



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

July 19, 2011

Electronic Mail – Received Receipt Requested

Mr. Anthony Salvarezza anthony.salvarezza@pgnmail.com
Plant Manager
Florida Power Corporation dba Progress Energy Florida, Inc. (PEF)
7700 County Road 555
Bartow, Florida 33830

Re: Request for Additional Information Regarding Title V Renewal Application
File No. 1050234-018-AC and 1050234-019-AV
Hines Energy Complex
Polk County

Dear Mr. Salvarezza:

The Department received your application for a Title V air operation permit renewal for the above referenced facility on May 20, 2011. The application was received in a timely manner and substantially addresses the information required to begin processing a Title V permit. However, in order to finish the processing of this application and to determine if a concurrent air construction permit will be required to fully address your requested changes, the Department is requesting the additional information outlined below pursuant to Rules 62-213.420(1)(b)3. and 62-4.070(1), F.A.C. 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.

The item numbers listed in the following questions refer to the numbered items contained in Attachment H of the submitted renewal application.

1. Items 2, 17, 28 and 38, requested increase in allowable gallons of fuel oil. Subsequent to the initial issuance of the construction permits for each of the power Blocks, revised construction permits were issued that increased the allowable heat input to better reflect the actual operating capacity of the installed units. As part of the Best Available Control Technology (BACT) determination for each of the Power Blocks, the original permits allowed a certain amount of oil to be fired in each of the units. When the heat input limits were raised, the BACT determinations were not adjusted to allow a proportionate increase in the allowed gallons of fuel oil. An increase in the allowed gallons of fuel oil could result in a potential increase in emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter (PM). If an increase in the allowable gallons of fuel oil is desired, a prevention of significant deterioration (PSD) evaluation will be required.
2. Item 3, increase in allowable PM emissions. The request to "correct" the allowable PM ton per year limits contained in the table in Specific Condition A.5. needs more explanation. The PM limits were adjusted in permit No. PSD-FL-195A with the installation of the selective catalytic reduction (SCR) system. The hourly PM limits for gas and oil, and the annual PM limit for oil were increased to include sulfuric acid mist emissions resulting from the addition of the SCR. However, the allowable limit in tons per year of PM emissions was not increased in an apparent attempt to avoid a significant increase in annual PM emissions and a requirement to revisit the previously established BACT determination. To increase the allowable tons

per year from 79 to 137 will result in a potential significant increase in PM emissions and will require a PSD applicability review and a new BACT. If this is desired, please submit a comparison of past actual emissions to the requested allowable increase and explain why this is needed. Also include a statement of how the current emissions limits have been complied with for the past thirteen years that these limits have been in effect.

3. Item 6, requested change to excess emissions provisions. The Department understands that the requested changes are similar to the excess emissions provisions provided in more recent permits issued for other units at the facility. However, please explain how the existing requirements have been complied with to date. Also, provide any available continuous emissions monitoring system (CEMS) data that was used to determine the proposed time periods for excess emissions data exclusion and a history of how these units have been dispatched to show how often these units operate under each of the start up, shut down and fuel switching scenarios.
4. Item 10, data exclusion for dry low-NO_x (DLN) tuning operations. It appears that the insertion of the requested language for data exclusion due to DLN tuning is to align Power Block 1 with the other 3 Power Blocks. Included in this request is a change to the existing conditions for the other Power Blocks to include an allowance for excess emissions following a major tuning session resulting from balance of plant (BOP) issues (Items 21, 32 and 42). Please explain what “balance of plant issues” are and provide a history of how often DLN tuning is required in relation to these issues. Also describe and quantify the excess emissions that occur during these tuning sessions.
5. Item 12, requested ammonia injection monitoring requirement to act as a surrogate for NO_x monitor downtime. Is there an ammonia injection rate monitor currently installed on the units? If so, please provide detailed information about the physical and operational design, the reliability, the accuracy and the methods used to calibrate the monitor that will demonstrate its effectiveness as a surrogate for providing an indication of NO_x emissions.
6. Item 13, additional ammonia slip testing. The BACT limit for ammonia slip for Power Block 1 is 10 ppm. The requested methodology for monitoring ammonia slip as an indicator of catalyst degradation should already be a standard method of operation for ensuring catalyst viability and compliance with the 10 ppm limit. Ammonia injection in conjunction with the SCR is being operated to control emissions of NO_x. Because compliance with the NO_x emissions limit is demonstrated by use of a NO_x CEMS, the units are exempted from the compliance assurance monitoring (CAM) requirements of 40 CFR 64. The proposed language for additional ammonia slip testing is very similar to what could be part of a CAM plan if a NO_x CEMS was not used for continuous compliance. If you would like to have this language inserted into your permit as a way of requiring the operators to pay closer attention to the condition of the catalyst, please confirm your intent and resubmit the desired language to be protective of the 10 ppm ammonia slip limit (i.e., quarterly testing should begin when the target of 5 ppm is measured to make sure catalyst is added or replaced before 100 ppm is exceeded).
7. Item 18, requested monitoring for natural gas sulfur content. The natural gas sulfur content limit of 1 grain per 100 standard cubic feet appears to have been established in conjunction with the SO₂ emissions limits that were increased in permit No. PSD-FL-195A, which was issued to reflect that Westinghouse 501FC turbines were installed rather than the originally permitted General Electric 7FA turbines. The increased SO₂ emissions were just shy of a significant increase, so a new BACT determination was avoided. From the historical records, it is difficult to determine if the sulfur limit on the natural gas was intended as an enforceable limit or as an indicator of reasonable assurance that the increased SO₂ emissions limits would be met. However, it has been an enforceable limit in all Title V permits for this facility. It should be noted that burning gas which is received by a pipeline is not the same as burning “pipeline natural gas”. 40 CFR 72.2 defines pipeline natural gas as containing 0.5 grains or less of sulfur per 100 standard cubic feet. (This definition is used in 40 CFR 75 Appendix D for purposes of reporting actual SO₂ emissions for natural gas fired Acid Rain units that do not have continuous SO₂ emissions monitors.) Please clarify your intent for this

