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PERMITTEE

Shady Hills Power Company, LLC
120 Long Ridge Road
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Responsible Official:
Mr. Roy S. Belden, Vice President

Air Permit No. PSD-FL-280A
Project No. 1010373-009-AC
Shady Hills Generating Station
Facility ID No. 1010373
Combustion Turbine Heat Input Increases

FACILITY AND LOCATION

This permit revises the original air construction Permit No. 1010373-001-AC/PSD-FL-280 and concurrently revises Title V air operation Permit No. 1010373-006-AV to allow nominal increases to the heat input rates for the three existing 170 megawatt (MW) simple cycle combustion turbines. The facility is located in Pasco County at 14240 Merchant Energy Way, Spring Hill, Florida. The UTM coordinates are Zone 17, 347 km East, and 3139 km North.

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.) and Title 40, Parts 60 and 63 of the Code of Federal Regulations (CFR).

Joseph Kahn, Director
Division of Air Resource Management

11/12/08
Effective Date

This permitting action will revise the following specific conditions in Permit No. 1010373-001-AC/ PSD-FL-280.

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

8. Capacity: The maximum heat input rates, based on the lower heating value (LHV) of each fuel to each unit (-001, -002, and -003), ambient conditions of 59°F temperature, 60% relative humidity, 100% load and 14.7 psi pressure, shall not exceed 1,704 million Btu per hour (MMBtu/hr) when firing natural gas, nor 1,889 MMBtu/hr when firing No. 2 or superior grade of distillate fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Compliance Authority within 45 days of completing the initial compliance testing. [Rule 62-210.200(PTE), F.A.C.; and 1010373-009-AC/PSD-FL-280A]

13. Maximum allowable hours: The stationary gas turbines shall only operate up to 3,390 hours per unit, including an average of 1,000 hours on fuel oil per unit during any calendar year. No single combustion turbine shall operate more than 5,000 hours in a single year. [Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.; 1010373-009-AC/PSD-FL-280A and 1010373-006-AV]

19. Reduction Plan. The permittee shall develop a NO_x reduction plan when the hours of oil firing reach the 1,000 hours per year on any combustion turbine. This plan shall include a testing protocol designed to establish the maximum water injection rate and the lowest NO_x emissions possible without affecting the actual performance of the gas turbine. The testing protocol shall set a range of water injection rates and attempt to quantify the corresponding NO_x emissions for each rate and noting any problems with performance. Based on the test results, the plan shall recommend a new NO_x emissions limiting standard and shall be submitted to the Department's Bureau of Air Regulation and Compliance Authority for review. If the Department determines that a lower NO_x emissions standard is warranted for oil firing, this permit shall be revised. To date, not one single emissions unit has fired fuel oil for 1,000 hours in a year. [1010373-009-AC/PSD-FL-280A]

29. Annual Compliance Tests. Unless otherwise indicated, a*nnual* compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on each unit by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other test methods may be used for compliance testing unless prior Departmental approval is received in writing. Additional compliance tests shall also be conducted for all pollutants, except for PM/PM_{10} (VE surrogate), after any modification (and shake down period not to exceed 100 days after re-starting the combustion turbine) of the unit or air pollution control equipment and these tests are allowed to be conducted at a single load in lieu of the four loads.

- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".
- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources". Compliance testing for CO may be conducted at less than capacity when compliance testing is conducted concurrent with the annual Relative Accuracy and Test Audit (RATA) testing for the NO_x CEMS required pursuant to 40 CFR 75.
- EPA Reference Method 7E, "Determination of Oxides of Nitrogen Oxide Emissions from Stationary Gas Turbines."
- EPA Reference Method 18, 25 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.

[1010373-009-AC/PSD-FL-280A; and 1010373-001-AC/PSD-FL-280 amendment]