



Florida Department of Environmental Protection

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PERMITTEE

Progress Energy Florida, Inc.
7700 County Road 555
Bartow, Florida 33830

Authorized Representative:
Mr. Anthony Salvarezza, Plant Manager

Air Permit No. 1050234-018-AC /
PSD-FL-195E, PSD-FL-296D, PSD-
FL-330C, PSD-FL-342A
Minor Air Construction Permit
Hines Energy Complex
Modified Operating Conditions

PROJECT

This is the final construction permit which revises permit Nos.: 1050234-003-AV/PSD-FL-195B, 1050234-015-AC/PSD-FL-195D, 1050234-007-AC/PSD-FL-296A, 1050234-006-AC/PSD-FL-330 and 1050234-010-AC/PSD-FL-342. This permit authorizes the inclusion of additional operating conditions as requested by the applicant. The proposed conditions will be incorporated at the existing Hines Energy Complex which is an Electric Generation Natural Gas Combined Cycle Power Plant categorized under Standard Industrial Classification No. 4911. The existing Hines Energy Complex is located in Polk County at 7700 County Road 555, Bartow, Florida. UTM Coordinates are: Zone 17, 414.4 km East and 3073.9 km North. Latitude is: 27° 47' 19" North; and, Longitude is: 81° 52' 10" West.

This final permit is organized into the following sections: Section 1 (General Information), Section 2 (Permit Revisions) and Section 3 (Appendices).

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

Jeffery Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/jh/kl

FINAL PERMIT REVISION

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. Anthony Salvarezza, Progress Energy Florida, Inc.: anothony.salvarezza@pgnmail.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.

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

E.U. ID No.	Brief Description
001	170 MW Westinghouse 501FC CT1A with unfired HRSG
002	170 MW Westinghouse 501FC CT1B with unfired HRSG
014	170 MW Westinghouse 501FD CT2A with unfired HRSG
015	170 MW Westinghouse 501FD CT2B with unfired HRSG
016	170 MW Westinghouse 501FD CT3A with unfired HRSG
017	170 MW Westinghouse 501FD CT3B with unfired HRSG
018	170 MW General Electric Model 7FA CT4A with unfired HRSG
019	170 MW General Electric Model 7FA CT4B with unfired HRSG
003	Auxiliary Steam Boiler
004	Clarke Diesel Fire Pump

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 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.

PROPOSED PROJECT

This permit revises permit Nos.: 1050234-003-AV/PSD-FL-195B, 1050234-015-AC/PSD-FL-195D, 1050234-007-AC/PSD-FL-296A, 1050234-006-AC/PSD-FL-330 and 1050234-010-AC/PSD-FL-342 to include the following operating conditions as requested by the applicant:

- Update fuel delivery sulfur content records in Power Block 1.
- Include excess emissions exclusion of CEMS Data due to tuning in Power Block 1.
- Insert “circumstances as identified or requested by the equipment vendor” as part of the CEMS Data exclusion due to tuning for all four Power Block’s.
- Change annual Visible Emissions testing requirement basis from gallons of fuel oil burned to hours of fuel oil burned in Power Block 2, 3 and 4.
- Clarify alternative CO and NO_x emissions standard to include 24-block hour period (midnight-to-midnight) in Power Block 4.

SECTION 2. PERMIT REVISIONS

This permit does not authorize any increase in capacity or emissions limits. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. Except for the changes listed below, all conditions of permit Nos. 1050234-003-AV/PSD-FL-195B, 1050234-015-AC/PSD-FL-195D, 1050234-007-AC/PSD-FL-296A, 1050234-006-AC/PSD-FL-330 and 1050234-010-AC/PSD-FL-342 pertaining to emissions limitations, testing requirements, reporting requirements, etc., remain in effect and are unchanged. Additions to the permit are indicated by a double underline. Deletions from the permit are indicated by a ~~strike through~~. All changes are also highlighted in yellow throughout the permit for ease of location.

1. Permit Being Modified: Permit No. 1050234-003-AC/PSD-FL-195B

Power Block 1: Emission Unit Nos. 001 and 002, Specific Condition: E.2.h. Per applicant request, the custom fuel monitoring schedule is replaced by the fuel sulfur record and incorporates methods specified in 40 CFR 60, Subpart GG. This permitting action will make Power Block 1 consistent with Power Blocks 2, 3 and 4 and does not authorize any increase or supersede any fuel sulfur content limitations as required by permit PSD-FL-195B.

~~h. A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:~~

- ~~1. The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.~~
- ~~2. The permittee shall submit a monitoring plan, certified by signature of the Designated Representative (DR), that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11 (d)(2)).~~
- ~~3. Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.~~

~~This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to higher sulfur fuel, SO₂ emissions must be accounted for as required pursuant to 40 CFR 75.11(d).~~

h. Fuel Sulfur Records. The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.

1. Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be in accordance with 40 CFR 60, Subpart GG. (See Appendix NSPS, Subpart GG - Standards of Performance for Stationary Gas Turbines.).
2. Sampling and analysis for the fuel oil sulfur content shall be conducted in accordance with the methods in 40 CFR 60, Subpart GG. For each subsequent fuel delivery, the permittee shall either (1) maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor, or (2) take and analyze a sample according to the above procedures and maintain a permanent file of the results of the analysis. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content. (See Appendix NSPS, Subpart GG - Standards of Performance for Stationary Gas Turbines.).
3. The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75, Appendix D.

