



# Florida Department of Environmental Protection

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2600 Blair Stone Road  
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Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

January 28, 2009

*Electronic Mail – Received Receipt Requested*

Mr. Larry Hatcher, Plant Manager  
Progress Energy Florida, Crystal River Power Plant  
299 First Avenue, North, CN77  
St. Petersburg, FL 33701

Re: **Request for Additional Information**  
Progress Energy Florida, Crystal River Power Plant  
Project No. 0170004-022-AC (PSD-FL-383B)  
Miscellaneous Permit Revisions

Dear Mr. Hatcher:

On December 30, 2008, we received your application and sufficient fee for an application to revise original air construction Permit No. PSD-FL-383 (Project No. 0170004-016-AC), which authorized the installation of new burners, new selective catalytic reduction systems, new flue gas desulfurization (FGD) systems, and new stacks for the existing coal-fired Units 4 and 5 at the Crystal River Power Plant. The existing facility is located in Citrus County, north of Crystal River and west of U.S. Highway 19. The application is subject to general *preconstruction review pursuant to rule 62-212.300 of the Florida Administrative Code (F.A.C.) and 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.

## **Installation of the Carbon Monoxide (CO) Continuous Emissions Monitoring Systems (CEMS)**

Construction was delayed substantially from the preliminary schedule. Low-NOx burners (LNB) were installed on Unit 4 in December of 2008. The CO CEMS has also been installed. The permit requires certification of the CO CEMS within 60 calendar days of achieving permitted capacity, but no later than 180 calendar days after initial startup. The permit also requires initial stack tests for volatile organic compounds (VOC) to be conducted within 60 days of installing the LNB. The installation of LNB on Unit 5 is scheduled for May of 2009. However, the outage to tie in the flue gas desulfurization (FGD) system is not scheduled until October of 2009. The permanent CO CEMS is intended to be installed on the new stack after the FGD system. Therefore, there will be a 5-month delay to install the CO CEMS on Unit 5; otherwise a temporary CEMS must be installed.

- (1) Does the above discussion properly summarize this issue?
- (2) Is it likely that the CO CEMS for Unit 4 will be certified by the end of February? Has Unit 4 achieved 90% of the maximum permitted heat input rate after installing the LNB?
- (3) The application indicates that an additional stack test will be conducted on Unit 5 in accordance with EPA Method 10 to demonstrate that initial CO emissions will be below the numerical portion of the permitted CO emissions standard (0.17 lb/MMBtu of heat input and 1156.0 lb/hour based on a 30-day rolling

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average). See suggested permit revision below. What is the current schedule for conducting the additional CO test on Unit 5? Until the CO CEMS is installed and certified for Unit 5, you intend to demonstrate compliance by: the additional stack test data, the Relative Accuracy Test Assessment (RATA) data from the Unit 4 CEMS, and data collected from the Unit 4 CEMS once it is certified. Is this correct?

### **CEMS Applicability Trigger and Consistent Timeframes for Installation and Startup of Air Pollution Control Systems**

- (4) The application identifies confusion with several permit conditions that establish initial compliance requirements for the coal-fired units. The Department's original intent was to require that the CEMS be installed and certified within 60 days of completing construction on the related air pollution control device. Monitoring data collected from the CEMS would be used to demonstrate compliance with the new emissions standards after completing shakedown of the air pollution control equipment and reestablishing "normal" operation. To clarify this issue, the Department suggests the following revisions:

#### **6. Authorized Fuels:**

- a. In addition to the currently authorized fuels, this air construction permit authorizes Units 4 and 5 to fire a blend of bituminous coal and sub-bituminous coal of up to 20% sub-bituminous coal upon issuance of this permit. Once initial shakedown of the FGD system is complete, Coal fuel blends shall not exceed a maximum sulfur content of 3.13% by weight.

