

February 11, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Roger Zirkle, Plant Manager
Progress Energy Florida -Hines Energy Complex
100 Central Avenue, CX1B
St. Petersburg, Florida 33701

Re: Project No. 1050234-011-AC: Revision of Permit No. PSD-FL-296
Project No. 1050234-013-AC: Revision of Permit No. PSD-FL-330
Project No. 1050234-012-AV: Revision of Title V Air Operation Permit

The applicant, Progress Energy Florida, applied on February 1, 2005, to the Department for a modification to PSD Permit numbers PSD-FL-296, PSD-FL-330 for its Hines Energy Complex located in Polk County. The modification is to allow the facility to utilize the fully installed capacity of the Power Block 2 and 3 combined cycle units by modifying the maximum heat input ratings. The Department has reviewed the modification request. The referenced permits are hereby modified as follows:

For PSD permit PSD-FL-296 (Section III), changes are as follows:

3. Combustion Turbine Capacity: The maximum heat input rates, based on the higher heating value of the fuels, and an ambient air temperature of 59 °F, shall not exceed ~~4915~~ 2048 mmBtu/hr when firing gas and ~~2020~~ 2155 mmBtu/hr when firing distillate fuel oil. This maximum heat input rate will vary depending upon ambient conditions and the combustion turbine characteristics that are described by the manufacturer's curves required by condition 6 of this section. Operation of these emissions units at less than 60% of capacity (based on heat input rates) is not allowed, except as required to cycle the units through periods of startup, shutdown and malfunction. The terms startup, shutdown and malfunction are defined at Rule 62-210.200, F.A.C. [Rules 62-4.070(3) and 62-210.200, F.A.C., limitation on potential to emit]

For PSD permit PSD-FL-330 (Section III), changes are as follows:

7. Permitted Capacity - Gas Turbines: The maximum heat input rate to each gas turbine is ~~4,915~~ 2,048 MMBtu per hour when firing natural gas and ~~2,020~~ 2,155 MMBtu per hour when firing distillate oil (based on a compressor inlet air temperature of 59 °F, the HHV of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate fuels, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

Additionally, corresponding changes are required to the Title V Air Operation permit (1050234-012-AV). These changes are attached as revised page 24 of the subject permit. All other conditions of the referenced permits remain unchanged. A copy of this letter shall be filed with the referenced permit and shall become part of the permit.

Executed in Tallahassee, Florida.

Michael G. Cooke, Director
Division of Air Resource
Management

Subsection E. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
-014	170 MW Westinghouse 501FD CT2A
-015	170 MW Westinghouse 501FD CT2B

Emission units 014 and 015 each consist of a combined cycle Westinghouse 501FD Combustion Turbine, each with a nominal generator rating of 170 MW and each with a maximum heat input rating of ~~1,915~~ 2,048 MMBtu/hr (LHV) while firing natural gas and ~~2,020~~ 2,155 MMBtu/hr (LHV) while firing fuel oil. NO_x emissions are controlled with dry low NO_x burners (DLN) for natural gas firing and wet injection for fuel oil firing, complete with Selective Catalytic Reduction (SCR). Each combustion turbine incorporates an unfired heat recovery steam generator.

{Permitting notes: These emissions unit are regulated under Acid Rain, Phase II; NSPS - 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference in Rule 62-204.800(7), F.A.C.; Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD); PSD-FL-296A; Rule 62-212.400(6), F.A.C.}

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

E.1. Permitted Capacity. The maximum heat input rate to each gas turbine is ~~1,915~~ 2,048 MMBtu per hour when firing natural gas and ~~2,020~~ 2,155 MMBtu per hour when firing distillate oil (based on a compressor inlet air temperature of 59 °F, the HHV of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate fuels, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C. and PSD-FL-296A]

E.2. Equipment and Controls - Gas Turbines: The permittee is authorized to install, tune, operate, and maintain two Siemens Westinghouse Model 501 FD gas turbine-electrical generator sets each with a generating capacity of 170 MW. Each gas turbine shall include the Siemens TXP automated gas turbine control system and have dual-fuel capability. The gas turbines will utilize DLN combustors. [Application; Design]

a. Gas Turbine NO_x Controls

1. **DLN Combustion:** The permittee shall operate and maintain the DLN combustion system to control NO_x emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned, in conjunction with any post-combustion emissions control equipment, to achieve the permitted levels for CO and NO_x emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.