



Florida Department of Environmental Protection

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Lt. Governor

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Secretary

PERMITTEE

Florida Power Development, LLC
10311 Cement Plant Road
Brooksville, Florida 34601

Authorized Representative:
Mr. Brent Yatman, Plant Manager

Air Permit No. 0530380-011-AC
Permit Expires: 06/01/2017
Minor Air Construction Permit
Brooksville Power Plant
Soot Blower Project

PROJECT

This is the final air construction permit, which authorizes the installation of 18 additional soot blowers in the backpass section of the biomass boiler at the Brooksville Power Plant. The Brooksville Power Plant is an electric generating utility categorized under Standard Industrial Classification No. 4911. The existing Brooksville Power Plant is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. The UTM coordinates are Zone 17, 360.0 kilometers (km) East and 3162.5 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

For:

Syed Arif, P.E., 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 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.

Mr. Brent Yatman, Power Plant Manager, FPD: brent.yatman@fpdbrooksville.com

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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.

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The Florida Power Development, LLC (FPD), Brooksville Power Plant, is an existing 80 megawatt (MW) electric generating utility categorized under Standard Industrial Classification No. 4911. The Brooksville Power Plant consists of a woody biomass grate suspension boiler; biomass handling and storage; in-duct sorbent injection system (IDSIS); bottom ash storage and handling facilities; and, fuel oil storage tanks.

The boiler fires woody biomass as the primary fuel with ultralow sulfur distillate (ULSD) fuel oil and natural gas used for startup, shutdown and bed stabilization fuels. Ammonia (NH₃) injection into a selective catalytic reduction (SCR) reactor is used to reduce emission of nitrogen oxide (NO_x) and help in the reduction of organic hazardous air pollutants (HAP) including dioxin/furan. An oxidation catalyst may be used to reduce carbon monoxide (CO), volatile organic compounds (VOC) and organic HAP emissions. An IDSIS utilizing milled trona, hydrated lime, limestone, or sodium bicarbonate is used to control sulfur dioxide (SO₂), hydrogen chloride (HCl), hydrogen fluoride and other acid gas HAP emissions. An electrostatic precipitator (ESP) is used to reduce emissions of particulate matter (PM), PM with a mean particle diameter of 10 microns or less (PM₁₀) and PM with a mean particle diameter of 2.5 microns or less (PM_{2.5}). The ESP also helps in the control of metal HAP and also removes injected sorbents. The boiler is equipped with a CO, SO₂ and NO_x continuous emission monitoring systems (CEMS) and a continuous opacity monitoring system (COMS) for visible emissions.

The existing facility consists of the following emissions units (EU).

EU No.	Brief Description
<i>Regulated Emissions Units</i>	
001	Biomass Handling, Storage and Processing
002	Woody Biomass-Fueled Grate Suspension Boiler
003	Ash Handling, Storage and Shipment
004	IDSIS Sorbent Handling and Storage
<i>Unregulated Emissions Units</i>	
005	Diesel Fired Emergency Generator (610 brake-horse power)
006	150,000 Gallons ULSD Fuel Oil Storage Tank

PROPOSED PROJECT

FPD is requesting to install 18 soot blowers, 16 new and replace two existing soot blowers, in the backpass section of the biomass boiler to remove ash from the tubes. The additional soot blowers are needed to improve the efficiency of the boiler and extend the time between cleaning outages.

The following existing emissions unit (EU) will be affected by this project.

EU No.	Description
002	Woody Biomass-Fueled Grate Suspension Boiler

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate 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, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

SECTION 1. GENERAL INFORMATION

- 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 for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

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 Southwest District at: 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926.
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. 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)

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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.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Woody Biomass-Fueled Grate Suspension Boiler (EU 002)

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
002	Woody Biomass-Fueled Grate Suspension Boiler

The existing woody biomass fueled grate-suspension boiler with water-cooled movable grates generates up to 80 MWg of electricity in an existing steam electric generator. The nameplate heat input capacity of this boiler is 900 million British thermal units/hour (MMBtu/hour). The design steam production capability is approximately 490,000 pounds per hour (lb/hour) at 2,008 pounds per square inch (psi) and 1,050 degrees Fahrenheit (°F) (4-hour block average). The primary fuel is clean woody biomass. ULSD fuel oil and natural gas will be used for startup, shutdown and bed stabilization of the grate-suspension boiler.

{Permitting Note: This emission unit is regulated under NSPS Subpart Db, Industrial-Commercial-Institutional Steam Generating Units, for modified units, and NESHAP Subpart DDDDD, NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, for existing units, adopted and incorporated by reference in Rule 62-204.800(8), F.A.C.; Rule 62-212.400(Avoid PSD), F.A.C., PSD; Rule 62-296.406, Fossil Fuel Steam Generators with Less Than 250 MMBtu/hour Heat Input; 40 CFR 64, CAM, adopted and incorporated by reference in Rule 62-204.800, F.A.C.; and, Rule 62-296.470, F.A.C., CAIR.}

PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for this emissions unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070, F.A.C.]

EQUIPMENT

2. Woody Biomass-Fueled Grate Suspension Boiler: The permittee is authorized to install 18 soot blowers in the backpass section of the biomass boiler to remove ash from the heat exchange tubes. [Design, Application No. 0530380-011-AC]
3. Hours of Operation: The hours of operation are not limited (8,760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

MONITORING REQUIREMENTS

4. COMS: The existing COMS shall be used to monitor opacity during all operations of the biomass boiler including soot blowing events. [Rule 62-4.070(3), F.A.C.; and Application 0530380-011-AC]