



# 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

October 27, 2009

*Sent by Electronic Mail with Received Receipt Requested*

Mr. Larry E. Hatcher, Manager  
Crystal River Steam Plant  
Progress Energy Florida, Inc.  
15760 West Powerline Street, CN77  
Crystal River, Florida 34428

Re: Request for Additional Information  
Project No. 0170004-023-AC (PSD-FL-383C)  
Progress Energy Florida, Inc., Crystal River Steam Plant  
Requested Revisions for Acid Mist Mitigation (AMM) System

Dear Mr. Hatcher:

On September 30, 2009, the Department received your additional information dated September 28, 2009. The application remains incomplete. Please note the new project number above. 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.

**Question 9, Common Components of the AMM System:** Your response to this question indicates that the following additional equipment would be needed to provide independent AMM systems for Units 4 and 5: urea auxiliary steam supply line; condensate return supply line to the plant; urea steam saturator; urea condensate recovery tank; AMM urea solution day tank; AMM hydrolyzer blow-down tank; and manual valves. You estimated the total installed cost of this additional equipment as \$4,669,000. This estimate appears high given the scope of the equipment identified. Your response indicates that a copy of the contractor estimate was attached, but the Department did not receive this document.

- a. Please provide a copy of the contractor estimate for the additional equipment. What was the cost (including installation) of the originally designed AMM system? What was the cost of the entire project to add control equipment? What is the current cost of coal with the following sulfur contents: 3.13% by weight and 0.68% by weight?
- b. To minimize sulfuric acid mist emissions caused by the shutdown of the AMM system for maintenance, the Department understands your response as follows:
  - The plant will perform preventive maintenance on the AMM system to coincide with the scheduled unit outages which occur at 18-month intervals.
  - Although it is necessary to shutdown the AMM system to perform the preventive maintenance, at least one electric utility steam generating unit will be off line during such periods.

## Request for Additional Information

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- To conduct the necessary preventive maintenance, the plant requests authorization to shutdown the AMM system for up to ten hours during any rolling 18-month period.

Please comment.

Question #10, Potential Emissions from Shutdown of the AMM System: The BACT limit for sulfuric acid mist is 0.009 lb/MMBtu, which is a maximum of 64.8 lb/hour at full load operation as controlled by the AMM system. In your response, it is estimated that the hourly sulfuric acid mist emissions rate will increase from 64.8 to 504 lb/hour when the AMM system is shutdown for preventive maintenance. This is based on firing coal with a maximum sulfur content of 3.13% by weight. For the 10 days requested, this is 52.7 tons of additional sulfuric acid mist emitted. The plant currently fires coal with a maximum sulfur content of 0.68% by weight. Preliminary tests for sulfuric acid mist indicate compliance with the BACT limit of 0.009 lb/MMBtu without control by the AMM system. Please explain how "compliant" coal could be fired during the regularly scheduled preventive maintenance periods. Does the plant *currently* keep separate coal piles on site to blend coals with varying sulfur contents? What is the expected range of the sulfur content for future coal? Also, identify any other methods the plant will or could use to minimize emissions of sulfuric acid mist.

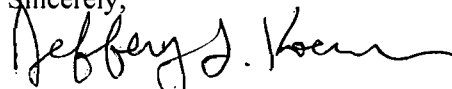
Additional Question Related to Selective Catalytic Reduction (SCR) System: You indicate that the SCR system will also be inoperable for the limited periods of preventive maintenance since the SCR systems share components with the ammonia supply system. However, the plant believes that each unit will be able to comply with the long-term mass emissions rate limits. Please identify any specific conditions of the original air construction permit that you believe may need clarification on this point.

Additional Question Related to Deferral of Operation of AMM System: On September 29, 2009, the Department also received additional information dated September 22, 2009 that is related to operation of the AMM system and the permit deadline for conducting initial performance tests to determine the sulfuric acid mist emissions and performance of the AMM system. This information included a test protocol that had previously been submitted to the Department's Emissions Monitoring Section. Please identify any specific conditions of the original air construction permit that may need clarification as to the startup of the AMM system and conducting the required initial performance tests.

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 (Prevention 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 the project engineer, Jeff Koerner, at 850/921-9536.