requested additional fuel sampling protocol. If you have information indicating that the natural gas delivered by your vendor possibly contains sulfur in excess of 1 grain per 100 standard cubic feet and you would like to perform your own sampling to determine if you truly have exceeded your permit limits, we can authorize on-site testing as an acceptable alternative to compliance by vendor's data. However, if you are requesting that the fuel sulfur limit be increased to avoid future exceedences of the permitted limit, please submit a PSD evaluation for the requested increase and the resultant potential annual increase in SO₂ emissions.

8. Items 23, 35 and 43, requested change to visible emissions testing frequency. From a review of the past permitting actions, it is difficult to determine how the number of gallons of fuel oil that can be burned annually before a visible emissions (VE) test is required was derived. From the permitting note included with the testing condition, it appears to be a waiver roughly equivalent to the provisions of Rule 62-297.310(7)(a)8., F.A.C., which allows any combustion turbine that does not operate for more than 400 hours per year to conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit. However, it looks like the waiver considers both units in the Power Block to be one combustion turbine. To avoid giving the impression of increasing the allowable gallons of fuel allowed to be fired in the units, the Department is willing to consider rewriting these conditions to waive VE testing if the Power Block operates less than 400hours combined. Please indicate if this is an acceptable alternative to your request.
9. Item 39, alternate CO and NO_x emissions standard. The alternate emissions limitations contained in Specific Condition G.14. were established pursuant to the BACT determination issued with permit No. 1050234-010-AC/PSD-FL-342. These limits were established to resolve comments from EPA related to Florida's implementation of allowable excess emissions. These limits might actually be easier to comply with than the proposed revised language that is similar to the provisions for the other Power Blocks. However, if you do wish to make this revision, please provide an evaluation of the potential emissions resulting from the operational periods that you are requesting to exclude from the compliance demonstrations and compare these potential emissions to the emissions limits that were established pursuant to the original BACT. Also, provide information that documents the actual magnitude and duration and of excess emissions related to the periods of operation that you are requesting to exclude.

Additional questions not related to numbered items contained in Attachment H.

10. Subsection D of the current Title V permit addresses the potential operation of a relocatable diesel generator that was permitted as a separate facility under permit No. AC09-202080. Has any engine permitted under this permit ever operated at the Hines facility? If so, for what purpose? The allowable 2,970 hours established by this permit far exceed what would be expected of a normal emergency generator or fire pump. This permit also did not address the requirements of 40 CFR 63, Subpart ZZZZ or 40 CFR 60, Subpart IIII. Does this section need to remain in the Title V permit?
11. Do any other reciprocating internal combustion engines exist at the facility? If so, please specify if any of them are subject to 40 CFR 60 Subpart IIII, Standards of performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, or 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines.
12. For each emergency generator, please provide the following information:
 - a. What type of fuel does the engine use?
 - b. What is the HP (1 HP = 0.7456 KW) of the stationary engine?
 - c. Is the engine a temporary replacement unit located at a stationary source for less than 1 year and has been properly certified as meeting the standards that would be applicable to such engine under the appropriate non-road engine provisions?
 - d. Is the engine a new, existing, or reconstructed engine?
 - e. Do you have a Manufacturer's Certification for the engine?

