Florida Department of Environmental Protection

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PERMITTEE

Florida Power and Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

Authorized Representative:
Timothy Panoff, Production Manager

Air Permit No. 0990646-010-AC
Permit Expires: December 31, 2019
Minor Air Construction Permit
West County Energy Center
Authorize Oil and Propane for Auxiliary Boiler

PROJECT

This is the final air construction permit, which authorizes a modification of the existing auxiliary boiler to add the capability to burn propane and ultra-low sulfur diesel fuel oil. The proposed work will be conducted at the West County Energy Center, which is an existing power plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Palm Beach County at 20505 State Road 80 in Loxahatchee, Florida. The UTM coordinates are Zone 17, 562.19 kilometers (km) East and 2,953.04 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. As noted in the Final Determination provided with this final permit, no changes 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

David Lyle Read, P.E.
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For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr/ead

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. Timothy Panoff, Florida Power and Light Company: timothy_panoff@fpl.com
Mr. Jeffrey Zuczek, Florida Power and Light Company: jeffrey.zuczek@fpl.com
Ms. Christina Akly, P.E., Florida Power and Light Company: christina.akly@nexteraenergy.com
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DEP Siting Office: SCO@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@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.

Lynn Scearce

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FACILITY DESCRIPTION

This facility primarily consists of three combined cycle combustion turbine electrical generator sets (CCCT), designated as Units 1, 2 and 3. Each unit consists of three Mitsubishi Heavy Industries Model M501G CCCT, each coupled to a heat recovery steam generator (HRSG). Each HRSG is equipped with natural-gas fired duct burners. Exhaust from each turbine passes through the HRSGs to produce steam. The CCCT/HRSG are arranged in a "3-on-1" setting where three CCCT/HRSG are attached to a common steam turbine-electrical generator (STEG). The nominal generating capacity of each CCCT is 250 megawatts (MW) for a total of 750 MW, and the nominal generating capacity of the STEG is 500 MW, producing a total of 1,250 MW per unit and a facility-wide total of 3,750 MW. The CCCTs are authorized to fire natural gas as a primary fuel with ultra-low sulfur distillate (ULSD) fuel oil as a restricted alternate fuel. The maximum heat input rate to each CCCT is 2,538 million British thermal units per hour (MMBtu/hour) while firing natural gas and 2,117 MMBtu/hour while firing ULSD fuel oil. Each duct burner is permitted to fire natural gas at a maximum heat input rate of 428 MMBtu/hour. Each CCCT is equipped with an evaporative inlet cooling system for pretreatment of air entering the CCCT. The natural gas supplied to each CCCT is heated by four 8.3 MMBtu/hour, natural gas-fired process heaters. Nitrogen oxide (NO_X) emissions are controlled by dry low-NO_X burners while firing natural gas and water injection while firing ULSD fuel oil. A selective catalytic reduction (SCR) reactor is connected to the end of each HRSG for downstream control of NO_X.

The facility also contains an auxiliary boiler that produces steam during the startup of the CCCTs of Units 1, 2, and 3. The boiler is currently permitted to be fired by natural gas at a maximum heat input rate of 99.8 MMBtu/hour. NO_X emissions are controlled by dry low-NO_X burners.