Sincerely,



Jeffery F. Koerner, Program Administrator  
New Source Review Section

## Request for Additional Information

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

Mr. Larry Hatcher, Progress Energy, Inc. ([larry.hatcher@pgnmail.com](mailto:larry.hatcher@pgnmail.com))  
Mr. Dave Meyer, Progress Energy, Inc. ([dave.meyer@pgnmail.com](mailto:dave.meyer@pgnmail.com))  
Mr. Benjamin Borsch, Progress Energy, Inc. ([benjamin.borsch@pgnmail.com](mailto:benjamin.borsch@pgnmail.com))  
Mr. Scott Osbourn, Golder Associates ([sosbourn@golder.com](mailto:sosbourn@golder.com))  
Mr. Mike Halpin, DEP Siting ([mike.halpin@dep.state.fl.us](mailto:mike.halpin@dep.state.fl.us))  
Ms. Cindy Zhang-Torres, DEP SWD ([cindy.zhang-torres@dep.state.fl.us](mailto:cindy.zhang-torres@dep.state.fl.us))  
Ms. Katy Forney, EPA Region 4 ([forney.kathleen@epa.gov](mailto:forney.kathleen@epa.gov))  
Ms. Heather Abrams, EPA Region 4 ([abrams.heather@epamail.epa.gov](mailto:abrams.heather@epamail.epa.gov))  
Mr. Dee Morse, NPS ([dee\\_morse@nps.gov](mailto:dee_morse@nps.gov))  
Ms. Vickie Gibson, DEP BAR Reading File ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us))

## Livingston, Sylvia

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**From:** Livingston, Sylvia  
**Sent:** Wednesday, October 28, 2009 1:52 PM  
**To:** 'larry.hatcher@pgnmail.com'  
**Cc:** 'Dave.meyer@pgnmail.com'; 'Benjamin.borsch@pgnmail.com'; 'sosbourn@golder.com'; Halpin, Mike; Zhang-Torres; 'forney.kathleen@epa.gov'; 'Abrams.heather@epa.gov'; 'Dee\_morse@nps.gov'; Gibson, Victoria; Koerner, Jeff; Walker, Elizabeth (AIR)  
**Subject:** Request for Additional Information - Progress Energy Florida, Inc., Crystal River Steam Plant 0170004-023-AC / PSD-FL-383C  
**Attachments:** RAI 0170004-023-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).

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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)

Tracking:

## Livingston, Sylvia

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**From:** Meyer, Dave [Dave.Meyer@pgnmail.com]  
**Sent:** Friday, October 30, 2009 10:47 AM  
**To:** Livingston, Sylvia  
**Subject:** RE: Request for Additional Information - Progress Energy Florida, Inc., Crystal River Steam Plant 0170004-023-AC / PSD-FL-383C

Hi Silvia,

I have received the following e-mail and attachment... Thank you very much for your help. Best regards, Dave Meyer

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Wednesday, October 28, 2009 1:52 PM  
**To:** Hatcher, Larry  
**Cc:** Meyer, Dave; Borsch, Benjamin; sosbourn@golder.com; Halpin, Mike; Zhang-Torres; forney.kathleen@epa.gov; Abrams.heather@epa.gov; Dee\_morse@nps.gov; Gibson, Victoria; Koerner, Jeff; Walker, Elizabeth (AIR)  
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Division of Air Resource Management (DARM)  
850/921-9506  
[sylvia.livingston@dep.state.fl.us](mailto:sylvia.livingston@dep.state.fl.us)

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**Cc:** Meyer, Dave; Borsch, Benjamin; sosbourn@golder.com; Halpin, Mike; Zhang-Torres; forney.kathleen@epa.gov; Abrams.heather@epa.gov; Dee\_morse@nps.gov; Gibson, Victoria; Koerner, Jeff; Walker, Elizabeth (AIR)  
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## Livingston, Sylvia

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**From:** Hatcher, Larry [Larry.Hatcher@pgnmail.com]  
**Sent:** Thursday, October 29, 2009 2:35 PM  
**To:** Livingston, Sylvia  
**Subject:** RE: Request for Additional Information - Progress Energy Florida, Inc., Crystal River Steam Plant 0170004-023-AC / PSD-FL-383C

We are in receipt of your letter and will respond appropriately.

Larry

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Wednesday, October 28, 2009 1:52 PM  
**To:** Hatcher, Larry  
**Cc:** Meyer, Dave; Borsch, Benjamin; sosbourn@golder.com; Halpin, Mike; Zhang-Torres; forney.kathleen@epa.gov; Abrams.heather@epa.gov; Dee\_morse@nps.gov; Gibson, Victoria; Koerner, Jeff; Walker, Elizabeth (AIR)  
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## Livingston, Sylvia

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**From:** Osbourn, Scott [Scott\_Osbourn@golder.com]  
**To:** Livingston, Sylvia  
**Sent:** Wednesday, October 28, 2009 2:19 PM  
**Subject:** Read: Request for Additional Information - Progress Energy Florida, Inc., Crystal River Steam Plant 0170004-023-AC / PSD-FL-383C

Your message

To: Scott\_Osbourn@golder.com  
Subject:

was read on 10/28/2009 2:19 PM.