



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

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DIVISION OF AIR
RESOURCE MANAGEMENT

September 30, 2013

Mr. Matthew J. Raffenberg
Director of Environmental
Licensing and Permitting
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

Re: Notice of Incompleteness for Proposed FPL Lauderdale Combustion Turbine PSD Application

Dear Mr. Raffenberg:

The U.S. Environmental Protection Agency has reviewed your greenhouse gas (GHG) Prevention of Significant Deterioration (PSD) permit application for the proposed FPL Lauderdale Combustion Turbine project (Project) that was received by EPA on August 30, 2013, and determined that your application is incomplete at this time. The following information is needed from you so that EPA can continue its completeness review.

1. The PSD application addresses the Project's applicability to the Endangered Species Act (ESA) supplemented with a biological assessment report (Appendix B) and the National Historic Preservation Act (NHPA) along with a cultural resource assessment (Appendix C). However, the application does not include copy of any communication with the corresponding agencies (*i.e.*, U.S. Fish and Wildlife Services and NOAA's National Marine Fisheries Service). In addition to these two Acts, all federal permits are potentially subject to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) and the Coastal Zone Management Act (CZMA). Please address the applicability of the MSFCMA and the CZMA to the FPL Lauderdale Project and the status of any necessary assessments performed and/or communications with the appropriate federal agencies.
2. Section 4.2.1, in Step 1 of the Best Available Control Technology (BACT) analysis for the simple cycle combustion turbines (CT) (pp. 15-16), the application discusses the feasibility of the aero derivative combustion turbines. Though the LMS100 CTs are more efficient than the turbines proposed in the application, the discussion includes various environmental and economic impacts arguments and concludes saying that "aero derivative CTs are not considered feasible as they cannot meet the economic, operational and emissions requirements." Step 1 of the BACT analysis is intended for identifying all available control technologies. The discussion about economic, energy and environmental impacts of the control technology should be included in Step 4 of the BACT analysis. Furthermore, the applicant should provide documentation and a more detailed explanation of why this option is economically infeasible.

3. In addition, the analysis explains that 10 LMS100 CTs would be required in order to obtain the needed capacity of 1000 MW. Based on the information provided, it is unclear as to why the spacing requirements for the new LMS100 CTs would double, if either 22 or 24 gas turbines (GT) are being removed. Additional information needs to be provided in Step 4 of the BACT analysis clarifying the extent of space needed as well as the impact such additional space may have on the environment.
4. Section 4.2.1, in Step 2 of the BACT analysis for the CTs (pp. 19-20), the application describes the technical feasibility of the carbon capture and storage (CCS) as a post-combustion control technology for GHG emissions. EPA advises the applicant to refer to the Pio Pico Energy Center permitting docket (specifically EPA Region 9's Fact Sheet) and consider revising the information on this particular control technology.

Additionally, the application deems CCS as not technically feasible based on space limitation to locate the needed technology and cost-effectiveness. However, the application does not contain further description of the size CCS will occupy versus current or future space available nor the application provides an economic analysis to show the economic impacts of this technology for this project. Please supplement the application accordingly.

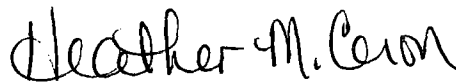
5. Section 4.2.1, in Step 4 of the BACT analysis for the CTs (pp. 20-21), discusses the heat rate and efficiency of the old gas turbines versus the proposed combustion turbines. Two SCCTs are being considered in the application (GE 7FA.05 and Siemens F5). A range of heat rates and efficiencies were provided in Step 4 of the BACT analysis, but it is unclear which efficiencies correspond to the specific turbine models considered. Additionally, it is unclear which of the turbine options were used in the proposed BACT emission limit tables (see page 24 and 25). Please revise the BACT analysis to provide a comparison of the energy efficiencies and heat rates when firing both natural gas and ULSD fuel oil for both turbine options being considered.
6. Section 4.2.1, in Step 5 of the BACT analysis for the CTs (page 24), mentions average number of operating hours and amount of startup/shutdowns for peaking service the CTs will be operated but does not provide information on the time required to complete shutdowns. Please provide complete information to the approximate time each startup and shutdown will take.
7. Section 4.2.1, in Step 1 of the BACT analysis for the black start diesel generators (page 30), includes the emergency efficiency analysis. It is not clear from the BACT analysis if this information would also apply in the case that two of the current gas turbines are used for the same purpose. Please revise the BACT analysis to include the two gas turbines (GT), including the difference between having new back start diesel generators and two of the existing GTs.
8. Table 2-2 shows estimated amount of CO₂e emissions for one and four diesel generators for use during black start operation. Please supplement the emission calculation tables with CO₂e estimates when using the two existing GTs for black start operations.
9. Tables 2-3a and 2-3b contain a summary of potential GHG emissions and the netting calculations for the two CT scenarios (GE and Siemens, respectively). However, the netting analysis appears to calculate the baseline actual emissions of the existing (to be shutdown) gas turbines and attributes it to the baseline actual emissions of the new proposed CTs. Since the proposed CTs as well as the black start engines, fire pump engine, and circuit breakers are new emission units, the baseline emissions for these units are zero. In order to properly take credit for the shutdown of

the existing gas turbines, the emission reduction should be included in a full netting analysis where all creditable contemporaneous emission increases and decreases are included. Please provide revised "netting" calculations for both scenarios (GE and Siemens) as well as for the two options of either using new black start diesel engines or using two existing gas turbines as black start engines. Additionally, please verify that there have been no other credible emission increases or decreases during the contemporaneous period as defined in 52.21(b)(3)(ii) beyond the planned shutdown of gas turbines.

Your application is considered incomplete until this information is received, evaluated, and EPA has determined that the application contains all the information needed for EPA to propose a permit decision. Please note, as EPA continues review of your application, further information may be required for EPA to continue processing your application and make a permit decision.

Please provide the requested additional information to EPA by October 30, 2013. If more time is needed to respond to this request, please contact EPA to discuss any additional time needed. If you have any questions please contact Randy Terry at (404) 562-9032 or terry.randy@epa.gov.

Sincerely,



Heather M. Ceron
Chief,
Air Permits Section

cc: Jeff Koerner, FDEP
Randall R. LaBauve, FPL
Kennard F. Kosky, Golder Associates