# FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

**Ron DeSantis**
Governor

**Jeanette Nuñez**
Lt. Governor

**Shawn Hamilton**
Secretary


**PERMITTEE**

Florida Power and Light Company
4300 County Road 2300
Lynn Haven, Florida..32409

Authorized Representative:
Michael Allen, Plant Manager

Air Permit No. 0050014-035-AC
Permit Expires: 3/31/2023
Minor Air Construction Permit
Smith Electric Generating Plant
Winter Upgrades to Unit 3

**PROJECT**

This is the final air construction permit, which authorizes the facility to implement winter upgrades to Unit 3. The proposed work will be conducted at the existing Smith Electric Generating Plant, which is an electric utility categorized under Standard Industrial Classification No. 4911. The existing facility is located in Bay County at 4300 County Road 2300 in Lynn Haven, Florida. The UTM coordinates are Zone 16, 623.74 kilometers (km) East and 3349.11 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

**(DRAFT)**

David Lyle Read, P.E., Environmental Administrator
Office of Permitting and Compliance
Division of Air Resource Management

DRAFT

## 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.

Michael Allen, FPL: michael.d.allen@fpl.com
Ms. Christina Akly, Ph.D., P.E., FPL: christina.akly@fpl.com
DEP Northwest District Office: epost_nwdwasteair@dep.state.fl.us
DEP Siting Office: SCO@dep.state.fl.us
Ms. Elizabeth Walker, DEP OPC: elizabeth.walker@FloridaDEP.gov

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.

DRAFT

## FACILITY DESCRIPTION

The Lansing Smith Plant is an existing electric generating plant operated by Gulf Power Company. This facility consists of a Pratt & Whitney Twin-Pac combustion turbine peaking unit, and two gas-fired combined-cycle combustion turbine (CCCT) electrical generators with duct-fired heat recovery steam generators (HRSG). The Twin-Pac system, designated as Unit A, has a maximum heat input of 542 million British thermal units per hour (MMBtu/hour) and is authorized to fire No. 2 fuel only. The two combined-cycle combustion turbines, designated as Units 3A & 3B, can achieve a nominal 610 megawatts (MW), at annual average site conditions, with duct burners, while firing exclusively natural gas. Units 3A & 3B are Acid Rain units. The facility also houses two retired coal fired steam generators (boilers). These retired Acid Rain Phase II Units are still in existence at the site but are legally prevented from operating as coal-fired power plants.

The facility also includes emergency and non-emergency reciprocating internal combustion engines (RICE).

**Subsection B. Summary of Emissions Units.**

| EU No. | Brief Description |
|---|---|
| **003** | Twin-Pac Combustion Turbine Peaking Unit (Unit A) |
| **004** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3A) |
| **005** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3B) |
| **009** | General Purpose Internal Combustion Engines (Emergency and Non-Emergency) |
| **012** | 550 HP Emergency Diesel Generator at CCCT |
| **013** | 153 HP Emergency Diesel Sump Pump (Big Blue) |

## PROPOSED PROJECT

The applicant submitted an application to the Department on October 6, 2021, (Link to application, click "Public Oculus Login" button) requesting authorization to implement winter upgrades and AGP Tech 2.0 upgrades to Unit 3.

The following EUs will be affected by this project.

| EU No. | Emission Unit Description |
|---|---|
| **004** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3A) |
| **005** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3B) |

## 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.
- 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, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates units subject to the New Source Performance Standards (NSPS) of Title 40 Part 60 of the Code of Federal Regulations (40 CFR 60).
- The facility operates units subject to the National Emissions Standards of Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

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 Northwest District Office at 160 Governmental Center, Pensacola, Florida 32502-5794.

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 and Expiration: 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 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(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]

8. 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.]

9. 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.]

DRAFT

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

### A. EUs 004 and 005, Unit 3

This section of the permit addresses the following emissions units.

| EU No. | Emission Unit Description |
|---|---|
| **004** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3A) |
| **005** | Gas Combustion Turbine with HRSG and Duct Burner (Unit 3B) |

Units 3A and 3B consist of a General Electric Model No. PG7241 (FA) combined-cycle combustion turbine with electrical generator set and General Electric OpFlex Peak enhancement package designed to expand the peak power production profile. A Continuous Dynamics Monitoring (CDM) system is installed to ensure that the combustion system parameters are kept at optimal performance. CDM is part of the remote dry low-$NO_X$ (DLN) tuning service provided by General Electric.

The unit will achieve a nominal 610 MW, at annual average site conditions, with duct burners. These units are capable of a maximum of approximately 682 MW in combined cycle operation with power augmentation and partial wet compression at 95 degrees F. The maximum heat input of the combustion turbines is a nominal 2,350 MMBtu/hour based on the Lower Heating Value (LHV) at 65 $^{o}$F, each. The maximum heat input of the duct burners is a nominal 303 MMBtu/hr (LHV at 65 degrees F), each. Unit 3 includes two 121-foot stacks, a small heater for the gas pipeline, and a 10-cell, mechanical draft saltwater cooling tower. Simple cycle operation is not a permitted activity. Support facilities for Unit 3 include water treatment and storage facilities. Emissions from Units 3A and 3B are controlled by Dry Low $NO_X$ (DLN) combustors firing exclusively natural gas. Inherently clean fuels and good combustion practices are employed to control all pollutants. The parameters for each stack are: stack heights = 121 feet, exit diameters = 16.8 feet, exit temperatures = 186 $^{o}$F, actual volumetric flow rates = 981,334 acfm.

