-013-AC and Rule 62-210.200(BACT), F.A.C.]

16. Initial Compliance Demonstrations:

    a. *Non-GHG Pollutants:* 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 CT shall be tested to demonstrate initial compliance with the mass emission rate standards for NO_X, CO, VOC and with the visible emissions standard. The permittee shall provide the Compliance Authority with any other initial emissions performance tests conducted to satisfy vendor guarantees including CO, VOC and particulate tests.

    b. *GHGs:* Within 60 days after achieving the maximum production rate, but not later than 180 days after the initial startup, each CT shall demonstrate achievement of an emissions rate of 1,256 lb CO_2 per MWh firing natural gas at base load, corrected to ambient conditions of 85 °F and 55% relative humidity. This initial performance demonstration shall consist of a continuous operating period of no less than two hours. The permittee may use CO_2 CEMS data for this demonstration.
    {Permitting note: After achievement of this initial GHG benchmark rate, this GHG limit shall no longer apply, and this limit will not be included in the Title V operating permit for this facility.}

    [Rules 62-4.070, 62-210.200(BACT) and 62-297.310(7)(a), F.A.C. and 40 CFR 60.8]

17. Subsequent Compliance Testing: The annual compliance test for CO and visible emissions shall be conducted while firing natural gas. A CO and visible emissions test 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 calendar year. Compliance tests for VOC shall be conducted prior to each renewal of the facility's Title V operating permit. VOC compliance tests shall be conducted while firing natural gas. A VOC compliance test shall also be performed while firing fuel oil, on each combustion turbine that has been fired with fuel oil for more than 400 hours during any calendar year since the previous renewal of the facility's Title V permit.
    [Rules 62-4.070, 62-210.200(BACT), and 62-297.310(8)(a)4, F.A.C.]

18. 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.]

19. 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 in **Specific Condition No. 11** 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.}*

20. 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.]

21. 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.]

22. Demonstration of Compliance with Primary NO_X BACT: The Primary NO_X BACT limit applies at all times, except during the following operating conditions:
    a. *Startup and Shutdown:* The Primary NO_X BACT emission limit does not apply for up to 60 minutes for each combustion turbine startup and shutdown cycle. For startups and shutdowns of less than 60 minutes in duration, the Primary NO_X BACT emission limit applies during those minutes not attributable to startup or shutdown.
    b. *Malfunction*: The Primary NO_X BACT emission limit does not apply for up to 120 minutes (in any operating day) 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. The permittee shall report to the Department the nature, extent, and duration of the malfunction; the cause of the malfunction; and the actions taken to correct the problem.
    c. *DLN Tuning*: The Primary NO_X BACT emission limit does not apply during initial or other DLN tuning sessions 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*: The Primary NO_X BACT emission limit does not apply for up to 60 minutes for each fuel switch. For fuel switches of less than 60 minutes in duration, the Primary NO_X BACT emission limit applies during those minutes not attributable to fuel switching.

    Data from the NO_X CEMS collected during the operating conditions described above will be used to demonstrate compliance with the Secondary NO_X BACT emission limits at all times, as described in **Specific Conditions 11 and 23**. 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.]

23. Secondary NO_X BACT Emission Limits: During the operating conditions listed in **Specific Condition 22**, the permittee shall comply with the Secondary NO_X BACT limit specified in **Specific Condition 11**. Demonstrating compliance with the NSPS Subpart KKKK limit for NO_X shall be sufficient for demonstrating compliance with the Secondary NO_X BACT limit. [Rule 62-210.200(BACT) and 40 CFR 60, Subpart KKKK]

    {Permitting Note: Compliance with the Secondary NO_X BACT Emission Limits ensures continuous compliance with an applicable SIP emission limit.}

24. Alternate Visible Emissions Standard: Visible emissions due to startups, shutdowns, fuel switches and malfunctions shall not exceed 10% opacity, except for up to six 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-210.200(BACT)]

