Florida Department of Environmental Protection

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Secretary

PERMITTEE

Florida Power & Light Company (FPL)
700 Universe Boulevard
Juno Beach, FL 33408

Authorized Representative:
Mr. Timothy Panoff, Plant General Manager

Air Permit No. 0710002-023-AC
Facility ID: 0710002
Fort Myers Power Plant
Air Construction Permit
Upgrade of Unit 2A
Expires: December 31, 2016

PROJECT

This is the final air construction permit, which authorizes the installation of the General Electric (GE) 7FA.05 Hybrid Tech DLN 2.6+ combustion system along with GE 7FA.04/7FA.05 upgrade project No. 0710002-021-AC, in existing combined cycle combustion turbine system, Unit 2A (EU 018). The GE 7FA.05 Hybrid Tech DLN 2.6+ addition would be installed at the same time as the GE 7FA.04/05 components which was previously authorized by project No. 0710002-021-AC. The proposed work will be conducted at the FPL, Fort Myers Power Plant, which is an electric utilities plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Lee County at 10650 Palm Beach Boulevard (State Road 80), Fort Myers, Florida. The UTM coordinates are Zone 17, 422.3 kilometers (km) East, and 2952.9 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); and 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.

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 is not subject to 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

David Lyle Read, P.E.
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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 Construction Permit package 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.

Timothy Panoff, Florida Power & Light: timothy.panoff@fpl.com
Kevin Washington, Project Manager: kevin.washington@fpl.com
Kennard Kosky, P.E., Golder Associates: kkosky@golder.com
Gary Maier, DEP, South District Office: gary.maier@dep.state.fl.us
DEP Siting Office: SCO@dep.state.fl.us
Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

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

This facility includes twelve 63 MW (each) simple cycle gas turbine peaker units; six 250 MW (each) combined-cycle combustion turbines; two 170 MW (each) simple-cycle combustion turbine peaking units, diesel engines, and, supporting equipment all detailed in the Table below:

EU No.	Brief Description
Regulated Emissions Units	
003	Combustion Turbine GT #1.
004	Combustion Turbine GT #2.
005	Combustion Turbine GT #3.
006	Combustion Turbine GT #4.
007	Combustion Turbine GT #5.
008	Combustion Turbine GT #6.
009	Combustion Turbine GT #7.
010	Combustion Turbine GT #8.
011	Combustion Turbine GT #9.
012	Combustion Turbine GT #10.
013	Combustion Turbine GT #11
014	Combustion Turbine GT #12.
018	Combustion Turbine 2A, Combined-Cycle Unit With Non-Fired HRSG.
019	Combustion Turbine 2B, Combined-Cycle Unit With Non-Fired HRSG.
020	Combustion Turbine 2C, Combined-Cycle Unit With Non-Fired HRSG.
021	Combustion Turbine 2D, Combined-Cycle Unit With Non-Fired HRSG.
022	Combustion Turbine 2E, Combined-Cycle Unit With Non-Fired HRSG.
023	Combustion Turbine 2F, Combined-Cycle Unit With Non-Fired HRSG.
024	6 Natural Gas Pre-Heaters.
027	Combustion Turbine 3A, Simple-Cycle Peaking Unit.
028	Combustion Turbine 3B, Simple-Cycle Peaking Unit.
029	Natural Gas Heater.
030	Natural Gas Heater.
033	One diesel fire pump, manufactured by Caterpillar, serial number 03Z17257, Model 3208, 2300 RPM, 187 HP, in service 2001, 8 cylinders, 646 cubic inches.
Other Emissions Units and Activities	
015	Painting of plant equipment and non-halogenated solvent cleaning operations.
016	Miscellaneous mobile equipment.
025	Cooling Tower.
031	Hurricane Shelter Propane-fired Emergency Generators (2).
032	Emergency Generators: fixed diesel engines (3), 2.3 MW, manufactured by Caterpillar, Model # 3500B, serial numbers: #1 8XS00544, #2 8XS00546, #3 8XS00545, 3,096 HP, 2,310 KW, in service 12/27/05, #2 distillate (diesel) fuel, 16 cylinders, 4,210.64 cubic inches.