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

EU No.	Emissions Unit Description
001	Unit 1A – 250 MW Gas Turbine with Supplementary-fired HRSG
002	Unit 1B – 250 MW Gas Turbine with Supplementary-fired HRSG
003	Unit 1C – 250 MW Gas Turbine with Supplementary-fired HRSG
004	Unit 2A – 250 MW Gas Turbine with Supplementary-fired HRSG
005	Unit 2B – 250 MW Gas Turbine with Supplementary-fired HRSG
006	Unit 2C – 250 MW Gas Turbine with Supplementary-fired HRSG
013	Unit 3A – 250 MW Gas Turbine with Supplementary-fired HRSG
014	Unit 3B – 250 MW Gas Turbine with Supplementary-fired HRSG
015	Unit 3C – 250 MW Gas Turbine with Supplementary-fired HRSG
009	One Limited-Use Gas-Fueled Auxiliary Boiler
010	Two 8.3 MMBtu/hr Natural Gas-Fired Process Heaters
017	Two 8.3 MMBtu/hr Natural Gas-Fired Process Heaters
011	Three Emergency Generators/Engines (EPA Tier 1 certified)
012	One Emergency Fire Pump Engine (EPA Tier 1 certified) and 500 Gallon Fuel Oil Storage Tank
019	Four Propane-Fired Emergency Generators (30 kilowatt) – Hurricane Shelters
007	Two Distillate Fuel Oil Storage Tanks
008	Two Mechanical Draft Cooling Towers
016	One 26-Cell Mechanical Draft Cooling Tower

PROPOSED PROJECT

FPL requests authorization to modify the existing auxiliary boiler to add the capability to burn propane and ultra-low sulfur diesel (ULSD) fuel. This modification will allow the auxiliary boiler to operate if there is a gas curtailment or interruption in natural gas supply.

This project will modify the following emissions unit.

EU No.	Emissions Unit Description
009	One Limited-Use Gas-Fueled Auxiliary Boiler

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 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

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 Palm Beach County, Florida Department of Health at: Palm Beach County, Florida Department of Health, Division of Environmental Public Health, Air and Waste Program, 800 Clematis Street, Fourth Floor, West Palm Beach, Florida 33401.

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.]

A. Auxiliary Boiler (EU 009)

This section of the permit addresses the following emissions unit.

EU No.	Emissions Unit Description
009	One Limited-Use Gas-Fueled Auxiliary Boiler

This emissions unit is comprised of one limited-use natural gas-fueled auxiliary boiler with a maximum design heat input of 99.8 million British thermal units per hour (steam flow of 85,000 lb/hour) to produce steam during the startup of the combustion turbines for Units 1 through 3.

The auxiliary boiler was manufactured by Babcock & Wilcox Company, Model No. FM103-79 F.M. Air pollutant emissions from the auxiliary boiler are controlled using dry low-nitrogen oxide burners when firing natural gas. The auxiliary boiler's stack parameters are: height, 60 feet; diameter, 5.5 feet; exit temperature, 275 degrees Fahrenheit; and actual stack gas flow rate, 17,718 actual cubic feet per minute. The auxiliary boiler commenced operation in 2009.

{Permitting Note: This emissions unit is regulated under NSPS 40 CFR 60, Subpart A – NSPS General Provisions and Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, both adopted and incorporated by reference in Rule 62-204.800, F.A.C.; NESHAP 40 CFR 63, Subpart A – NESHAP General Provisions and Subpart DDDDD – NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT), both adopted and incorporated by reference in Rule 62-204.800, F.A.C.; and Rule 62-212.400 (PSD and BACT).}

PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits: Unless otherwise specified, the conditions of this permit supplement all previously issued air construction and operation permits for the emissions unit in this subsection. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

2. Auxiliary Boiler: The permittee is authorized to modify the existing auxiliary boiler and install any necessary ancillary equipment to add the capability to burn propane and ultra-low sulfur diesel (ULSD) fuel oil. [Application No. 0990646-010-AC]

PERFORMANCE RESTRICTIONS

3. Additional Authorized Fuels: In addition to natural gas, the following additional fuels are allowed to be burned in the auxiliary boiler: ultra-low sulfur diesel (ULSD) fuel oil and propane. [Rule 62-210.200(PTE), F.A.C.; and Application No. 0990646-010-AC]

4. Fuel Oil Sulfur Content: The sulfur content of any diesel fuel burned in the auxiliary boiler shall meet the following requirements:
   a. *NSPS Subpart Dc Limit*. The sulfur content (by weight) shall not exceed 0.5%. [Rule 62-204.800, F.A.C.; and 40 CFR 60.42c(d)]
   b. *Applicant Request*. The sulfur content (by weight) shall not exceed 0.0015% (i.e., meet the requirements for ULSD fuel oil). [Rule 62-210.200(PTE), F.A.C.; and Application No. 0990646-010-AC]

   {Permitting Note: The permittee plans to use only ULSD in the auxiliary boiler when necessary; using ULSD fuel oil will satisfy the sulfur content requirement from NSPS Subpart Dc.}

5. Hours of Operation: The hours of operation of the auxiliary boiler shall not exceed 1,500 hours per year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; Permit No. 0990646-003-AC (PSD-FL-354A), Specific Condition 9; and Application No. 0990646-010-AC]

   *{Permitting Notes: There are no enforceable limitations on hours of operation specific to burning fuel oil or propane in the auxiliary boiler other than the total limitation on boiler operating hours in Condition **5**. However, to maintain its current classification as a "unit designed to burn gas 1" fuels under NESHAP Subpart DDDDD, the boiler cannot burn fuel oil for more than 48 hours per calendar year, except during a*

period of gas curtailment or gas supply interruption. Additionally, upon completion of the modification, the permittee will commission the boiler on fuel oil. The operating hours for this commissioning shall not count towards the 48 hours; operation on fuel oil shall count towards the 48 hours once the boiler is in normal operation.}

EMISSIONS STANDARDS

6. Visible Emissions: While firing fuel oil, visible emissions from the auxiliary boiler shall not exceed 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. [Rule 62-296.406(1), F.A.C.]

TESTING REQUIREMENTS

7. Initial Compliance Test: This emissions unit shall be tested to demonstrate initial compliance with the emissions standard for visible emissions while firing fuel oil. 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 on fuel oil. [Rules 62-4.070(3) and 62-297.310(8)(b)1, F.A.C.]

8. Subsequent Compliance Tests: Unless otherwise exempted, this emissions unit shall be tested each calendar year (January 1st to December 31st) to demonstrate compliance with the emissions standard for visible emission while firing fuel oil. An annual emissions test shall not be required, provided fuel oil was not burned for more than 400 hours, other than during startup, during each calendar year. If the boiler burns fuel oil for more than 400 hours, other than during startup, during a calendar year, an emissions test while firing oil shall be completed no later than 60 days after the boiler's firing of oil exceeds 400 hours, or by the end of that calendar year, whichever is later. [Rules 62-297.310(8)(a)3 & 5f, F.A.C.]

9. 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.]

10. Test Methods: Required tests shall be performed in accordance with the following reference method.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

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. [Rule 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

RECORDS AND REPORTS

11. 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.]

12. Fuel Oil Sulfur Records: The permittee shall keep records of fuel supplier certification according to the following requirements and a certified statement signed by the permittee that the records of fuel supplier certifications submitted represent all of the fuel combusted during each calendar year. The records shall be available upon Department request.
    a. The name of the oil supplier;
    b. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in NSPS Subpart Dc (i.e., compliant with the ASTM standards for fuel oil numbers 1 or 2); and
    c. The sulfur content or maximum sulfur content of the oil.

    [Rules 62-4.070(3) and 62-204.800, F.A.C.; and 40 CFR 60.48c(e) & (f)]

A. Auxiliary Boiler (EU 009)

13. Fuel Combustion Records: The permittee shall record and maintain records of the amount of each fuel combusted during each operating day for the auxiliary boiler. These records shall include natural gas, fuel oil, and propane usage. The permittee shall also record and maintain records of the number of operating hours for each fuel combusted during each operating day for the auxiliary boiler. [Rules 62-4.070(3) and 62-204.800, F.A.C.; and 40 CFR 60.48c(g)]

14. NSPS Subpart Dc Records: All records required to be kept under NSPS Subpart Dc shall be kept for a period of 2 years following the date of the record. [Rule 62-204.800, F.A.C.; and 40 CFR 60.48c(i)]