Florida Department of Environmental Protection

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PERMITTEE

Florida Power and Light
19050 State Road 62
Parrish, FL 34219

Authorized Representative:
Mr. Paul Plotkin, Plant General Manager

Air Permit No. 0810010-017-AC
Permit Expires: July 31, 2017
Minor Air Construction Permit

FPL Manatee Power Plant
Increase of Natural Gas Capacity/
Fuel Switch to 0.7% Sulfur

PROJECT

This is the final air construction permit, which authorizes an increase to the natural gas-firing permitted capacity from 5,670 to 8,650 million British Thermal units per hour (MMBtu/hour/unit) on Units 1 and 2 to displace more residual fuel oil. This air construction permit also restricts the sulfur content of fuel oil to 0.7% alone or co-fired with a requisite amount of natural gas for Units 1 and 2. The proposed work will be conducted at the existing FPL Manatee Power Plant, which is an electrical power plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Manatee County at 19050 State Road 62 in Parish, Florida. The UTM coordinates are Zone 17, 367.25 km East and 3054.15 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Permit Revisions); 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 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

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for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
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.

Mr. Paul Plotkin, FPL Manatee Plant Manager: paul_plotkin@fpl.com
Mr. Edward Preast, P.E., FPL: es_preast@fpl.com
Ms. Heather Ceron, US EPA Region 4: ceron.heather@epa.gov
Mr. Robert Wong, Administrator, DEP SWD: robert.wong@dep.state.fl.us
Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us
Ms. 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 nominal 2,750 megawatt (MW) facility consists of two fossil fuel steam generators, a "4-on-1" gas-fired combined cycle unit and associated support equipment.

Fossil Fuel Steam Generators, Unit 1 and Unit 2: Each unit is a Foster-Wheeler Steam Generator rated at 800 MW (900 MW gross capacity) output. These units burn a variable combination of natural gas, No. 6 fuel oil, No. 2 fuel oil, propane, and used oil from Florida Power and Light Company (FPL) operations, discharging pollutants through a stack 499 feet above ground level. Each unit is equipped with multiple cyclones, a flue gas recirculation system and staged combustion and also operates a Westinghouse tandem compound, reheat-type extraction turbine.

Combined Cycle Gas Turbine, Unit 3: This unit consists of four ("4-on-1") nominal 170 MW General Electric Model PG7241(FA) gas-fired turbine-electrical generator sets with evaporative inlet cooling systems, an automated gas turbine control system, an inlet air filtration system, four 495 million British thermal units per hour (MMBtu/hour) supplementary-fired heat recovery steam generators (HRSG) with selective catalytic reduction (SCR) reactors, a single nominal 470 MW steam-electrical generator that serves all four gas turbine/HRSG systems, four 120 feet exhaust stacks, and associated support equipment. The total generating capacity of the "4-on-1" combined cycle system Unit 3 is 1150 MW.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities (See Appendix I and Appendix U).

The existing facility consists of the following emissions units.

EU No.	
Regulated Emissions Units	
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
005	Unit No.3A Gas Turbine (nominal 170 MW) with Heat Recovery Steam Generator
006	Unit No.3B Gas Turbine (nominal 170 MW) with Heat Recovery Steam Generator
007	Unit No.3C Gas Turbine (nominal 170 MW) with Heat Recovery Steam Generator
008	Unit No.3D Gas Turbine (nominal 170 MW) with Heat Recovery Steam Generator
Unregulated Emissions Units and Activities	
003	Emergency Diesel Generator, Miscellaneous Mobile Equipment and Internal Combustion Engines
004	Painting of Plant Equipment and Non Halogenated Solvent Cleaning Operations
010	Ammonia Storage Tank
011	Black Start Diesel Engines (3)

PROPOSED PROJECT

The project is an increase to the natural gas firing permitted capacity from 5,670 MMBtu/hour to 8,650 MMBtu/hour/unit on Units 1 and 2. This project also restricts the sulfur content of fuel oil to 0.7% burned alone or co-fired with a requisite amount of natural gas for Units 1 and 2.

This project will modify the following emissions units.

Facility ID No. 0810010	
ID No.	**Emission Unit Description**
001	Nominal 800 megawatt (MW) fossil fuel fired steam electric generator Unit 1
002	Nominal 800 MW fossil fuel fired steam electric generator Unit 2

FACILITY REGULATORY CLASSIFICATION

- The facility is 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 is subject to the provisions of the Clean Air Interstate Rule (CAIR), including applicable portions of Chapters 62-204, 62-210 and 62-296, F.A.C.
- The facility is subject to Chapter 62-204.800, F.A.C for New Source Performance Standards (NSPS) under Section 111 of the CAA and NESHAP under Section 112 of the CAA.

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 Air Resource Section of the Department's Southwest District Office at 13051 N. Telecom Parkway, Temple Terrace, Florida 33637. The telephone number of the district office is 813/632-7600.

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. Source Obligation:

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

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

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

8. 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, 62-4.220 and Chapter 62-213, F.A.C.]

9. 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 5 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 5-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;

      4) The baseline actual emissions to which the annual emissions were compared to; and

      5) 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.

   For this project, the permit requires the annual reporting of actual carbon monoxide (CO) emissions for the following units: Fossil fuel fired steam generator Unit 1; and Fossil fuel fired steam generator Unit 2. For reference the Department calculated the baseline actual emissions for CO to be 499 tons per year (TPY) based on 2008-2009 CO annual operating report (AOR) emissions data for Unit 1 and 453 TPY for Unit 2.

   [Application 0810010-017-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDIDITONS

A. UNIT 1 and UNIT 2

This project will modify the following emissions units.

Facility ID No. 0810010	
ID No.	**Emission Unit Description**
001	Nominal 800 MW fossil fuel fired steam electric generator Unit 1
002	Nominal 800 MW fossil fuel fired steam electric generator Unit 2

PRIOR PERMITS

1. Facility Requirements: This permit does not authorize any new construction, nor any increase in capacity or actual pollutant emissions to the atmosphere. Except as specified below, the facility remains subject to all of the rules and requirements contained in all previously issued air construction permits for this facility.

PERFORMANCE RESTRICTIONS

2. Permitted Capacity: When firing natural gas alone, the maximum heat input rate to each unit shall not exceed 8,650 MMBtu per hour. When a blend of fuel oil and natural gas is fired, the maximum heat input to each unit shall not exceed 8,650 MMBtu per hour.
   [Application No. 0810010-017-AC; Rule 62-210.200(PTE), F.A.C.]

3. Authorized Fuel: Authorized fuels to be burned are low sulfur fuel oil containing a maximum of 0.7% sulfur content, by weight; natural gas; or, a mixture of low sulfur fuel oil containing a maximum of 1.0% sulfur content, by weight, and natural gas in a ratio that shall not exceed the sulfur dioxide emission limitation standard of 0.80 lb/MMBtu heat input. The fuel oil sulfur limitation will become effective December 31, 2013 or upon EPA's approval of the Florida Regional Haze State Implementation Plan to the extent it applies to this emissions unit. [Application No. 0810010-017-AC; Rule 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

4. Emissions Standards:

   a. Sulfur Dioxide (SO_2): Sulfur dioxide emissions rate from each fossil fuel fired steam electric generator Units 1 and 2 shall not exceed 0.80 lb/MMBtu during any rolling 12 months.
      [Application No. 0810010-017-AC and Rule 62-210.200(PTE), F.A.C.]