



# Florida Department of Environmental Protection

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

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

January 16, 2009

*Electronic Mail – Received Receipt Requested*

Mr. Mike Roddy, Manager of Environmental Affairs  
Seminole Electric Cooperative, Inc.  
P.O. Box 272000  
Tampa, FL 33688-2000

**Re: Request for Additional Information**  
Seminole Generating Station  
Project No. 1070025-011-AC (PSD-FL-375A)  
Minor Revisions and Recognition of Unit 3 as a Minor HAP Source

Dear Mr. Roddy:

On December 22, 2008, we received your application to modify the original air construction permit for the proposed new Unit 3 at the existing Seminole Generating Station in Palatka, Florida. The stated purpose of the project is to: recognize the Unit 3 project as a minor source of hazardous air pollutants (HAP); extend the permit expiration date; incorporate the agreement between Seminole Electric Cooperative, Inc. and the Sierra Club dated March 19, 2007; update or delete references to the Clean Air Interstate Rule and Clean Air Mercury Rule; and make minor permit revisions to address EPA Region 4 comments. The application is subject to general preconstruction review pursuant to rule 62-212.300 of the Florida Administrative Code (F.A.C.) and the project will revise original permit, which was subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality pursuant to Rule 62-212.400, F.A.C. The application is incomplete. In order to continue processing your application, please provide the additional information requested below. Should your response to any of the requested items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The draft permit package was issued in August of 2006 and the public notice was published in September of 2006. Since the final permit wasn't issued until September of 2008 because of litigation on the site certification, the project was delayed about two years. Therefore, it seems reasonable to extend the expiration date from 12/31/2012 to 12/31/2014. Please provide additional details to support the request for extension through 12/31/2016.
2. The HAP with the greatest emissions rate is hydrochloric acid (HCl). The application requests an HCl limit with compliance determined by periodic stack test and data collected by the continuous emissions monitoring system (CEMS) for sulfur dioxide (SO<sub>2</sub>). However, the application does not define the relationship between the SO<sub>2</sub> emissions limit and HCl emissions. Note that the current SO<sub>2</sub> emissions limit is not a BACT determination. What would be the SO<sub>2</sub> emissions rate permit that would correspond to the estimated control efficiency of 99.7% for HCl emissions?

In addition, uncontrolled HCl emissions from the coal-fired unit are estimated at nearly 2900 tons per year. Although the combination of the proposed control equipment should provide excellent control of HCl emissions, if the actual control efficiency is 99.6% instead of 99.7%, HCl emissions will be

---

## REQUEST FOR ADDITIONAL INFORMATION

---

11.6 tons per year and the project will be a major HAP source. Therefore, the Department intends to require the installation and operation of a CEMS to provide reasonable assurance that HCl emissions do not exceed the major source threshold of 10 tons per year. Many facilities successfully monitor HCl emissions on a continuous basis, including cement plants and municipal waste combustors in Europe. Although there is not final performance specification for continuous HCl monitoring, there are draft CEMS requirements (other test methods) developed for monitoring HCl emissions on EPA's web site (<http://www.epa.gov/ttn/emc/prelim.html>):

- OTM 22 - Specifications and Test Procedures for HCl CEMS at Stationary Sources
- OTM 23 - QA/QC Requirements for HCl CEMS at Stationary Sources

In addition, equipment manufacturers provide detailed procedures for the proper installation, calibration, operation and maintenance of their equipment. Providing reasonable assurance that HCl emissions will be less than 10 tons per year is critical in the determination that the Unit 3 project will remain a minor source of HAP. Stack testing combined with the use of the SO<sub>2</sub> CEMS data as a surrogate does not appear to provide sufficient assurance. We agree to work with Seminole to develop adequate HCl monitoring procedures that will produce reliable emissions data. Please comment.

