



Florida Department of Environmental Protection

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PERMITTEE

Hardee Power Partners
A Subsidiary of Invenegy, LLC
6695 North County Road 663
Bowling Green, Florida 33834

Air Permit No. 0490015-015-AC (PSD-FL-140D)
Air Construction Permit Revision
Compliance Testing and Tuning Emissions
Combustion Turbine Unit CT-2B

Authorized Representative:
Mr. Ralph E. Randall, Plant Manager

Hardee Power Station
Hardee County, Florida

PROJECT

This is the final air construction permit, which revises Permit No. 0490015-012-AC/ PSD-FL-140C for Combustion Turbine Unit CT-2B. The revised permit conditions are for compliance testing and excess emissions associated with combustor tuning. The existing facility is a power plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Hardee County at 6695 North County Road 663 in Bowling Green, Florida. The map coordinates are: UTM Zone 17, 405.02 km East and 3057.18 km North; Latitude 27° 38'13" North, and Longitude 81°57'45" West.

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

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.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and 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. PSD was not triggered by this specific permit revision. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

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

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 Revision) 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.

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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 Hardee Power Station is an existing nominal 370 megawatt (MW) power plant consisting of the following equipment.

- Units CT-1A (EU-001) and CT-1B (EU-002) comprise a “two-on-one” combined cycle system. Each unit is a General Electric Model No. PG-7111EA combustion turbine (CT) with a nominal capacity of 75 MW. The exhaust gas from each combustion turbine passes through an unfired heat recovery steam generator (HRSG) to produce steam, which is delivered to a common steam-electrical generator set rated at a nominal capacity of 70 MW. Each combustion turbine fires natural gas as the primary fuel and distillate oil as a restricted auxiliary fuel. Each unit is equipped with water injection to reduce nitrogen oxides (NO_x) emissions. Each unit is also equipped with a bypass stack to bypass the HRSG if necessary.
- Unit CT-2A (EU-003) is a simple cycle combustion turbine consisting of a General Electric Model No. PG-7111EA with a nominal capacity of 75 MW. The unit fires natural gas as the primary fuel and distillate oil as a restricted auxiliary fuel. It is equipped with water injection to reduce NO_x emissions.
- Unit CT-2B (EU-005) is a simple cycle combustion turbine consisting of a General Electric Model No. PG-7121EA with a nominal capacity of 75 MW. The unit fires natural gas as the primary fuel and distillate oil as a restricted auxiliary fuel. The unit incorporates dry low-NO_x combustors for firing natural gas to prevent the formation of NO_x emissions. It is equipped with water injection to reduce NO_x emissions when firing distillate oil. The unit is also equipped with a continuous emissions monitoring system (CEMS) to determine continuous compliance with the NO_x standards.

The plant includes a 4.4 million gallon storage tank (EU-004) for distillate oil as well as other miscellaneous unregulated and insignificant activities.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- Unit CT-2B is 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(PSD), F.A.C.

PROPOSED PROJECT

The applicant requested concurrent air construction permit and Facility Title V air operation permit revisions to change annual carbon monoxide (CO) and visible emissions compliance testing requirements applicable to Unit CT-2B and allowed excess emissions related to combustor tuning on Unit CT2-B.

SECTION 2. PERMIT REVISIONS

The following permit conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight in the electronic document.

Permits Being Modified: Permit No. 0490015/ PSD-FL-140C

Affected Emissions Units: Combustion Turbine CT-2B (EU-005)

Section III. Emissions Unit Specific Conditions

21. Excess Emissions Allowed:

- (a) Excess emissions resulting from startup, shutdown, or malfunction of the combustion turbine shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions resulting from startup to simple cycle mode shall not exceed one (1) hour. In no case shall excess emissions from startup, shutdown, and malfunction exceed two hours in any calendar day. If excess emissions occur due to malfunction, the owner or operator shall notify the Compliance Authority within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem.
- (b) Excess emissions resulting from combustion system tuning of the combustion turbine shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions shall not exceed a total of 15 hours per tuning session. The Compliance Authority shall be notified of the schedule for conducting each tuning session at least 15 days prior to the tuning session. Within 45 days of completing each tuning session, a report summarizing the hourly NO_x emissions shall be submitted.

[Applicant Request, Vendor Data and Rule 62-210.700, F.A.C.]

30. Annual Performance Tests: Annual compliance tests shall be conducted during each federal fiscal year (October 1 to September 30) for CO and visible emissions ~~from the combustion turbine shall be conducted when firing natural gas.~~ The permittee shall conduct the annual compliance test for each fuel that is fired for more than 400 hours per year in the preceding federal fiscal year. ~~In addition, the permittee shall conduct the annual compliance tests for CO and visible emissions when firing low sulfur distillate oil if low sulfur distillate oil is fired for more than 400 hours in the preceding federal fiscal year. Tests required on an annual basis shall be conducted at least once during each federal fiscal year (October 1st to September 30th).~~ The CEMS data shall be used to demonstrate continuous compliance with the concentration-based NO_x emissions standards. When requested by the Department, the permittee shall determine the NO_x mass emission rate (lb/hour) from CEMS data to demonstrate compliance with the corresponding permit limits. [Rule 62-297.310(7)(a)4., F.A.C.]