PROPOSED PROJECT

On November 3, 2015 Florida Power & Light Company (FPL) submitted a complete application requesting authorization to upgrade the existing Unit 2A (emission unit 018) combustion turbine at the Ft Myers Power Plant with the General Electric (GE) 7FA.05 Hybrid Tech DLN 2.6+ combustion system. This request is in addition to the work previously authorized by Permit Nos. 0710002-020-AC and 0710002-021-AC wherein Unit 2 at the Ft Myers Power Plant is being upgraded with GE 7FA.04/7FA.05 components. The GE 7FA.05 Hybrid Tech DLN 2.6+ allows an increased firing temperature and increases power output by 1.25 percent at an ambient temperature of 59 degrees Fahrenheit over the GE 7FA.04/7FA.05 components. The GE 7FA.05 Hybrid Tech DLN 2.6+ addition would be installed at the same time as the GE 7FA.04/7FA.05 upgrade components. FPL also is requesting to increase the current heat input limit for each Unit 2 CT from 1,760 to 1,783 million British thermal unit per hour (MMBtu/hr) because the heat input increase associated with the Hybrid Tech DLN 2.6+ combustion system upgrade will envelop all the units.

The following emission units (EU) are affected by this air construction permit:

EU ID No.	Brief Description
018	Combustion Turbine 2A, Combined-Cycle Unit With Non-Fired HRSG.
019	Combustion Turbine 2B, Combined-Cycle Unit With Non-Fired HRSG.
020	Combustion Turbine 2C, Combined-Cycle Unit With Non-Fired HRSG.
021	Combustion Turbine 2D, Combined-Cycle Unit With Non-Fired HRSG.
022	Combustion Turbine 2E, Combined-Cycle Unit With Non-Fired HRSG.
023	Combustion Turbine 2F, Combined-Cycle Unit With Non-Fired HRSG.

FACILITY REGULATORY CLASSIFICATION

HAP: The facility is identified as a major source of hazardous air pollutants (HAP).

Title IV: The facility operates units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

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

NESHAP: The facility does not operate units subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 Code of Federal Regulations part 63 (40 CFR 63).

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

GHG: This facility is identified as a major source of greenhouse gas pollutants.

RELEVANT DOCUMENTS:

Several documents shown in the following link are not a part of this permit, but helped form the basis for this permitting action. These documents along with all other associated documents in the issued draft permit package can be accessed by entering file number in the permit number field at the web link given below:

http://appprod.dep.state.fl.us/air/emission/apds/default.asp.

Documents related to this permitting action are posted under permit Nos. 0710002-020-AC and 0710002-021-AC at the web links given below:

Link to Project No. 0710002-020-AC, issued on March 13, 2014.

Link to Project No. 0710002-021-AC, issued on February 5, 2015.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests and notifications shall be submitted to the South District Office. The mailing address and phone number of the South District Office is: 2295 Victoria Avenue, Suite 364, P.O. Box 2549, Fort Myers, FL 33902-2549, 239/344-5600.

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

   Appendix A (Citation Formats and Glossary of Common Terms);

   Appendix B (General Conditions);

   Appendix C (Common Conditions); and

   Appendix D (Common Testing Requirements).

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: This permit authorizes the addition of GE 7FA.05 Hybrid Tech DLN 2.6+ combustion system along with GE 7FA.04/7FA.05 upgrade project No. 0710002-021-AC, in existing combined cycle combustion turbine system, Unit 2A (EU 018), and the initial operation after the replacement to determine compliance with Department rules. The permittee for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance prior to the expiration of this permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, F.A.C.]

8. Expiration Date: The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(4), 62-4.080 & 62-210.300(1), F.A.C.]

9. Source Obligation: 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.]

10. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required

for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after 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 the Compliance Authority. [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

11. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions as described in Section 3, Specific Condition No. 6. [Application 0710002-023-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

12. NSPS, Subpart KKKK Applicability Determination: The permittee shall submit an applicability analysis related to 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines Link to 40 CFR 60, Subpart KKKK with the Title V Permit application required by **Section 2, Condition 10** above. A compliance schedule and methodology shall be submitted with the Title V permit application for the emissions unit(s) that have not completed the required testing.

This section of the permit addresses the following emissions units:

EU ID No.	Brief Description
018	Combustion Turbine 2A, Combined-Cycle Unit With Non-Fired HRSG.
019	Combustion Turbine 2B, Combined-Cycle Unit With Non-Fired HRSG.
020	Combustion Turbine 2C, Combined-Cycle Unit With Non-Fired HRSG.
021	Combustion Turbine 2D, Combined-Cycle Unit With Non-Fired HRSG.
022	Combustion Turbine 2E, Combined-Cycle Unit With Non-Fired HRSG.
023	Combustion Turbine 2F, Combined-Cycle Unit With Non-Fired HRSG.

