

Golder Associates Inc.

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July 15, 2003

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Mr. Gregory P. DeAngelo, P.E., New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

BUREAU OF AIR REGULATION

Attention: Gregory P. DeAngelo, P.E., New Source Review Section

RE: REQUEST FOR MODIFICATION OF AIR CONSTRUCTION PERMIT
AIR CONSTRUCTION PERMIT NO. 1050234-004-AC, PSD-FL-296
(SITING CERTIFICATION PA92-33SA)
HINES ENERGY COMPLEX – POWER BLOCK 2

Dear Greg:

In response to the Department of Environmental Regulation's June 23, 2003 letter requesting additional information regarding the Hines Energy Complex – Power Block 2 Request for Modification of the Air Construction Permit No. 1050234-004-AC, PSD-FL-296 (Siting Certification PA92-33A), please find below the three items identified in the letter (repeated here for reference) followed by the additional information response.

- 1. The current permit specifies a PM emission rate limit (lb/hour) and requires initial and annual PM tests using EPA Method 5. Please explain how using fuel specifications supplemented by visible emissions evaluations provides adequate assurance of limiting PM emissions. Describe any relevant experience with PM emissions from Power Block 1, provide any available PM stack test data from other Siemens Westinghouse 501 FD turbines, and/or discuss whether the requested change could result in increased PM emissions relative to the existing construction permit.**

The Best Available Control Technology (BACT) determination made by the Department and agreed to by the applicant (Progress Energy Florida) during the original issuance of the permit based the control of particulate matter (PM) emissions on the "use of clean burning and good combustion practices". This is the appropriate means for the control of PM emissions on the type of units permitted (natural gas and low-sulfur distillate oil fired combine-cycle combustion turbines) since it is not practical to install post-combustion controls to further control PM emissions. Since the BACT determination to control PM emissions on these units is based on the type of fuel burned and good combustion, it is appropriate to rely on permit conditions which restrict fuel use, along with the use of visual emissions evaluations to determine if the intent of the BACT determination for PM is being met. Based on this determination, there is no need for a separate permit requirement limiting the pounds per hour of PM emissions and the testing that goes along with it. The fuel monitoring and visible emissions evaluations requirements are adequate to insure appropriate control of the PM emissions.

The only direct experience with testing of PM emissions from the Power Block 1 combustion turbines is from the initial performance testing that occurred in 1999. PM testing was conducted during oil firing only. The results showed PM emission levels of 26.0 lbs/hr (Unit 1A) and 27.4 lbs/hr (Unit 1B). These results are well below the current Power Block 2 limit of 64.8 lbs/hr.

Since the method of controlling PM emissions from these units is based on fuel specifications and clean combustion, the requested modification removing the PM testing requirements will have no effect on the actual PM emission, only on the method used for compliance verification. This is

consistent with other recent determinations made by the Department when permitting similar units (i.e., Power Block 3, Martin Unit 8, and Manatee Unit 3).

2. **With the exception of cycling through startups or shutdowns, the current permit prohibits operation at less than 60 percent of full load (on a heat input basis). Please describe not only the impact of this condition on emissions (i.e., its intended effect) but also how the revised permit would similarly assure compliance with the relevant emissions standards.**

The prohibition on unit operation at loads less than 60 percent of full load is intended to minimize the amount of time that the unit is operating at loads where emissions of NOx and/or CO may be higher than at loads above 60 percent. This time constraint limitation was used as a means of controlling these "low load" emissions in permits for "F" Class turbines where continuous emissions monitoring systems (CEMS) were not required to be installed to continuously monitor NOx and/or CO emissions. Power Block 2 CT/HRSG units are required to install and operate CEMS for monitoring of NOx and CO at all loads (including those less than 60 percent) and still maintain compliance with a time-averaged permit emissions standard. Since the underlying applicable requirement for NOx CO is time-based CEMS, the amount of time that can be spent at certain loads becomes self-regulating, rendering the need for this prohibition unnecessary.

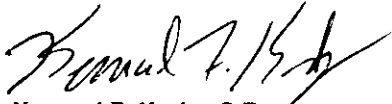
3. **The existing construction permit contains detailed provisions regarding emissions of unconfined PM. Please evaluate the potential impact of replacing these conditions with the language in the requested modification, which is less specific and applies only during the construction phase of the project.**

The impact of the change in language requested in the modification related to this issue should be minimal, as the requested modification language still subjects the facility to all applicable provisions of Chapter 62-296, F.A.C., which contains the referenced language. In addition, the current Title V Air Operation Permit (1050234-001-AV), which applies the entire Hines Energy Complex, also contains similar language in Section II. Condition No. 8.

Please call me or Jamie Hunter at Progress Energy Florida [(727) 826-4363] if there are any questions.