- f. Does the engine meet any of the following conditions;
 - (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and
 - (2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act.
 - g. When did you commence construction (date the engine is ordered by the owner or operator) or reconstruction on your stationary engine?
 - h. What is the date of manufacture of the engine?
 - i. What is the engine displacement (number of cylinders and liters per cylinder)?
 - j. Does the engine use an oxidation catalyst?
 - k. Does the engine have a CEMS (continuous emissions monitoring system)?
 - l. Does the engine have NSCR (non-selective catalytic reduction)?
 - m. Does the engine use a CPMS (continuous parameter monitoring system)?
 - n. What are the total hours of operation per year for engine?
 - o. How many of the total hours during an emergency situation?
 - p. How many of the total hours are part of the demand response program?
 - q. Is the engine used for peak shaving, to generate income for a facility to supply power to an electrical grid, or supply power as a part of a financial arrangement with another entity?
 - r. What type of engine do you have? (ex. CI, SI, 4SLB, 2SLB)
13. For each fire pump engine, please provide the following information:
- a. Is the Fire Pump a temporary replacement unit located at a stationary source for less than 1 year and has been properly certified as meeting the standards that would be applicable to such engine under the appropriate non-road engine provisions?
 - b. What is the HP (1 HP = 0.7456 KW) of the stationary Fire Pump?
 - c. When did you commence construction (date the Fire Pump was ordered by the owner or operator) or reconstruction on your stationary Fire Pump?
 - d. What is the date of manufacture of the Fire Pump?
 - e. What is the Fire Pump's displacement (number of cylinders and liters per cylinder)?
14. Please evaluate the recent Federally issued Cross State Air Permitting Rule and provide a statement of how the units that are currently subject to the Clean Air Interstate Rule will be affected.

The remainder of the requested changes included in Attachment H are basically acceptable. Additional questions related to those changes may arise as the permit is being drafted; however, those should be able to be resolved by telephone.

Responsible Official (R.O.) Certification Statement. Rule 62-213.420, F.A.C. requires that all Title V permit applications must be certified by a responsible official. Due to the nature of the information requested in Item number(s) 1 above, your response should be certified by the responsible official. Please complete and submit a new R.O. certification statement page from the long application form, DEP Form No. 62-210.900(1), effective March 16, 2008.

Professional Engineer (P.E.) Certification Statement. 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. If your responses to the items above result in changes that include new calculations, please complete and submit a new P.E. certification statement page from the long application form, DEP Form No. 62-210.900(1), effective March 11, 2010.

The Department must receive a response from you within 90 (ninety) days of receipt of this letter, unless you (the applicant) request additional time under Rule 62-213.420(1)(b)5., F.A.C.

If you should have any questions, please call Mr. Kris Lanh at (850) 717-9094.

Sincerely,



Jon Holtom, P.E., CPM
Power Plant Permitting Group Administrator
Division of Air Resource Management
Office of Air Permitting and Compliance

JH/jh

copy to:

Mr. Thomas Davis, P.E., Environmental Consulting and Technology, Inc.: tdavis@ectinc.com

Mr. Chris Bradley, PEF: chris.bradley@pgnmail.com

Ms. Cindy Zhang-Torres, DEP – SWD: cindy.zhang-torres@dep.state.fl.us

Ms. Barbara Friday, DEP - OPC: Barbara.Friday@dep.state.fl.us

Ms. Lynn Scarce, DEP - OPC: lynn.scarce@dep.state.fl.us

Scearce, Lynn

From: Scearce, Lynn *done*
Sent: Tuesday, July 19, 2011 4:49 PM
To: ✓ 'anthony.salvarezza@pgnmail.com'
Cc: ✓ 'tdavis@ectinc.com'; 'chris.bradley@pgnmail.com'; 'cindy.zhang-torres@dep.state.fl.us'; 'Friday, Barbara'; 'lynn.scearce@dep.state.fl.us'; Holtom, Jonathan; Lanh, Kris *read*
Subject: No. 1050234-018-AC and 1050234-019-AV; Hines Energy Complex (Request for Additional Information)
Attachments: 1050234-018-AC and 1050234-019-AV_Hines Energy Complex.pdf

Sent

Dear Mr. Salvarezza:

Attached is the request for information regarding Title V Renewal Application.

Permit project documents addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Office of Permitting and Compliance Section.

Sincerely,

Lynn Scearce
Office of Permitting and Compliance Section (OPC)
Division of Air Resources Management (DARM)

850-717-9025