2. Permit Being Modified: Permit No. 1050234-015-AC/PSD-FL-195D

Power Block 1: Emission Unit Nos. 001 and 002, B.3, Excess Emissions. Per applicant request, condition B.3 is revised to authorize CEMS data exclusions during initial or other major tuning sessions, including the language “as identified or requested by the equipment vendor”. This permitting action will make Power Block 1 consistent with Power Blocks 2, 3 and 4 and does not authorize any increase or supersede any permit limitations as required by permit PSD-FL-195D.

SECTION 2. PERMIT REVISIONS

- a. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period except in the event that the steam turbine has been shut down for 8 hours or more. During a cold start-up to combined cycle operation, up to four hours of excess emissions are allowed in a 24-hour period. Cold start-up is defined as a start-up to combined cycle operation following a steam turbine shutdown of greater than 48 hours. During a warm start up to combined cycle operation, up to three hours of excess emissions are allowed in a 24-hour period. Warm start-up is defined as a startup to combined cycle operation following a steam turbine of greater than 8 hours and less than 48 hours. During fuel switches (oil-to-gas or gas-to-oil), up to two (2) hours of excess emissions per fuel switch per emissions unit are allowed.
- b. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or circumstances as identified or requested by the equipment vendor. Prior to performing any major tuning session, the permittee shall provide the Department's Southwest District Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.

3. Permit Being Modified: Permit No. 1050234-007-AC/PSD-FL-296A

Power Block 2: Emissions Unit Nos. 014 and 015, Conditions 14. and 18.a. in Section III. Per applicant request, the language "as identified or requested by the equipment vendor" is added to the CEMS Data Exclusion – DLN Tuning and the basis for *Visible Emissions* annual test requirement is changed from gallons of fuel oil burned basis to hours of fuel oil burned basis in accordance to Rule 62-297.310(7)(a)8. This permitting action does not authorize any increase or supersede any permit limitations as required by permit PSD-FL-296A.

- a. Condition 14. CEMS Data Exclusion – DLN Tuning. CEMS data collected during initial or major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or ~~other similar~~ circumstances as identified or requested by the equipment vendor. Prior to performing any major tuning session, the permittee shall provide the Department's Southwest District Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.
- b. Condition 18.a. *Visible Emissions*. Each unit shall be tested for visible emissions when firing natural gas and when firing distillate fuel oil. Annual emissions testing while firing fuel oil is not required during any federal fiscal year in which less than ~~400 hours~~ 5,473,000 gallons of distillate fuel oil is fired in both emission units combined. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period.

4. Permit Being Modified: Permit No. 1050234-006-AC/PSD-FL-330

Power Block 3: Emissions Unit 016 and 017, Condition 14. and 18.a. in Section III. Per applicant request, the language "as identified or requested by the equipment vendor" is added to the CEMS Data Exclusion – DLN Tuning and the basis for *Visible Emissions* annual test requirement is changed from gallons of fuel oil burned basis to hours of fuel oil burned basis in accordance to Rule 62-297.310(7)(a)8. This permitting action does not authorize any increase or supersede any permit limitations as required by permit PSD-FL-330.

- a. Condition 14. CEMS Data Exclusion – DLN Tuning. CEMS data collected during initial or major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur

SECTION 2. PERMIT REVISIONS

after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or ~~other similar~~ circumstances as identified or requested by the equipment vendor. Prior to performing any major tuning session, the permittee shall provide the Department's Southwest District Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.

- b. Condition 18.a. *Visible Emissions*. Each unit shall be tested for visible emissions when firing natural gas and when firing distillate fuel oil. Annual emissions testing while firing fuel oil is not required during any federal fiscal year in which less than 400 hours ~~5,473,000 gallons~~ of distillate fuel oil is fired in both emission units combined. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period.

5. Permit Being Modified: Permit No. 1050234-010-AC/PSD-FL-342

Power Block 4: Emissions Unit 018 and 019, Condition 14., 17. and 21.a. in Section III. Per applicant request, the language "24-hour block...(midnight-to-midnight)" is added to section Alternative CO and NO_x Emissions Standard, the language "as identified or requested by the equipment vendor" is added to the CEMS Data Exclusion – DLN Tuning and the basis for *Visible Emissions* annual test requirement is changed from gallons of fuel oil burned basis to hours of fuel oil burned basis in accordance to Rule 62-297.310(7)(a)8. This permitting action does not authorize any increase or supersede any permit limitations as required by permit PSD-FL-342.

- a. Condition 14. Alternative CO and NO_x Emissions Standard: During any 24-hour block period (midnight-to-midnight), in which at least one hour of startup or shutdown operation has occurred, the following alternative emission limits shall apply:
1. An alternative NO_x limit of 3,000 lb shall apply if natural gas is the exclusively fired fuel;
 2. An alternative NO_x limit of 8,880 lb shall apply if any fuel oil is fired; and
 3. An alternative CO limit of 4,200 lb shall apply when firing either natural gas or fuel oil.
- b. Condition 17. CEMS Data Exclusion – DLN Tuning. CEMS data collected during initial or major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or ~~other similar~~ circumstances as identified or requested by the equipment vendor. Prior to performing any major tuning session, the permittee shall provide the Department's Southwest District Compliance Authority within an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.
- c. Condition 21.a. *Visible Emissions*. Each unit shall be tested for visible emissions when firing natural gas and when firing distillate fuel oil. Annual emissions testing while firing fuel oil is not required during any federal fiscal year in which less than 400 hours ~~6,140,000 gallons~~ of distillate fuel oil is fired in both emission units combined. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period.

SECTION 3. APPENDICES

Appendices

Appendix A: Abbreviations, Acronyms, Citations and Identification Numbers

Appendix NSPS Subpart GG: Standards of Performance for Stationary Gas Turbines