



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

June 11, 2008

Electronic Mail – Received Receipt Requested

Roy S. Belden, Vice President
Shady Hills Power Company, LLC
120 Long Ridge Road
Stamford, CT 06927

Re: **Request for Additional Information**
Shady Hills Generating Station
Project No. 1010373-007-AC (PSD-FL-402)
Site Expansion – Addition of Two 170 MW Simple Cycle Combustion Turbines

Dear Mr. Belden:

On May 13, 2008, the Department received your application and sufficient fee for an air construction permit to construct and install two simple cycle GE 7FA combustion turbines at the existing Shady Hills Generating Station. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Section 2-3 of the Prevention of Significant Deterioration (PSD) report provided with the application identifies the potential emissions of carbon monoxide (CO) for natural gas and distillate oil from the two simple cycle GE 7FA combustion turbines. The report states that CO for natural gas has the potential to emit 9 ppmvd and distillate oil has the potential to emit 20 ppmvd. These emissions are based on a 59°F turbine inlet air condition and a baseload of 2390 hours/year for natural gas and 1000 hours/year for distillate oil. Actual CO emissions data for installed units indicate levels of 1-2 ppmvd @ 15% oxygen for gas and oil firing. Please discuss the rationale for the requested higher CO emission rates. Recent PSD permits issued by the Department for the GE 7FA combustion turbines specify CO standards of 4.1 and 8.00 ppmvd @ 15% oxygen for gas and oil firing, respectively. In addition, General Electric offers a guaranteed CO emissions rate of 4.1 ppmvd @ 15% oxygen. At these levels, it may be possible for the project to escape PSD review for CO emissions. Please comment.
2. Please describe the evaporative cooling equipment that will be installed on the simple cycle units. What is the expected maximum temperature reduction from the evaporative cooling equipment?
3. Please provide a discussion of the expected combustion turbine maintenance schedules and compare natural gas with oil.
4. See Table B-4 of the application. This table identifies a cost associated with a "selective catalytic reduction bypass duct and stack". Please explain.
5. Were the acid rain forms provided in the application sent to Region 4 of the Environmental Protection Agency (EPA)?

REQUEST FOR ADDITIONAL INFORMATION

6. The application requests an average operation of 3390 hours/year/unit with no single unit operating more than 5000 hours/year. As requested by EPA Region 4 in the past, please revise the control equipment cost estimates for "5000" hours/year of operation. In addition, please revise the control equipment estimates for the following items:
- An equipment life of 20 years;
 - Zero indirect costs for overhead, property taxes, and insurance (see page 2-48 of EPA's OAQPS manual);
 - Exclude the "MW Loss and Heat Rate Penalty" cost (The table references EPA, page 6-20, but there is no page 6-20 in EPA's OAQPS Cost manual);
 - For the oxidation catalyst, assume replacement every 5 years or provide vendor data to support replacement every 3 years for 4000 hours/year on natural gas or 1000 hours/year on ultra low sulfur distillate oil; and
 - Do not double count catalyst costs (see page 2-33 and 2-46 of EPA's OAQPS cost manual).

Please provide the vendor quote for the selective catalytic reduction (SCR) and oxidation catalyst equipment costs.

7. For the facility, the existing combustion turbines have operated at the following maximum rates over the last seven years:
- Less than 1500 hours/year/combustion turbine total (2002/2003); and
 - Less than 325 hours/year/combustion turbine on oil (2002/2003).

Please explain why the proposed peaking units will operate a maximum of:

- 5000 hours/year/combustion turbine (total);
 - 1000 hours/year/combustion turbine on oil; and
 - An average of 3390 hours/year/combustion turbine.
8. Does the facility have a firm contract for the primary fuel of natural gas?
9. The application indicates that the facility will become a major source of hazardous air pollutants (HAP) with the additional units. Therefore, the combustion turbines will be subject to the provisions of National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart YYYYY. Since this regulation has been stayed, currently the only requirement is to notify the Department that the facility is a major source of HAP and the affected units. Please revise the application pages accordingly.
10. A Level 2 VISCREEN analysis was performed which showed potential impacts over the threshold screening level outside of the Chassahowitzka PSD Class 1 area. In addition, the 4.4 m/s wind speed associated with this analysis seemed high. A lower wind speed may result in impacts over the threshold level inside the Class 1 area. Please provide further detailed justification for this value in order to evaluate whether a PLUVUE analysis should be required.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3) of the Florida Administrative Code (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. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for

REQUEST FOR ADDITIONAL INFORMATION

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, Corrie Branum (850/921-8968), or the project meteorologist, Cleve Holladay (850/921-8986).