Sincerely,

GOLDER ASSOCIATES INC.

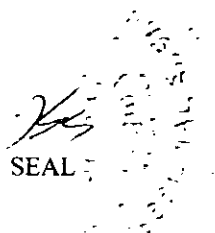


Kennard F. Kosky, P.E.

Principal

Professional Engineer Registration No 14996

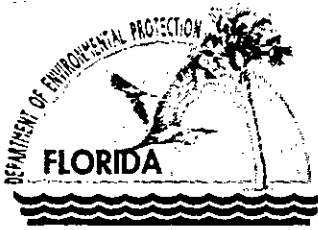
(Golder Associates Inc. Certificate of Authorization No. 00001670)



KFK/jej

Enclosure

cc: Mr. John J. (Jamie) Hunter – Progress Energy Florida, Inc.
Al Linero – FDEP, New Source Review
Hamilton Owen – FDEP, Siting Office
Roger Zirkle – Progress Energy Florida, Inc.



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 23, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John J. (Jamie) Hunter
Lead Environmental Specialist
Progress Energy Florida, Inc.
P.O. Box 14042, MAC BB1A
St. Petersburg, FL 33733-4042

Re: Request for Modification of Air Construction Permit
Air Construction Permit No. 1050234-004-AC, PSD-FL-296 (Siting Certification PA92-33SA)
Hines Energy Complex – Power Block 2

Dear Mr. Hunter:

On June 10, 2003, the Florida Department of Environmental Protection received your request to modify the above referenced air construction permit for Power Block 2 at the Hines Energy Complex in Polk County, Florida. We understand that construction of Power Block 2 is essentially complete and that you anticipate commencement of commercial operation by the end of July or the beginning of August.

Although you have requested many minor changes in the language and format of the construction permit, your modification application does ask for an alternative compliance verification method for particulate matter (PM) emissions. The modification also requests other major changes from the existing construction permit by eliminating the prohibition against operating at less than 60 percent of full load and by altering the requirements regarding emissions of unconfined PM (fugitives).

Based on our preliminary review of your submitted application, it appears that the majority of the suggested changes in language and format can be adopted without modifying the intent or stringency of the existing permit. Indeed, there are several examples of areas where your requested modifications increase the stringency of the permit requirements. The application, however, does not provide reasonable assurance that Power Block 2 will be in compliance with all applicable regulations should we adopt the major changes discussed above.

To complete the reasonable assurance requirement allowing modification of the permit, we need to better understand the effect of the requested changes. To that end, please submit the following information, requested pursuant to Rule 62-4.070, F.A.C., "Standards for Issuing or Denying Permits":

1. The current permit specifies a PM emission rate limit (lb/hour) and requires initial and annual PM tests using EPA Method 5. Please explain how using fuel specifications supplemented by visible emissions evaluations provides adequate assurance of limiting PM emissions. Describe any relevant experience with PM emissions from Power Block 1, provide any available PM stack test data from other Siemens Westinghouse 501 FD turbines, and/or discuss whether the

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requested change could result in increased PM emissions relative to the existing construction permit.

2. With the exception of cycling through startups or shutdowns, the current permit prohibits operation at less than 60 percent of full load (on a heat input basis). Please describe not only the impact of this condition on emissions (i.e., its intended effect) but also how the revised permit would similarly assure compliance with the relevant emissions standards.
3. The existing construction permit contains detailed provisions regarding emissions of unconfined PM. Please evaluate the potential impact of replacing these conditions with the language in the requested modification, which is less specific and applies only during the construction phase of the project.

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. Please note that per Rule 62-4.055(1), F.A.C.: *"The applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department.... Failure of an applicant to provide the timely requested information by the applicable date shall result in denial of the application."*

If you have any questions regarding this matter, please feel free to call me at (850)921-9506.

Sincerely,



Gregory P. DeAngelo, P.E.
New Source Review Section

/gpd

cc: Al Linero – FDEP, New Source Review
Hamilton Owen – FDEP, Siting Office
Roger Zirkle – Progress Energy Florida
Ken Kosky – Golder Associates

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John J. Hunter
 Lead Environmental Specialist
 Progress Energy Florida, Inc.
 P.O. Box 14042, MAC BB1A
 St. Petersburg, FL 33733-4042

2. 7001 0320 0001 3692 5689

PS Form 3811, July 1999

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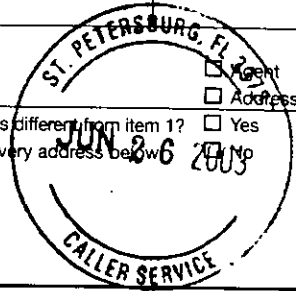
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 City, State, ZIP+4
 St. Petersburg, FL 33733-4042

PS Form 3800, January 2001

See Reverse for Instructions