3. The application specifically requests an emissions limit for total HAP emissions of less than 25 tons per year with compliance demonstrated by: a mercury CEMS; complying with the particulate matter (PM<sub>10</sub>) emissions limit as a surrogate for trace metal HAP emissions; complying with the carbon monoxide (CO) emissions limit as a surrogate for organic HAP emissions; and complying with the SO<sub>2</sub> emissions limit as a surrogate for acid gas emissions.
  - a. In replacement Table 2-3, each trace metal shows a unique control efficiency, which is determined from the emissions equation that uses the actual HAP metal and ash concentrations. In other words, the test data indicate that the actual control efficiencies can range from 95% to 99.88% depending on the HAP metal. Please comment.
  - b. The current PSD permit specifies a CO limit of 0.15 lb/MMBtu based on a 30-day rolling CEMS average. What is the equivalent CO limit in terms of "ppmvd @ 3% oxygen"? Describe and define in numerical terms the correlation between CO emissions and organic HAP emissions. Are all organic HAP emissions expected to react in the same manner depending on the CO emissions level? Is the relationship expected to be linear or is there some CO level at which the organic HAP emissions begin to rapidly increase? This is an important consideration given the long CO averaging period during which actual CO emissions may be much higher than the numerical permit limit.
  - c. The current PSD permit specifies an SO<sub>2</sub> limit of 0.165 lb/MMBtu based on a 24-hour rolling CEMS average. What is the equivalent SO<sub>2</sub> limit in terms of "ppmvd @ 3% oxygen"? Note that this emissions limit is not a BACT standard, but allows the project to avoid PSD preconstruction review for SO<sub>2</sub> emissions. Describe and define in numerical terms the correlation between SO<sub>2</sub> emissions and acid gas HAP emissions. Are all acid gas HAP emissions expected to react in the same manner depending on the SO<sub>2</sub> emissions level? Is the relationship expected to be linear or is there some SO<sub>2</sub> level at which the acid gas HAP emissions begin to rapidly increase?
  - d. How does Seminole intend to show compliance with the requested total HAP limit? Is it suggested that compliance is assured by achieving each proposed surrogate limit? As previously mentioned, please provide information and data to support the relationship between HAP emissions and the corresponding surrogate emissions limit.

## REQUEST FOR ADDITIONAL INFORMATION

---

- e. Please submit a testing program to verify critical HAP emissions factors and the relationship with surrogate pollutant emissions rates. In addition, the testing program must identify critical parameters for each control device (e.g., wet scrubber media flow rates, wet scrubber media pH levels, and wet scrubber pressure differential, etc.) and the collection of the baseline data for establishing satisfactory operating levels for the control equipment.
4. HAP Emissions Factors
- a. In replacement Table 2-3, except for mercury and selenium, the trace metal HAP emissions factors are based on Table 1.1-16 from EPA's AP-42 emissions factor reference document and the USGS COALQUAL database for coal from the Central Appalachian Region with a 95% confidence interval. A note following AP-42 Table 1.1-16 states that, "PM = Site-specific emission factor for total particulate matter, lb/10<sup>6</sup> Btu." For the purpose of this calculation, does "total particulate matter" include condensable particulate matter? Was this verified with EPA? Please provide the supporting documentation from the USGS COALQUAL database. Mercury emissions are based on the proposed limit with compliance by CEMS. What is the basis for estimating selenium emissions? Why is the expected control efficiency for selenium only 95% when the control efficiencies for other trace metals are expected to be greater than 98.5%?
  - b. HCl and hydrogen fluoride (HF) emissions are based on a 95% confidence interval from the USGS COEQUAL database for Central Appalachian Region. Please provide the supporting documentation.
  - c. The emissions factor for each organic HAP was based on either EPRI or AP-42 emissions factors and is rated from A (best) to E (worst). How was the emissions factor selected for each HAP? Was the "most accurate" or the "most conservative" emissions factor used? How was this determined? Please provide the supporting documentation for the EPRI emissions factors.
  - d. AP-42 Table 1.1-13 identifies emissions factors for polynuclear aromatic hydrocarbons (PAH) for coal firing. Of these, the application provides information for biphenyl and naphthalene, which are recognized as individual HAP. However, PAH are a subgroup of polycyclic organic matter (POM), which is a group of pollutants regulated as one of the 188 individually regulated HAP. By definition, POM includes organic compounds with more than one benzene ring and which have a boiling point greater than or equal to 100° C. Please identify the individual pollutants making up this group that are emitted from firing coal and provide an estimate for POM emissions. In addition, AP-42 Table 1.1-13 identifies an emissions factor for methyl ethyl ketone for coal firing. Please provide an estimate for emissions of this pollutant.

