

Florida Department of  
Environmental Protection

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**Memorandum**

TO: Trina Vielhauer, Bureau of Air Regulation  
THROUGH: Syed Arif, New Source Review Air Permitting Section  
FROM: Bruce Thomas, New Source Review Air Permitting Section  
DATE: September 10, 2008  
SUBJECT: Project No. 1010373-009-AC (PSD-FL-280A)  
Project No. 1010373-010-AV  
Shady Hills Generating Station  
Combustion Turbine Heat Input Increases

This project is a minor revision to the original air construction permit for these units with a concurrent revision of the Title V air operation permit. Attached for your review are the following items:

- Written Notice of Intent to Issue Air Permit;
- Public Notice of Intent to Issue Air Permit;
- Technical Evaluation and Preliminary Determination;
- Statement of Basis;
- The Draft Title V permit revisions;
- The Draft Air Construction permit revisions; and,
- P.E. Certification.

The Technical Evaluation and Preliminary Determination provide a detailed description of the project and the rationale for issuance. The P.E. certification briefly summarizes the proposed project. I recommend your approval of the attached Draft Permit.

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

Shady Hills Power Company, LLC  
120 Long Ridge Road  
Stamford, Connecticut 06927

Draft Permit No. 1010373-009-AC  
Draft Permit No. 1010373-010-AV  
Combustion Turbine Heat Input Increases  
Shady Hills Generating Station  
Pasco County, Florida

PROJECT DESCRIPTION

The purpose of this project is to revise the original air construction permit 1010373-001/PSD-FL-280 and concurrently revise Title V air operation permit No. 1010373-006-AV to incorporate the specific conditions of air construction Permit No. 1010373-009-AC to allow increases for the three 170 megawatt (MW) simple cycle units (EU-001, EU-002 and EU-003) from 1,612 to 1,704 million Btu per hour (MMBtu/hr) when firing natural gas and an increase from 1,806 to 1,889 MMBtu/hr when firing distillate oil. The increases are requested to correct estimates provided by the gas turbine vendor that underestimate the actual performance of the installed turbines. No physical changes are necessary to realize the requested heat input increases. No increase in the emissions standards (concentrations or mass emissions rates) are requested to accommodate the change. The applicant does not expect any increased utilization as a result of the change. The emissions units will continue to comply with all applicable provisions of the air construction and operation permits.

*I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).*



\_\_\_\_\_  
Bruce Thomas, P.E.  
Registration No. 60278

9/10/07

(Date)

NSR



# 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

September 15, 2008

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

Re: Draft Air Construction Permit No. 1010373-009-AC (PSD-FL-280A)  
Draft Title V Air Operation Permit Revision No. 1010373-010-AV  
Shady Hills Generating Station

Dear Mr. Belden:

On June 23, 2008, Shady Hills Power Company, LLC, submitted an application to revise Air Permit No. 1010373-001-AC (PSD-FL-280) and concurrently revise Title V air operation Permit No. 1010373-006-AV. The project will authorize nominal increases in the heat input rates for the three existing combustion turbines. The facility is located in Pasco County at 14240 Merchant Energy Way, Spring Hill, Florida. The UTM coordinates are Zone 17, 347 km East, and 3139 km North. Enclosed are the following documents:

- The Written Notice of Intent to Issue Air Permits;
- The Public Notice of Intent to Issue Air Permits (the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project);
- The Technical Evaluation and Preliminary Determination for the air construction permit revisions;
- The Statement of Basis for the Title V Permit revisions;
- The Draft Air Construction Permit revisions and the Draft Title V Permit revisions.

If you have any questions, please contact the Project Engineer, Bruce Thomas, at 850/488-0114.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

TLV/jfk/bt

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMITS

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*In the Matter of an  
Application for Air Permits by:*

Shady Hills Power Company, LLC  
120 Long Ridge Road  
Stamford, Connecticut 06927

*Authorized Representative:*  
Mr. Roy S. Belden, Vice President

Project No. 1010373-009-AC  
Project No. 1010373-010-AV  
Heat Input Increases for  
Shady Hills Generating Station  
Pasco County, Florida

**Facility Location:** The applicant, Shady Hills Power Company, LLC operates the existing Shady Hills Generating Station which is located in Pasco County at 14240 Merchant Energy Way in Spring Hill, Florida.

