



February 24, 2012

Mr. Jonathan Holtom, P.E., CPM
Office of Permitting and Compliance
Division of Air Resource Management
Department of Environmental Protection
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

Re: Response to Request for Additional Information (RAI)
FDEP Project No: 1050234-018-AC
Hines Energy Complex Title V Permit Renewal Application
Florida Power Corporation d/b/a Progress Energy Florida, Inc.
Facility ID No: 1050234
Polk County

Dear Mr. Holtom:

Please find enclosed the response to the Florida Department of Environmental Protection (FDEP) Division of Air Resource Management's (DARM) request for additional information (RAI) for the above referenced project. The RAI, dated July 19, 2011, addressed a number of requested changes that were under review via concurrent processing as part of a Title V air construction (AC) and renewal permit applications for the Florida Power Corp. d/b/a Progress Energy, Inc.'s (PEF) Hines Energy Complex (HEC). During a teleconference conducted on October 6, 2011 DARM staff recommended bifurcation of the renewal and AC permit applications to facilitate and expedite issuance of the Title V air operation permit renewal (DEP Project No. 1050234-019-AV). This correspondence is a product of the bifurcation process, which resulted in the need to address the requested changes contained in the AC permit application (DEP Project No. 1050234-018-AC) at a later date.

Attachment 1 addresses those items included in the RAI that are related to the AC permit application. In addition, PEF is requesting the concurrent processing of the Title V air construction permit and modification of the Title V air operation permit. As a result, the Responsible Official (R.O.) Certification page, the request for concurrent processing and PEF's response to only those items related to the Title V air construction permit application in the Department's RAI are also enclosed (Attachment 1). Specifically, included in the attachment are PEF's response to Item Nos. 1, 2, 4, 5, 6, 7, 8 & 9 of the July 19, 2011 RAI.

If the Department requires additional information regarding the enclosed RAI response, please contact Mr. Chris Bradley by telephone via e-mail at Chris.Bradley@pgnmail.com or at (727) 820-5962.

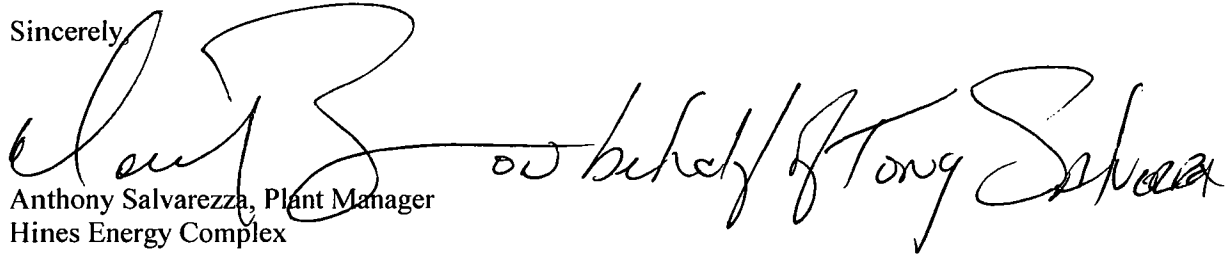
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Module No: A3068
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DIVISION OF AIR
RESOURCE MANAGEMENT

RAI and Application

Project No: 1050234-020-AV ✓

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Sincerely,

A large, stylized handwritten signature in black ink, appearing to read 'Anthony Salvarezza on behalf of Tony Sheena'. The signature is written in a cursive, flowing style with a long horizontal line extending across the page.

Anthony Salvarezza, Plant Manager
Hines Energy Complex

Enclosures

cc: Tom Davis, P.E., Environmental Consulting & Technology
Tommy Oneal, HE 44
Chris Bradley, PEF 903 (ES&S Files)

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In addition, due to the nature of the information requested and addressed in this response, and the request for concurrent processing, the Department requested certification by a responsible official (R.O.). Furthermore, the responses to the Department's RAI included below do not include additional information of an engineering nature; e.g. new calculations; therefore, a professional engineer's (P.E.) certification, pursuant to Rule 62-4.050(3), F.A.C. is not required.

The following is PEF's response to the Department's RAI:

RAI Item 1:

Comment: 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.

Response: As noted in the request for the change to Specific Conditions A.3 (Item No. 2), E.3.b (Item No. 18), F.7.b (Item No. 18) and G.9.b (Item No. 38), the requested change was an effort to ensure the heat content of the No. 2 fuel oil on a million British thermal units (mmBtu) per gallon basis was consistent for Power Blocks (PB) 1 through 4. This consistency was desired simply because all four (4) PBs receive distillate fuel oil from the same fuel oil storage tank. If this effort will require the preparation and submission of a prevention of significant deterioration (PSD) evaluation, then the facility will withdraw this requested change.

RAI Item 2:

Comment: 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.

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Response: As noted in the request for the change to Specific Conditions A.3 (Item No. 2), E.3.b (Item No. 18), F.7.b (Item No. 18) and G.9.b (Item No. 38), the requested change was an effort to ensure the heat content of the No. 2 fuel oil on a million British thermal units (mmBtu) per gallon basis was consistent for Power Blocks (PB) 1 through 4. This consistency was desired simply because all four (4) PBs receive distillate fuel oil from the same fuel oil storage tank. If this effort will require the preparation and submission of a prevention of significant deterioration (PSD) evaluation, then the facility will withdraw this requested change.

RAI Item 4:

Comment: 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.

