

Department of Environmental Protection

Jeb Bush[.] Governor Twin Towers Office Building 2600 Blair Stone Road Tallahassee. Florida 32399-2400

Colleen M. Castille Secretary

February 22, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Edward Godwin. P.E. Reedy Creek Energy Services P.O. Box 10000 Lake Buena Vista. FL 32380-1000

Re: Request for Additional Information

Project No. 0950111-025-AC Gas Turbine Replacement Project

Dear Mr. Godwin:

On February 3, 2005, the Department received your application and sufficient fee for an air construction permit to replace the existing GE LM 5000 gas turbine with a GE LM 6000 gas turbine at the Walt Disney World/Reedy Creek Improvement District Energy Services plant. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

- 1. General Electric offers the LM 6000 SPRINT gas turbine with dry low-NOx (DLN) combustors. Please confirm that the proposed unit will use water injection and not DLN for the control of NOx emissions.
- 2. Based on the HHV of each fuel and the information in Table B7, the maximum heat input rates are identified as 476 MMBtu/hour (gas) and 452 (oil) MMBtu/hour at full load. The application requests a maximum heat input rate of 480 MMBtu per hour for all fuels based on a compressor inlet temperature of 30° F, the higher heating value of the fuel, and 100% load. It also requests the ability to establish the maximum heat input rates based on the initial compliance test. The Department will establish the maximum heat input rate in the draft permit as the "permitted capacity" of the unit for the given conditions. It is recognized that vendors typically provide conservative values regarding capacities due to the performance guarantees. It is acceptable to request a slightly higher heat input rate to cover this situation, as long as the emissions were included in the analysis and the unit could be tested within 90% of this rate. Otherwise, it would be necessary to apply for a permit modification to increase the maximum heat input rate based on the initial compliance test. Please revise your request accordingly.
- 3. How old is the existing catalyst? What were the results of the last performance test for the catalyst? What measures are taken to ensure that the catalyst remains effective?
- 4. Provide supporting information that explains how the annual emissions for each pollutant were calculated. NOx emissions should be based on CEMS data. If not, please revise the PSD netting analysis accordingly.
- 5. Provide details of the chiller system that will be used to reduce the compressor inlet temperature.
- 6. The application describes "fresh air firing" as operation of the duct burner to produce steam from the HRSG when the gas turbine is not in operation. What is the purpose of "fresh air firing"? Discuss the potential implications of NSPS Subpart Db if the duct burner is only fired when the gas turbine is off (i.e., in normal "boiler" operation). Verify that the catalyst continues to reduce CO and VOC emissions during fresh air firing. The application indicates that the fresh air firing would occur 1000 hours per year or less. Is this a requested permit limit? It may not be necessary to limit this operation because the gas turbine will not be in operation. Based on data presented in Appendix B, it appears that unrestricted annual emissions may be lower. Please discuss.

"More Projection, Less Process"

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- 7. Attachment A-9 identified the procedures for startup and shutdown of the LM 6000 gas turbine. Table B-4 provides an estimate of the annual emissions related to startup and shutdown. What is the duration (minutes) of a typical cold startup? What is the duration (minutes) of a typical warm startup? What is the duration (minutes) of a typical shutdown? For the existing LM 5000, identify the number of occurrences (and duration) of excess emissions caused by malfunctions. Discuss any operational limitations (and frequency) imposed by the current permit conditions regarding excess emissions.
- 8. On February 18, 2005, EPA proposed a new NSPS Subpart KKKK for gas turbines. Please discuss the applicability of the proposed regulation with regard to this project. If subject to the proposed regulation, is the new gas turbine capable of complying with the regulation as proposed? Will additional controls be necessary?
- 9. Identify the latest permit modification for the diesel generators. When was the air construction permit issued? What were the potential emissions form the diesel generators based on the condition in this modification?

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information.

If you have any questions regarding this matter, please call me at 850/921-9536.

Sincerely,

Jeffery F. Koemer

BAR - Air Permitting South

cc: Mr. Lee Schmudde, WDW Mr. Thomas Davis, ECT

Mr. Len Kozlov, CD

Mr. Gregg Worley, EPA Region 4

Mr. John Bunyak, NPS

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Mr. Edward Godwin, P.E. Reedy Creek Energy Services	, , , , , , , , , , , , , , , , , , ,	
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