25. BACT Work Practice Standards for Startup and Shutdown:

    a. *Startup on Gas*: The permittee shall fire only natural gas during all periods of startup, up to a load of no less than 40%, except for periods of gas curtailment or periods during which gas is not reasonably available, or for purposes of testing and maintenance. The permittee shall maintain documentation of all startups on ULSD, including the reason for starting on oil, for a period of five years and shall make this documentation available to the Department upon request. [Rule 62-210.200 (BACT)]

    b. *Manufacturer-Recommended Startup and Shutdown Procedures*: The permittee shall follow the manufacturer's recommended operating procedures for startup and shutdown. All personnel responsible for startup or shutdown of equipment shall be familiar with these procedures. For each operator responsible for startup or shutdown of these turbines, the permittee shall document that the operator has been trained in the manufacturer's recommended procedures for startup and shutdown. The permittee shall make this documentation available to the Department upon request. [Rule 62-210.200 (BACT)]

26. 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

27. 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 Part 75]

28. Continuous Monitoring System (CMS): If after three years of operation any CT whose installation is authorized by the permit meets of the definition of a "Peaking Unit" per §72.2 – Definitions:

    1. A unit that has:

(i) An average capacity factor of no more than 10.0 percent during the previous three calendar years and

(ii) *A capacity factor of no more than 20.0 percent in each of those calendar years.*

FPL may request that the Department allow the NO_X emission rate methodology in Appendix E to 40 CFR Part 75 Appendix E – Optional NO_X Emissions Estimation Protocol for Gas-Fired Peaking Units and Oil-Fired Peaking Units to be used in lieu of the CEMS requirements specified in this permit.

After approval by the Department, Equation F-6 (40 CFR Part 75, Appendix F) shall be used in conjunction with Appendix E of 40 CFR Part 75 to correct the NO_X emissions rate to 15% O_2.

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

29. 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]

30. CEMS Data Requirements for BACT Standards:

*{Permitting Note: The following conditions apply only to the SIP-based NO_X emissions standards in **Specific Condition No. 11** 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 (where the unit operates for more than one quadrant of an hour). 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 any 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 Collection:* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, DLN tuning, and fuel switches.

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.]

31. GHG BACT Monitoring Requirements:

a. System Requirements: The permittee shall install and certify monitoring systems required for quantifying CO_2 emissions from each CT in accordance with the applicable requirements in 40 CFR Part 75. Consistent with 40 CFR 75.4(b), all applicable certification tests shall be completed within 180 calendar days after the date the unit commenced commercial operation (as defined in 40 CFR 72.2). Following initial certification, the CO_2 continuous measurement systems shall be quality assured in accordance with the applicable requirements in 40 CFR Part 75. The CO_2 continuous measurement system shall be capable of producing hourly determinations of CO_2 mass emissions in tons per hour.

b. The permittee shall submit an initial monitoring plan that identifies the methodology by which CO_2 mass emissions will be continuously monitored. The permittee shall submit this monitoring plan no later than 21 days prior to the initial certification tests required in **Specific Condition 31.a**.

c. The permittee shall provide notifications as specified in 40 CFR 75.61 for any event related to the continuous measurement of CO_2.

d. The permittee shall measure and record, for each CT, the following data on an hourly basis:

i. Gross energy output (MW)

ii. CO_2 mass emissions (tons or pounds)

iii. Fuel heat input (MMBtu)

iv. Type of fuel burned (natural gas or ULSD)

[Application 0110037-013-AC and Rule 62-210.200(BACT), F.A.C.]

CEMS AND CO_2 MONITOR REQUIREMENTS FOR ANNUAL EMISSIONS

32. CEMS and CO_2 Monitor Annual Emissions Requirement: The owner or operator shall use data from the NO_X CEMS and CO_2 monitoring system 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

33. Monitoring of Operations: The permittee shall monitor and record the operating rate of the CT on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown, malfunction, DLN tuning or its equivalent, 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.]

34. 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.]