The above information is requested pursuant to the following F.A.C. regulations: Rule 62-4.050 (Procedures to Obtain Permits and Other Authorizations; Applications); 62-4.055 (Permit Processing); 62-4.070 (Standards for Issuing or Denying Permits; Issuance; Denial); 62-4.120 (Construction Permits); 62-204.800 (Federal Regulations Adopted by Reference); 62-212.300 (Permits Required); 62-210.370 (Emissions Computations and Reporting); 62-210.900 (Forms and Instructions); 62-212.300 (General Preconstruction review); and 62-212.400 (Preventions of Significant Deterioration). All applications for a Department permit must be certified by a professional engineer registered in the State of Florida pursuant to Rule 62-4.050(3), F.A.C. 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.

We will resume processing your application after receipt of the requested information. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or to provide a written request for an additional period of time to submit the information. If you have any questions regarding this matter, please contact me at 850/921-9536.

REQUEST FOR ADDITIONAL INFORMATION

---

Sincerely,



Jeffery F. Koerner, Administrator  
New Source Review Section

This letter was sent to the following people by electronic mail with received receipt requested.

Mr. Mike Roddy, SECI (wmroddy@seminole-electric.com)  
Mr. James R. Frauen, SECI (jfrauen@seminole-electric.com)  
Mr. Scott Osbourn, Golder Associates (sosbourn@golder.com)  
Mr. Robert Manning, Hopping, Green & Sams (rmanning@hgslaw.com)  
Mr. Mike Halpin, DEP Site Certification (mike.halpin@dep.state.fl.us)  
Mr. Chris Kirts, NED (christopher.kirts@dep.state.fl.us)  
Ms. Phyllis Fox, Ph.D. (phyllisfox@gmail.com)  
Ms. Kathleen Forney (forney.kathleen@epa.gov)  
Ms. Kristin Henry, Sierra Club (kristin.henry@sierraclub.org)  
Ms. Joanne Spalding, Sierra Club (joanne.spalding@sierraclub.org)  
Ms. Catherine Collins, U.S. Fish and Wildlife Service (catherine\_collins@fws.gov)  
Mr. George Cavros, on behalf of Natural Resources Defense Council and Southern Alliance for Clean  
Energy  
(gcavros@att.net)  
Ms. Victoria Gibson, BAR Reading File (victoria.gibson@dep.state.fl.us)

## Livingston, Sylvia

---

**From:** Livingston, Sylvia  
**Sent:** Friday, January 16, 2009 3:26 PM  
**To:** wmroddy@seminole-electric.com  
**Cc:** jfrauen@seminole-electric.com; sosbourn@golder.com; rmanning@hgslaw.com; Halpin, Mike; Kirts, Christopher; phyllisfox@gmail.com; Forney.kathleen@epa.gov; kristin.henry@sierraclub.org; joanne.spalding@sierraclub.org; catherine\_collins@fws.gov; gcavros@att.net; Gibson, Victoria; Walker, Elizabeth (AIR); Koerner, Jeff  
**Subject:** RAI-1070025-011-AC/PSD-FL-375A (Seminole Electric Cooperative, Inc-Seminole Generating Station)  
**Attachments:** 1070025-011-AC.pdf

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software, *noting that you can view the documents*, and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <<http://www.adobe.com/products/acrobat/readstep.html>> .