Response: Below is a list of equipment/systems that can lead to balance-of-plant (BOP) problems. When tuning CT components or systems the CT may require operation over a range of loads. In addition to the actual tuning of the CT to ensure efficient combustion and minimization of emission at different load levels, the tuning of the components or systems must occur on occasion to ensure the CT/HRSG/ST are operating properly and efficiently. The following list is intended to provide examples of components or systems that may at times encounter or develop BOP issues. However, this is not intended to be an all inclusive list.

- a. Steam System/Valve Testing & Tuning
- b. Steam Turbine Testing & Tuning (Requires repeated CT operation at reduced loads.)
- c. Fuel Gas System/Valve Testing Tuning
- d. Feedwater & Condensate System Testing & Tuning
- e. Steam Blend Valves & Steam Temperature Controls

These systems/components require tuning on occasion regardless of the need to tune the CT; that is, there is not always a direct relation between DLN tuning and tuning the systems/components listed other than the need to tune across a variety of load ranges. The most efficient manner in which tune is to accommodate the tuning of all systems including the CTs simultaneously; however, situations do arise in which there is a need to tune the equipment/systems and not the CT. In this case, the tuning is currently delayed until an opportunity arises. It is not possible to quantify or separate emissions associated with this type of tuning because it is typically performed in conjunction with DLN tuning.

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RAI Item 5:

Comment: Item 12, requested ammonia injection monitoring requirement to act as a surrogate for NOx 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 NOx emissions.

Response: PEF withdraws this request for change to the permit language.

RAI Item 6:

Comment: 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 NOx. Because compliance with the NOx emissions limit is demonstrated by use of a NOx 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 NOx 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 10 ppm is exceeded).

Response: PEF withdraws this request for change to the permit language.

RAI Item 7:

Comment: 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

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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 onsite 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 exceedances of the permitted limit, please submit a PSD evaluation for the requested increase and the resultant potential annual increase in SO₂ emissions.

Response: PEF is not requesting that the fuel sulfur limit be increased, only inclusion of an acceptable follow up action in the very unlikely event it is indicated that the natural gas supplied to the HEC may exceed the 1 grain/100 SCF by, for example, a faulty analysis. Continuous SO₂ monitors have not been installed on the HEC units and the units currently employ 40 CFR Part 75 Appendix D to quantify and report SO₂ emissions for a variety of purposes including the Acid Rain Program. Furthermore, in the first and third quarters of each calendar year the facility physically samples and analyzes the natural gas supply. In summary, for purposes of documenting the sulfur content of the natural gas supplied complies with the permit limit of not exceeding 1 grain/100 SCF (i.e., 0.5 grains/100 SCF or less, the definition of pipeline natural gas (PNG)), HEC complies with 40 CFR Part 75, Appendix D, Section 2.3.1.4 – *Documentation that a Fuel is Pipeline Natural Gas*, which references 40 CFR Part 72.2.

RAI Item 8:

Comment: 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 400 hours combined. Please indicate if this is an acceptable alternative to your request.

Response: PEF is requesting that the hours a combustion turbine must combust No. 2 distillate oil before the facility is required to conduct a visible emission (VE) be changed to 400 hours. The basis for this request is Rule 62-297.310(7)(a)8, F.A.C. and each Power Block is composed of two (2) CT/HRSG/Generator combination each identified with a unique, DEP-assigned emission unit (EU) number. Steam produced by the two (2) CT/HRSG/Generators is then fed to a single steam turbine/generator. As a result each combustion turbine should benefit from this rule provision; i.e., the VE requirement will be waived if each CT in a Power Block individually combusts less than 400 hours of No. 2 distillate fuel oil.

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RAI Item 9:

Comment: 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. 1050234-010AC/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.

Response: Upon review with plant management and discussions with the Division of Air Resource Management (DARM) Permitting staff, PEF has opted to withdraw this request. However, PEF request either a permitting language change or permitting note to clarify the condition; specifically, clarification of the term "24 hour period". Since the most prevalent emission standards compliance period included in the current permit is a 24-hour block, PEF requests the addition of a permitting note clarifying the period as a 24-hour block or that the condition language be changed as follows:

G.14. Alternate CO and NO. Emissions Standard. During any 24-block hour period (midnight to midnight), in which at least one hour of startup or shutdown operation has occurred, the following alternative emission limits shall apply:

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

**Air Construction Permit and Revised/Renewal Title V Air Operation Permit
(Concurrent Processing)**

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

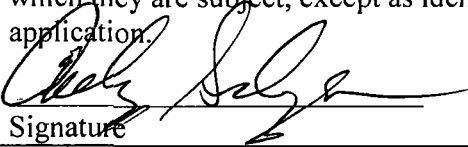
Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the “application responsible official” need not be the “primary responsible official.”

1. Application Responsible Official Name: Anthony Salvarezza, Plant Manager
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source or CAIR source.
3. Application Responsible Official Mailing Address... Organization/Firm: Florida Power Corporation dba Progress Energy Florida, Inc. Street Address: 7700 County Road 555 City: Bartow State: Florida Zip Code: 33830
4. Application Responsible Official Telephone Numbers... Telephone: (863) 519-6103 ext. Fax: (863) 519-6110
5. Application Responsible Official E-mail Address: Anthony.Salvarezza@pgnmail.com

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.


Signature

2/24/12
Date

POINT AIRS ID STATUS OFFICE
 SITE NAME COUNTY
 OWNER/COMPANY

Project
 AIR Permit # - - Project # CRA Reference #
 Permit Office Agency Action OGC
 Project Name Desc
 Type/Sub/Des / Logged
 Received Issued Expires Application Action
 Fee Fee Recd Dele Override

Related Party
 Role Begin End
 Name Company
 Address
 City State Zip - Country
 Phone Fax

Processors
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