**Project:** The purpose of this project is to revise the original air construction permit 1010373-001-AC/PSD-FL-280 and concurrently revise Title V air operation permit No. 1010373-006-AV to incorporate the specific conditions of air construction Permit No. 1010373-009-AC to allow increases for the three 170 megawatt (MW) simple cycle units (Emissions Unit (EU)-001, EU-002 and EU-003) from 1,612 to 1,704 million Btu per hour (MMBtu/hr) when firing natural gas and an increase from 1,806 to 1,889 MMBtu/hr when firing distillate oil. The increases are requested to correct estimates provided by the gas turbine vendor that underestimate the actual performance of the installed turbines. No physical changes are necessary to realize the requested heat input increases. No increase in the emissions standards (concentrations or mass emissions rates) are requested to accommodate the change. The applicant does not expect any increased utilization as a result of the change. The emissions units will continue to comply with all applicable provisions of the air construction and operation permits.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). Applications for Title V air operation permits are subject to review in accordance with provisions of Chapter 403, F.S. and Chapters 62-4, 62-210, 62-213 and 62-214 F.A.C. The projects are not exempt from the permitting procedures for air construction and Title V air operation permits. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above.

**Notice of Intent to Issue Air Permit:** The Permitting Authority gives notice of its intent to issue a revised Title V air operation permit and a concurrent air construction permit revision for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all applicable provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final air construction permit revision and a proposed Title V air operation permit revision (and subsequent final Title V air operation permit revision) in accordance with the conditions of the proposed Draft Permits unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMITS

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received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Public Notice:** Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at the address or phone number listed above. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

**Comments on the Draft Air Construction Permit Revision:** The Permitting Authority will accept written comments concerning the Draft Air Construction Permit Revision for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the close of business (5:00 p.m.), on or before the end of this 14-day period by the Permitting Authority at the above address. If written comments result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Comments on the Draft Title V Air Operation Permit Revision:** The Permitting Authority will accept written comments concerning the Draft Permit for a period of 30 days from the date of publication of the Public Notice. Written comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location in the Florida Administrative Weekly and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241; Fax: 850/245-2303). Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within fourteen 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMITS

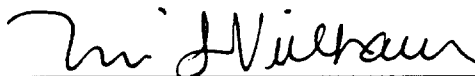
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A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

**WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMITS**

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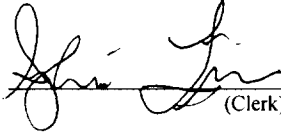
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination, and the Draft Permit Revisions) was sent by electronic mail or a link to these documents made available electronically on a publicly accessible server with received receipt requested before the close of business on 9/16/08 to the persons listed below.

- Mr. Roy S. Belden, Shady Hills Power Company, LLC ([Roy.Belden@GE.com](mailto:Roy.Belden@GE.com))
- Mr. Scott Osbourn, Golder Associates, Inc. ([SOsbourn@golder.com](mailto:SOsbourn@golder.com))
- Ms. Cindy Zhang-Torres, Southwest District Office ([Cindy.Zhang-Torres@dep.state.fl.us](mailto:Cindy.Zhang-Torres@dep.state.fl.us))
- Ms. Kathleen Forney, EPA Region 4 ([forney.kathleen@epa.gov](mailto:forney.kathleen@epa.gov))

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

  
\_\_\_\_\_  
(Clerk)

9/16/08  
(Date)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMITS

Florida Department of Environmental Protection  
Division of Air Resource Management, Bureau of Air Regulation

Draft Air Construction Permit No. 1010373-009-AC, Air Construction Permit Revision  
Draft Permit No. 1010373-010-AV, Concurrent Title V Air Operation Permit Revision

Shady Hills Generating Station  
Pasco County

**Applicant:** The applicant for this project is Shady Hills Power Company, LLC. The applicant's authorized representative and mailing address is: Mr. Roy S. Beldon, 120 Long Ridge Road, Stamford, Connecticut 06927.

**Facility Location:** The Shady Hills Power Company, LLC operates an existing electrical generating power plant in Pasco County located at 14240 Merchant Energy Way located in Spring Hill, Florida.

**Project:** The purpose of this project is to revise the original air construction permit 1010373-001-AC/PSD-FL-280 and concurrently revise Title V air operation permit No. 1010373-006-AV to incorporate the specific conditions of air construction Permit No. 1010373-009-AC to allow increases for the three 170 megawatt (MW) simple cycle units (Emissions Unit (EU)-001, EU-002 and EU-003) from 1,612 to 1,704 million Btu per hour (MMBtu/hr) when firing natural gas and an increase from 1,806 to 1,889 MMBtu/hr when firing distillate oil. The increases are requested to correct estimates provided by the gas turbine vendor that underestimate the actual performance of the installed turbines. No physical changes are necessary to realize the requested heat input increases. No increase in the emissions standards (concentrations or mass emissions rates) are requested to accommodate the change. The applicant does not expect any increased utilization as a result of the change. The emissions units will continue to comply with all applicable provisions of the air construction and operation permits.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C). Applications for Title V air operation permits are subject to review in accordance with provisions of Chapter 403, F.S. and Chapters 62-4, 62-210, 62-213 and 62-214 F.A.C. The projects are not exempt from the permitting procedures for air construction and Title V air operation permits. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above.