14. CO CEMS Installation: For Units 4 and 5, the permittee shall properly install, calibrate, operate and maintain CEMS to measure and record CO emissions in the terms of the applicable standard. Each CEMS shall be installed such that representative measurements of emissions or process parameters from the facility are obtained. The permittee shall locate the CEMS by following the procedures contained in the applicable performance specification of 40 CFR Part 60, Appendix B. The permittee shall install each CEMS required by this permit and conduct the appropriate performance specification for each CEMS within 60 calendar days of completing installation of the low-NO<sub>x</sub> burners and achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C., but no later than 180 calendar days after initial startup. As an option for Unit 5 because of verifiable construction delays, the permittee may delay installation of the CO CEMS until the Unit 5 exhaust is tied into the new FGD system and stack, but not to exceed 180 days from completing installation of the low-NO<sub>x</sub> burners. If this option is selected, the permittee shall conduct an initial CO stack test in accordance with EPA Method 10 within 60 days of completing installation of the low-NO<sub>x</sub> burners that demonstrates compliance with a CO emissions standard of 0.17 lb/MMBtu of heat input based on a 3-run test average. In addition, CEMS data collected from similar Unit 4 shall be used as a surrogate to show compliance until the Unit 5 CEMS is installed. Based on the Unit 4 CEMS data, the Compliance Authority may require special tests in accordance with Rule 62-297.310(7)(b), F.A.C. [Rules 62-4.070(3), 62-297.310(7)(b) and 62-212.400(BACT), F.A.C.]

15. Compliance by CEMS: Compliance with the standards for opacity and emissions of CO, NO<sub>x</sub>, and SO<sub>2</sub> shall be demonstrated with data collected from the required continuous monitoring systems. Within 60 days of reestablishing commercial operation of completing construction on the related air pollution control device for each unit, the permittee shall certify proper operation of each required monitor. The permittee shall comply with the conditions of Appendix F (Standard Continuous Monitoring Requirements) of this permit as the compliance method for the corresponding emissions standards. The permittee shall begin demonstrating compliance with the CO CEMS emissions standards once a monitor is certified. The permittee shall begin demonstrating compliance with the opacity, NO<sub>x</sub> and SO<sub>2</sub> COMS/CEMS emissions standards after completing the initial shakedown of the associated air pollution control device, but no later than 180 days after certifying the corresponding COMS/CEMS. Within 10 days of completing initial shakedown for an air pollution control device, the permittee shall

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notify the compliance authority of the following: the air pollution control device; the date that shutdown was completed; the monitoring data being collected to demonstrate continuous compliance; and the status of the other air pollution control devices. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

No changes are proposed for Specific Condition Nos. 16 and 19. Please comment.

### Changes to On Site Limestone/Gypsum Handling and Storage Systems

- (5) The application indicates that the limestone operations will be subject to the New Source Performance Standards in Subpart OOO of 40 CFR 60. Please identify how the affected activities will be controlled to comply with the NSPS requirements.
- (6) The application indicates that gypsum will not be transferred to the wallboard plant by conveyor, but by truck; however, these emissions were conservatively considered in the modeling analysis. Please identify and explain the estimated potential emissions increase of particulate matter (< 1 ton/year).
- (7) How long will gypsum be stored on site? Describe the changes to the proposed gypsum storage building. What measures will be taken to control fugitive dust emissions from the gypsum storage area?

### Table 1: Emissions Limit Applicability

- (8) This table summarizes Progress Energy's understanding of the applicability dates and triggers for the new limits imposed by the permit. For clarity, please identify the permit condition that you believe to be the controlling requirement as well as any other conditions that might be considered in conflict with the controlling requirement.

### Alkali Injection System

- (9) Please provide supporting information from the equipment vendor regarding: the proposed maintenance schedule; the amount of time needed for shutdown to conduct the maintenance; the shared or common equipment; the cost of the shared or common equipment; the cost to install redundant shared or common equipment; and a detailed description of the operational control of the alkali injection system.
- (10) The Department understands that scheduled maintenance on the alkali injection system will be performed when at least one unit (Unit 4 or 5) is shutdown. However, during this period, the alkali system must also be shutdown since the systems share critical common equipment. Please estimate the sulfuric acid mist (SAM) emissions rate during this shutdown for maintenance (one unit in operation without control by alkali injection). Please describe the measures that will be taken to minimize excess emissions during these periods.
- (11) Since this issue may be more complicated to resolve than the other items, please advise the Department whether you would like to split this issue off as a separate permit request.

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.