Sincerely,



Jeffery F. Koerner, Administrator
New Source Review Section

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

Roy S. Belden, Shady Hills Power Company, LLC (Roy.Belden@GE.com)

Scott H. Osbourn, P.E., Golder Associates, Inc. (sosbourn@golder.com)

Mara Nasca, Southwest District Office (Mara.Nasca@dep.state.fl.us)

Ms. Kathleen Forney (forney.kathleen@epa.gov)

Catherine Collins, Fish and Wildlife Service (catherine_collins@fws.gov)

Meredith Bond, Fish and Wildlife Service (meredith_bond@fws.gov)

JFK/cb

Harvey, Mary

From: Harvey, Mary
Sent: Wednesday, June 11, 2008 2:58 PM
To: 'Roy S. Belden, Shady Hills Power Company, LLC'; 'Scott H. Osbourn, P.E., Golder Associates, Inc.'; Nasca, Mara; 'Ms. Kathleen Forney'; 'Catherine Collins, Fish and Wildlife Service'; 'Meredith Bond, Fish and Wildlife Service'
Subject: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)
Attachments: Document.pdf

Tracking:	Recipient	Delivery
<input checked="" type="checkbox"/>	'Roy S. Belden, Shady Hills Power Company, LLC'	
<input checked="" type="checkbox"/>	'Scott H. Osbourn, P.E., Golder Associates, Inc.'	
<input checked="" type="checkbox"/>	Nasca, Mara	Delivered: 6/11/2008 2:58 PM
	'Ms. Kathleen Forney'	
	'Catherine Collins, Fish and Wildlife Service'	
<input checked="" type="checkbox"/>	'Meredith Bond, Fish and Wildlife Service'	

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 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,

DEP, Bureau of Air Regulation

6/12/2008

Harvey, Mary

From: Meredith_Bond@fws.gov
Sent: Wednesday, June 11, 2008 3:18 PM
To: Harvey, Mary
Subject: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)

Return Receipt

Your Shady Hills Generating Station - Project #1010373-007-AC
document: (PSD-FL-402)

was Meredith Bond/R9/FWS/DOI
received
by:

at: 06/11/2008 01:18:04 PM

Harvey, Mary

From: Nasca, Mara
Sent: Wednesday, June 11, 2008 4:28 PM
To: Prickett, Patricia
Cc: Harvey, Mary; Zhang-Torres
Subject: RE: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)

Thanks Mary !

From: Harvey, Mary
Sent: Wednesday, June 11, 2008 2:58 PM
To: 'Roy S. Belden, Shady Hills Power Company, LLC'; 'Scott H. Osbourn, P.E., Golder Associates, Inc.'; Nasca, Mara; 'Ms. Kathleen Forney'; 'Catherine Collins, Fish and Wildlife Service'; 'Meredith Bond, Fish and Wildlife Service'
Subject: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)

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<http://www.adobe.com/products/acrobat/readstep.html>.

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Thank you,

DEP, Bureau of Air Regulation

Harvey, Mary

From: Belden, Roy S (GE Comm Fin) [roy.belden@ge.com]
To: Harvey, Mary
Sent: Wednesday, June 11, 2008 3:55 PM
Subject: Read: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)

Your message

To: roy.belden@ge.com
Subject:

was read on 6/11/2008 3:55 PM.

Harvey, Mary

From: Osbourn, Scott [Scott_Osbourn@golder.com]
To: undisclosed-recipients
Sent: Wednesday, June 11, 2008 3:01 PM
Subject: Read: Shady Hills Generating Station - Project #1010373-007-AC (PSD-FL-402)

Your message

To: Scott_Osbourn@golder.com
Subject:

was read on 6/11/2008 3:01 PM.