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

Sylvia Livingston  
Bureau of Air Regulation  
Division of Air Resource Management (DARM)  
850/921-9506  
[sylvia.livingston@dep.state.fl.us](mailto:sylvia.livingston@dep.state.fl.us)

## Livingston, Sylvia

---

**From:** Jim Frauen [JFrauen@seminole-electric.com]  
**Sent:** Friday, January 16, 2009 3:45 PM  
**To:** Livingston, Sylvia  
**Subject:** Re: RAI-1070025-011-AC/PSD-FL-375A (Seminole Electric Cooperative, Inc-Seminole Generating Station)

Ms. Livingston:

I received the e-mail and the attached document.

Thank you.

Jim Frauen

Jim Frauen  
Director of Project Engineering  
Seminole Electric Cooperative, Inc.  
16313 North Dale Mabry Highway  
Tampa, FL 33618  
(813) 739-1213 Direct Line  
(813) 690-3641 Cell  
(813) 264-7906 Fax  
[jfrauen@seminole-electric.com](mailto:jfrauen@seminole-electric.com)

>>> "Livingston, Sylvia" <[Sylvia.Livingston@dep.state.fl.us](mailto:Sylvia.Livingston@dep.state.fl.us)> 1/16/2009 3:25 PM >>>

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <<http://www.adobe.com/products/acrobat/readstep.html>> .

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your

## Livingston, Sylvia

---

**From:** Kristin.Henry@sierraclub.org  
**Sent:** Tuesday, January 20, 2009 2:58 PM  
**To:** Livingston, Sylvia  
**Subject:** Re: RAI-1070025-011-AC/PSD-FL-375A (Seminole Electric Cooperative, Inc-Seminole Generating Station)

I received this message.

Kristin Henry  
Staff Attorney  
Sierra Club  
85 Second Street  
San Francisco, CA 94105-3441  
415.977.5716 phone  
415.977.5793 fax  
[kristin.henry@sierraclub.org](mailto:kristin.henry@sierraclub.org)

### PRIVILEGE AND CONFIDENTIALITY NOTICE

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law as attorney-client and work-product confidential or otherwise confidential communications. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication or other use of a transmission received in error is strictly prohibited. If you have received this transmission in error, immediately notify me at the telephone number above.

## Livingston, Sylvia

---

**From:** Mike Roddy [WMRoddy@seminole-electric.com]  
**Sent:** Wednesday, January 28, 2009 10:04 AM  
**To:** Livingston, Sylvia  
**Subject:** Re: FW: RAI-1070025-011-AC/PSD-FL-375A (Seminole Electric Cooperative, Inc-Seminole Generating Station)

I got it, Thanks.

>>> "Livingston, Sylvia" <[Sylvia.Livingston@dep.state.fl.us](mailto:Sylvia.Livingston@dep.state.fl.us)> 1/28/2009 9:56 AM >>>

Mr. Roddy,

It was brought to my attention that you did not receive this email. Please respond accordingly as to whether you are able to view the link below.

Sorry for any inconvenience this may have caused you.

Sylvia Livingston

Bureau of Air Regulation

Division of Air Resource Management (DARM)

850/921-9506

[sylvia.livingston@dep.state.fl.us](mailto:sylvia.livingston@dep.state.fl.us)

*The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.*

---

**From:** Livingston, Sylvia  
**Sent:** Friday, January 16, 2009 3:26 PM  
**To:** wmroddy@seminole-electric.com  
**Cc:** jfrauen@seminole-electric.com; sosbourn@golder.com; rmanning@hgslaw.com; Halpin, Mike; Kirts, Christopher; phyllisfox@gmail.com; Forney.kathleen@epa.gov; kristin.henry@sierraclub.org; joanne.spalding@sierraclub.org; catherine\_collins@fws.gov; gcavros@att.net; Gibson, Victoria; Walker, Elizabeth (AIR); Koerner, Jeff  
**Subject:** RAI-1070025-011-AC/PSD-FL-375A (Seminole Electric Cooperative, Inc-Seminole Generating Station)