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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, Administrator  
New Source Review Section

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

Mr. Larry Hatcher, Progress Energy ([larry.hatcher@pgnmail.com](mailto:larry.hatcher@pgnmail.com))  
Mr. David Meyer, Progress Energy ([dave.meyer@pgnmail.com](mailto:dave.meyer@pgnmail.com))  
Mr. Benjamin M. H. Borsch, Progress Energy ([benjamin.borsch@pgnmail.com](mailto:benjamin.borsch@pgnmail.com))  
Mr. Scott Osbourn, Golder Associates Inc. ([sosbourn@golder.com](mailto:sosbourn@golder.com))  
Ms. Cindy Zhang-Torres, SWD Office ([cindy.zhang-torres@dep.state.fl.us](mailto:cindy.zhang-torres@dep.state.fl.us))  
Mr. Mike Halpin, Siting Office ([halpin\\_m@dep.state.fl.us](mailto:halpin_m@dep.state.fl.us))  
Mr. James Little, EPA Region 4 ([little.james@epa.gov](mailto:little.james@epa.gov))  
Ms. Kathleen 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, National Park Service ([dee\\_morse@nps.gov](mailto:dee_morse@nps.gov))  
Ms. Vickie Gibson, BAR Reading File ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us))

## Livingston, Sylvia

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**From:** Hatcher, Larry [Larry.Hatcher@pgnmail.com]  
**To:** Livingston, Sylvia  
**Sent:** Wednesday, January 28, 2009 8:33 PM  
**Subject:** Read: RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

Your message

**To:** [Larry.Hatcher@pgnmail.com](mailto:Larry.Hatcher@pgnmail.com)  
**Subject:**

was read on 1/28/2009 8:33 PM.

## Livingston, Sylvia

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**From:** Meyer, Dave [Dave.Meyer@pgnmail.com]  
**Sent:** Wednesday, January 28, 2009 5:31 PM  
**To:** Livingston, Sylvia  
**Subject:** RE: RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

Hi Sylvia,

I got the email. Thank you very much, Dave

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Wednesday, January 28, 2009 4:36 PM  
**To:** Hatcher, Larry  
**Cc:** Meyer, Dave; Borsch, Benjamin; sosbourn@golder.com; Zhang-Torres; Halpin, Mike; little.james@epa.gov; forney.kathleen@epa.gov; abrams.heather@epa.gov; dee\_morse@nps.gov; Gibson, Victoria; Walker, Elizabeth (AIR); Koerner, Jeff  
**Subject:** RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

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)

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## **Livingston, Sylvia**

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**From:** Dee\_Morse@nps.gov  
**Sent:** Wednesday, January 28, 2009 5:06 PM  
**To:** Livingston, Sylvia  
**Subject:** Re: RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

Document Received

## Livingston, Sylvia

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**From:** Hatcher, Larry [Larry.Hatcher@pgnmail.com]  
**Sent:** Thursday, January 29, 2009 8:15 PM  
**To:** Livingston, Sylvia  
**Subject:** RE: RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

I have received the document. We will be sending our reply as requested.

Larry

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Thursday, January 29, 2009 3:43 PM  
**To:** Hatcher, Larry  
**Subject:** FW: RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

We have not received confirmation that you were able to access the attached RAI document e-mailed on January 28, 2009. Please confirm receipt by opening the attachment and sending a reply to me.

The Division of Air Resource Management is sending electronic versions of these documents rather than sending them Return Receipt Requested via the US Postal service. Your "receipt confirmation" reply serves the same purpose as tracking the receipt of the signed "Return Receipt" card from the US Postal Service. Please let me know if you have any questions.

Thanks,

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)

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**From:** Livingston, Sylvia  
**Sent:** Wednesday, January 28, 2009 4:36 PM  
**To:** 'larry.hatcher@pgnmail.com'  
**Cc:** 'dave.meyer@pgnmail.com'; 'benjamin.borsch@pgnmail.com'; 'sosbourn@golder.com'; Zhang-Torres; Halpin, Mike; 'little.james@epa.gov'; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'dee\_morse@nps.gov'; Gibson, Victoria; Walker, Elizabeth (AIR); Koerner, Jeff  
**Subject:** RAI-0170004-022-AC/PSD-FL-383B (Progress Energy Florida, Crystal River Power Plant)

Dear Sir/Madam: