Florida Department of Environmental Protection

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PERMITTEE

Florida Power Corporation
d/b/a Progress Energy Florida, Inc.
299 First Avenue, North
St. Petersburg, Florida 33701

Authorized Representative:
Robby Odom, Plant Manager

Air Permit No. 0170004-038-AC
Crystal River Power Plant Units 1 and 2
Standard Industrial Classification Code No. 4911
Expiration Date: December 31, 2018

Nitrogen Oxides Emission Standards/Controls
Citrus County

PROJECT

This is the final air construction permit, which establishes an additional nitrogen oxide (NO_x) emission standard for Units 1 and 2, authorizes installation of selective catalytic reduction (SCR) systems and authorizes physical changes to plant components, installation of storage tanks, and feed pumps to facilitate installation of the SCR systems. The proposed work will be conducted at the existing Crystal River Power Plant, located in Citrus County at 15760 West Power Line Street in Crystal River, Florida. The UTM coordinates are Zone 17, 334.3 km East and 3204.5 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); 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
(Electronic Signature)

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.

Robby Odom, Plant Manager, PEF: robby.odom@pgnmail.com
Scott Osbourn, P.E., Golder Associates, Inc: sosbourn@golder.com
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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.
(Electronic Signature)

FACILITY DESCRIPTION

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

E.U. No.	Brief Description
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2
012	Relocatable diesel generators
013	Cooling towers for FFSG Units 1, 2, and 3
015	Cooling towers for FFSG Units 4 and 5
016	Material handling activities for coal-fired steam units
020	Portable Cooling Towers for Fossil Fuel Steam Generators Units 1 and 2
028	3500 kW diesel generator associated with Unit 3
029	Diesel fire pump, south yard
030	Emergency generator (meteorological weather station)
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Two 3,500 kW diesel generators associated with Unit 3

PROPOSED PROJECT

The project establishes a nitrogen oxide (NO_x) emission standard of 0.09 pounds of NO_x per million Btu (lb NO_x/MMBtu) on a 30-boiler operating day rolling average basis for Crystal River Units 1 and 2, should the company decide by January 1, 2015 to continue to operate these units as coal-fired units beyond December 31, 2020. The emission standard will be achieved by the installation and operation of NO_x control systems including selective catalytic reduction (SCR) systems before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later.

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.

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 DEP Southwest District Office at: 13051 N. 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); and Appendix C (Common Conditions).

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: 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) & 62-212.300(1)(a), F.A.C.]

7. Application for Title V Permit: This permit establishes additional NO_x emissions standards on Units 1 and 2. It also authorizes construction of SCR system and improvements to facilitate implementation of the NO_x emission standard. A Title V air operation permit is required for regular operation of the permitted emissions unit. An application to incorporate the conditions of this permit into the facility's Title V air operation permit shall be submitted within 180 days after completing the physical changes authorized by this permit, but no later than 90 days prior to the expiration date shown above. To apply for a Title V air operation permit, the applicant shall submit the appropriate application form 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.]

Subsection A. Emission Units 1 and 2

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	Fossil Fuel Steam Generator, Unit 1 - 3,750 MMBtu/hour
002	Fossil Fuel Steam Generator, Unit 2 - 4,795 MMBtu/hour

INSTALL SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM.

A.1 Previous Permits: The conditions of this section supplement all previously issued air construction permits and regulations related to NO_x emission standards applicable to Units 1 and 2. The applicable provisions from those permits and regulations are contained in the Facility's Title V Operation Permit No. 0170004-025-AV. The requirements of Air Construction Permit No. 0170004-036-AC are complemented and not modified by this permitting action.

Authorized Construction

A.2 Nitrogen Oxide (NO_x) Control Project: The permittee shall discontinue operation of Crystal River Units 1 and 2 as coal-fired units by December 31, 2020 or the permittee shall install an ammonia or urea-based selective catalytic reduction (SCR) system including additional foundations, duct work, reactors, reagent injection grids, lances, induced draft fans, foundations, vessels, pumps, vaporization equipment, metering equipment, and reagent storage tanks. The permittee may extend the reagent injection grid to the furnace and furnace walls. The SCR system shall be operational no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later. [Application 0170004-038-AC]

{Permitting Note: The project complements the recently issued permit No. 0170004-036-AC. To continue firing coal beyond the stated date, the permittee is required to install the sulfur dioxide (SO_2) control equipment described in the mentioned permit as well as the NO_X controls described in the present permit and to comply with the emission standards for SO_2, NO_X and particulate matter (PM) given in the permits.}

Performance Restrictions

A.3 Emission Increases: This permit does not authorize major modifications or increases in capacity. [Rule 62-210.200, F.A.C. (Definitions: Major Modification, Potential-to-Emit, Actual Baseline Emissions; Projected Actual Emissions and Significant Emissions Rate)]

A.4 Nitrogen Oxide (NO_x) Emission Standard: When combusting coal in Units 1 and 2, following the installation of the SCR as authorized by Condition A.2., the owner or operator shall not cause to be discharged into the atmosphere from either unit any gases that contain NO_x in excess of 0.09 pounds of NO_x per million of heat input (lb/MMBtu). Compliance with the emission standard shall be determined on a 30-boiler operating day rolling average basis in accordance with the procedures contained in 40 Code of Federal Regulation (CFR), Part 60, Subpart Da. This condition shall become effective no later than January 1, 2018, or within 5 years of the effective date of EPA's approval of this specific requirement in the Florida Regional Haze State Implementation Plan, whichever is later. [Application No. 0170004-038-AC]

{Note: This condition will apply in addition to other NO_x requirements contained in Facility Title V Air Operation Permit 0170004-025-AV, its renewals and its revisions. Reference is made to certain procedures contained in 40 CFR 60, Subpart Da strictly for convenience. Units 1 and 2 are not affected facilities under this subpart.}

A.5 NO_X Continuous Emissions Monitoring Systems (CEMS): The permittee shall use data collected from each of the previously installed and certified Acid Rain NO_x CEMS to demonstrate compliance with the emissions standards specified in this permit. The NO_x CEMS shall be operated and data recorded during all periods of operation including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. [40 CFR 60 Appendix A; 40 CFR 75]

Design Details

A.6 Preliminary Design: The permittee shall as soon as practicable and no later than January 1, 2015, submit to the Department updated project details including the selection of implementation strategies including but not limited to: the capacity and location of the SCR systems and associated equipment; contemplated improvements to the low NO_x burners; reorientation of components; and contemplated modifications and improvements to coal, ash and any new coal combustion products handling systems. [Rule 62-4.070, F.A.C. (Reasonable Assurance)]