35. 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. *ULSD Fuel Oil Sulfur Limit*: Compliance with the ULSD 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), 62-4.160(15) and 62-210.200(BACT), F.A.C.]

36. 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(9)(c), F.A.C. and in Appendix D of this permit. [Rule 62-297.310(8), F.A.C.].

37. 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 and GHG emissions in excess of the BACT permit standards following the NSPS format in 40 CFR 60.7(c), Subpart A. In addition, the report shall summarize the CO_2 and 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]

38. 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.]

39. NESHAP 40 CFR 63 Requirements - Subpart YYYY: Except as otherwise provided in this permit, these emissions units shall comply with all applicable requirements of 40 CFR 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, which have been

adopted by reference in Rule 62-204.800(11)(b)81., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.6170(c)(1) through (5). These emissions units shall comply with Appendix 40 CFR 63 Subpart YYYY included with this permit. [NESHAP 40 CFR 63, Subpart YYYY.]

{Permitting Note: The requirements of NESHAP 40 CFR 63 Subpart YYYY emission limitations for oil-fired Stationary Combustion Turbines shall apply if the facility exceeds 1,000 turbine fired hours cumulatively in any one year.}

B. One Nominal 300 hp Emergency Fire Pump Engine (EU ID No. 051)

This section of the permit addresses the following emissions unit.

EU D No.	Emission Unit Description
051	One Nominal 300 hp Emergency Fire Pump Engine (model year 2006 or later)

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS, Subpart IIII Applicability: The emergency fire pump engine 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: The emergency fire pump engine is Stationary Reciprocating Internal Combustion engine located at an area major source of hazardous air pollutants emissions and is subject to 40 CFR 63, Subpart ZZZZ. Because the emergency fire pump engine is subject to regulation under 40 CFR 60, Subpart IIII, Subpart ZZZZ only requires that the emergency fire pump engine meet the requirements of 40 CFR 60, Subpart IIII. No further requirements of Subpart ZZZZ apply to the emergency fire pump engine.

   [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 nominal 300 hp ULSD fuel oil fired emergency fire pump engine. [Applicant Request; Rules 62-210.200(BACT) and 62-210.200(PTE), F.A.C.]

EMISSIONS AND PERFORMANCE REQUIREMENTS

4. Fuel Specifications: The emergency fire pump engine shall burn ULSD fuel oil with a sulfur content of 15 ppm or less. [Applicant Request; Rules 62-210.200(BACT) and 62-210.200(PTE), F.A.C.; NSPS Subpart IIII, §60.4207]

5. Hours of Operation: The hours of operation shall not exceed 100 hours per year except as otherwise provided in this condition. Other requirements and limitations are:

   a. There is no time limit on the use of emergency stationary ICE in emergency situations.

   b. You may operate your emergency stationary ICE for any combination of the purposes specified in "i" below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed "c." below counts as part of the 100 hours per calendar year.

      i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator 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 calendar year.

   c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing.

   [Applicant Request; Rule 62-210.200(PTE), F.A.C.; NSPS Subpart IIII, §60.4211(f)]

6. Emergency Fire Pump Engine BACT Emission Limits:

Fire Pump Engine (300≤HP<600)	CO (g/kW-hr) [1]	PM (g/kW-hr)	NMHC [2]+NO_X (g/kW-hr)	Diesel Fuel [3] (sulfur)
2006 and later	3.5	0.20	4.0	15 ppm

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

[Applicant Request; Rules 62-210.200(BACT) and 62-212.400(BACT), F.A.C.; NSPS Subpart IIII, §60.4205]

7. Emergency Fire Pump Engine Testing Requirements: The 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 each 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 ULSD fuel oil 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 NSPS Subpart IIII, §60.4210 and §60.4211]

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

[NSPS Subpart IIII, §60.4212]

NOTIFICATION, REPORTING AND RECORDKEEPING

9. Notifications Reporting and Recordkeeping: Notifications reporting and recordkeeping are required pursuant to 40 CFR 60.7, 40 CFR 63.9, and NSPS Subpart IIII, §60.4214(b) and §60.4214(d) for the four 3,100 kW emergency generators.