*{Permitting notes: These units began commercial operation during January of 2002. Units 3A and 3B are regulated under the federal Acid Rain Program, Phase II, and 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines, which is adopted and incorporated by reference in Rule 62-204.800(8)(b), F.A.C. In accordance with Rule 62-212.400(PSD), F.A.C., Permit Nos. 0050014-002-AC/PSD-FL-269 & 0050014-003-AC/PSD-FL-269A subjected both units 3A & 3B to a BACT determination for CO, $SO_2$/SAM and VOC emissions. Emissions standards specified in these permits allowed these units to avoid PSD preconstruction review for NOx emissions.}*

### UPGRADES

1. Winter Upgrades: The permittee is authorized to perform the following specific modifications to implement winter upgrades:
   a. Change turbine shaft control limit setting from 207 MW to 225 MW; and
   b. Software changes to enable a winter peak firing mode of operation.

   [Application No. 0050014-035-AC]

### PERFORMANCE RESTRICTIONS

2. Winter Peak Mode of Operation:
   a. When firing natural gas and operating in a winter peak mode, the maximum heat input rate 2,450 MMBtu per hour for each combustion turbine.
   b. Each combustion turbine shall operate in winter peak mode for no more than 1,600 hours during any consecutive 12 months of operation.

   [Rules 62-4.070(3) & 62-210.200(PTE), F.A.C., and Application No. 0810010-030-AC]

### EMISSIONS STANDARDS

3. Emissions Standards:
   a. *NOx Emissions:* While operating in the winter peak mode, NOx emissions shall not exceed 130 lb/hour (ISO conditions) per combustion turbine, as determined by EPA Method 7E or 20.

b. *CO Emissions*: While operating in the winter peak mode, CO emissions shall not exceed 40 lb/hour (ISO conditions) per combustion turbine, as determined by EPA Method 10.

c. *VOC Emissions*: While operating in the winter peak mode, VOC emissions shall not exceed 3.2 lb/hour (ISO conditions) per combustion turbine, as determined by EPA Method 18 or 25A.

[Application No. 0050014-035-AC]

**TESTING REQUIREMENTS**

4. Initial Compliance Tests: The emissions units shall be tested to demonstrate initial compliance with the emissions standards for CO after installation of the software to enable the winter upgrades. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit, unless the required weather conditions are not favorable for testing the upgrades. Temperatures below 59°F are needed to test these upgrades. If testing is not possible within 180 days after initial operation, the units shall be tested as soon as weather conditions are favorable for testing. A notice shorter than the 15 days as required in **Specific Condition 5** might be provided; however, the notice shall not be less than 24 hours. At least one CT in Unit 3 shall be tested to demonstrate initial compliance with emissions of CO. If the measured CO emissions during the initial compliance test is below 75 percent of the emissions standard in **Specific Condition 3b.**, the other CT in Unit 3 need not be tested to demonstrate initial compliance with the emission standards for CO. However, if the measured CO emissions during the initial compliance test is above 75 percent of the emissions standard in **Specific Condition 3b.**, the other CT in Unit 3 shall be tested to demonstrate initial compliance with the emission standards for CO, as soon as practicable once weather conditions are favorable for testing. Compliance with CO emissions serves as demonstration for compliance with VOC emissions. Compliance with NOx emissions shall be demonstrated with the CEMS. NOx CEMS data for the period when the CO test is conducted shall be included as part of the emissions report to demonstrate compliance with NOx limits. [Rules 62-4.070(3) and 62-297.310(8)(b)1, F.A.C.]

5. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(9), F.A.C.]

*{Permitting Note: Air compliance test notifications can now be completed online in the Department's Business Portal. To access this online process, go to http://www.fldepportal.com/go/home and sign in (or register if you're a new user) from the link in the upper right corner of the page. On the Welcome page select the Submit option, then select Registration/Notification, and then click on Air Compliance Test Notifications. Once in the process, just carefully read the instructions on each screen (and under the Help tabs) to complete the notification.}*

6. Test Methods: Required tests shall be performed in accordance with the following reference methods.

| Method | Description of Method and Comments |
|---|---|
| 1-4 | Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content |
| 7E | Determination of Nitrogen Oxide Emissions from Stationary Sources |
| 10 | Determination of Carbon Monoxide Emissions from Stationary Sources<br>*{Note: The method shall be based on a continuous sampling train.}* |
| 18 | Measurement of Gaseous Organic Compound Emissions by Gas Chromatography |
| 20 | Determination of NOx, $SO_2$ and Diluent Emissions from Stationary Gas Turbines |
| 25A | Method for Determining Gaseous Organic Concentrations (Flame Ionization) |

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

**RECORDS AND REPORTS**

7. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(10), F.A.C.]

DRAFT