Unit 2 consists six of GE Model MS7241 (GE 7FA.03) CTs associated with six heat recovery steam generators (HRSGs) referred to as Units 2A through 2F (EU IDs 018, 019, 020, 021, 022, and 023).

PREVIOUS APPLICABLE REQUIREMENTS

1. Existing Permits. The conditions of this permit are a supplement and amendment to Permit Nos. 0710002-021-AC and 0710002-020-AC and all other previously issued air construction and operation permits for these emissions units. Unless otherwise specified below, these conditions are in addition to all other applicable permit conditions and regulations. The facility remains subject to all of the applicable requirements contained in all previously issued air construction permits for this facility. [Rule 62-4.070, F.A.C.]

MODIFICATION OF EXISTING PERMIT CONDITION

With the addition of the GE 7FA.05 Hybrid Tech DLN 2.6+ in Unit 2A (EU 018), the maximum heat input increases slightly from 1,760 MMBtu/hr to 1,783 MMBtu/hr at the same conditions (LHV, ambient temperature of 59° F, 60% relative humidity, 100% load, and 14.7 pounds per square inch absolute (psia)).

Changes to a specific conditions in the original Permit No. 0710002-004-AC affected by this permitting action are identified below. New text will be shown with double underline and deleted text will be shown with ~~strikethrough~~.

2. Restricted Operation: **Specific Condition No. 9** in Section III of the original Permit No. **0710002-004-AC** is revised to properly reflect the maximum heat input rates of the affected Units 2A through 2F (EU 018 through 023**)** as follows:

   Notice: The remainder of the permit remains unchanged as a result of this permitting action.

   9. Turbine Capacity: The maximum heat input rates, based on the lower heating value (LHV) of the fuel to *each* combustion turbine at compressor inlet conditions of 59°F, 60% relative humidity, 100% load, and 14.7 psia shall not exceed ~~1,760~~ 1,783 million Btu per hour (MMBtu/hr). This maximum heat input rate will vary depending upon turbine inlet conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other compressor inlet conditions have been provided to the Department of Environmental Protection (DEP). [Design, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions) and Application No. 0710002-023-AC]

NEW EQUIPMENT

Combustion Turbine Improvements on Unit 2: The permittee is authorized to improve the performance of existing GE combustion turbine associated with Unit 2A (EU 018) at the Fort Myers Power Plant with the addition of the GE 7FA.05 Hybrid Tech DLN 2.6+ combustion system. The GE 7FA.05 Hybrid Tech DLN 2.6+ combustion system will be installed at the same time as the GE 7FA.04/05 components which was previously authorized by Project Nos. 0710002-020-AC and 0710002-021-AC. [Application Nos. 0710002-020-AC, 0710002-021-AC and 0710002-023-AC]

REPORTING REQUIREMENTS

This permit requires actual emissions reporting for Unit 2 (EU 018 through EU 023) pursuant to Rule 62-212.300(1)(e), F.A.C.; and, tests data to demonstrate NSPS applicability/non-applicability of 40 CFR 60, Subpart KKKK as follows:

3. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of **10 years** following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the **10-year** period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

      (1) The name, address and telephone number of the owner or operator of the major stationary source;

      (2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

      (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

      (4) Any other information that the owner or operator wishes to include in the report.

   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   d. For this project, the permittee estimated the following baseline actual emissions: 49.6 tons/year of CO; 904.6 tons/year of NO_X; 19.1 tons/year of SO_2; 0.07 tons/year of VOC; 212.3 tons/year of PM/PM_{10}; and 2.9 tons/year of sulfuric acid mist (SAM).

   e. The Department has identified NO_X as the only PSD-pollutant that could reasonably increase as a result of this modification. For the purpose of comparisons with baseline actual emissions, the permittee shall use the installed CEMS to determine and report the actual annual emissions of NO_X; and, the required stack test for reporting CO annual emissions.

   f. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct 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.]

   [Application 0710002-023-AC; and Rules 62-212.300(1)(e) & 62-210.370, F.A.C.]

   {Permitting Note: Continuous compliance with the NO_X standards will be demonstrated by CEMS.}