10. Additional 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. Two 3-Million Gallon ULSD Fuel Oil Storage Tanks (EU ID No. 052)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
052	Two 3-million gallon Ultralow Sulfur Distillate Fuel Oil Storage Tanks

NSPS APPLICABILITY

1. NSPS, Subpart Kb Applicability: Based on the true vapor pressure of ultralow sulfur distillate fuel (< 3.5 kilopascals), the storage tanks **are 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 construct, operate, and maintain two 3-million gallon distillate fuel oil storage tanks to provide fuel oil emission units resulting from this project 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. ULSD 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]

D. Circuit Breakers (E.U. No. 054)

This section of the permit addresses the following emissions unit:

ID No.	Emission Unit Description
054	Circuit Breakers

EQUIPMENT SPECIFICATIONS

1. Equipment: The permittee is authorized to construct, operate, and maintain approximately nine circuit breakers containing sulfur hexafluoride (SF_6). The circuit breakers must have a manufacturer-guaranteed SF_6 leak rate of no more than 0.5% per year. The circuit breakers must be equipped with leakage detection systems and alarms. [Application No. 0110037-013-AC and Rule 62-210.200(BACT)]

CIRCUIT BREAKER MONITORING PLAN

2. Monitoring Plan Requirements: Within 180 days after the circuit breakers are placed into service, the permittee shall submit to the Department a circuit breaker monitoring plan detailing the number of circuit breakers installed and procedures for detecting leaks from the circuit breakers and expected remedial courses of action after leaks are detected. [Application No. 0110037-013-AC and Rule 62-210.200(BACT)]

HOURS OF OPERATION

3. Unrestricted Hours of Operation: The hours of operation are not restricted. [Application 0110037-013-AC]

E. Two Banks of 12 Combustion Turbines (E.U. Nos. 003 and 015)

This section of the permit addresses the following emissions units:

ID No.	Emission Unit Description
003	Bank of 12 Combustion Turbines (Nos. 1 to 12)
015	Bank of 12 Combustion Turbines (Nos. 13 to 24)

RESTRICTED OPERATION

1. Retirement of 22 Turbines: Upon the commencement of commercial service of Units 6A, 6B, 6C, 6D and 6E (E.U. Nos. 046-049 and 053), the permittee is authorized to continue to operate two of the 24 turbines that comprise E.U. Nos. 003 and 015. The other 22 turbines from these emission units shall be decommissioned. [Application 0110037-013-AC]

2. Re-designation of Emission Units: The two turbines that continue to be operated pursuant to **Specific Condition 1** shall be re-designated as E.U. No. 003: Two Combustion Turbines. Upon decommissioning of the 22 turbines from these emission units, E.U. No. 015 shall be re-designated as inactive and not included in future air operating permits. [Application 0110037-013-AC]

3. Permitted Capacity: The total fuel firing rate for the two remaining turbines that comprise the re-designated E.U. No. 003, combined, shall not exceed 1,404 MMBtu/hr (3-hour average). The annual heat input (lower heating value) for the two remaining turbines, combined, shall not exceed $1,230 \times 10^9$ Btu. Compliance with the permitted capacity shall be demonstrated during annual testing and upon request through the use of fuel vendor-supplied heat content data and fuel usage records. [Application 0110037-013-AC; Permit No. 0110037-010-AV]

RECORDKEEPING

4. Fuel Records: The permittee shall keep records of the type and quantity of fuel, gallons per hour of oil and million cubic feet per hour of natural gas used by the re-designated E.U. No. 003 for at least five (5) years. Usage shall be determined on the basis of time of operation versus total fuel consumption for this emissions unit. [Rule 62-4.070(3), F.A.C.; Permit No. 0110037-010-AV]