**Notice of Intent to Issue Air Permit:** The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all applicable provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296 and 62-297 F.A.C. The Permitting Authority will issue a final air construction permit revision and a proposed Title V air operation permit revision (and subsequent final Title V air operation permit revision) in accordance with the conditions of the proposed Draft Permits unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Comments on the Draft Air Construction Permit Revision:** The Permitting Authority will accept written comments concerning the Draft Air Construction Permit Revision for a period of 14 days from the date of

(Public Notice to be Published in the Newspaper)



## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMITS

publication of the Public Notice. Written comments must be received by the close of business (5:00 p.m.), on or before the end of this 14-day period by the Permitting Authority at the above address. If written comments result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

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A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

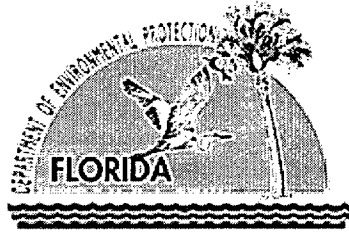
Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

**(Public Notice to be Published in the Newspaper)**

## **PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMITS**

**Mediation:** Mediation is not available in this proceeding.

**Objections to the Draft Title V Air Operation Permit:** Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the administrator of the EPA within 60 days of the expiration of the Administrator's 45-day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to issuance of any Title V permit. Any petition shall be based only on objections to the Title V permit that were raised with reasonable specificity during the 30 (thirty) day public comment period provided in this notice, unless the petitioner demonstrates to the administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any Title V permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C Section 7661d(b)(2), and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460.



**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**APPLICANT**

Shady Hills Power Company, LLC  
120 Long Ridge Road  
Stamford, CT 06927

Shady Hills Generating Station  
ARMS Facility ID No. 1010373

**PROJECT**

Draft Permit No. PSD-FL-280A  
Project No. 1010373-009-AC

Combustion Turbine Heat Input Increases

**COUNTY**

Pasco County, Florida  
Combustion Turbine Heat Input Increases

**PERMITTING AUTHORITY**

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
New Source Review Section  
2600 Blair Stone Road, MS# 5505  
Tallahassee, Florida 32399-2400

September 15, 2008

## 1. GENERAL PROJECT INFORMATION

### Facility Description and Location

The facility is an electrical generating power plant with a Standard Industrial Classification Code of SIC No. 4911. The facility is located in Pasco County at 14240 Merchant Energy Way, Spring Hill, Florida. The UTM coordinates are Zone 17, 347 km East, and 3139 km North.

This facility consists of three, dual-fuel, nominal 170 megawatt (MW) General Electric Frame 7FA combustion turbine-electrical generators (Model PG7241 7FA), three exhaust stacks that are 18 feet in diameter and 75 feet tall, and one 2.8-million gallon distillate fuel oil storage tank. The combustion turbine units can operate in simple-cycle mode and intermittent duty mode. The units are equipped with Dry Low-nitrogen oxides (NO<sub>x</sub>) combustors and water injection capability. The three combustion turbines are regulated under Phase II of the Federal Acid Rain Program. This facility operates during peak hours of electrical use.

### Primary Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, Florida Administrative Code (F.A.C.).
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C

### Project Description

The applicant requests a heat input rate increase for the three 170 MW simple cycle units (Emissions Unit (EU)-001, EU-002 and EU-003) from 1,612 to 1,704 million Btu per hour (MMBtu/hr) when firing natural gas and an increase from 1,806 to 1,889 MMBtu/hr when firing distillate oil. The increases are requested to correct estimates provided by the gas turbine vendor that underestimate the actual performance of the installed turbines. No physical changes are necessary to realize the requested heat input increases. No increase in the emissions standards (concentrations or mass emissions rates) are requested to accommodate the change. The applicant does not expect any increased utilization as a result of the change. The emissions units will continue to comply with all applicable provisions of the air construction and operation permits.

### Processing Schedule

June 23, 2008      Department received the application, application complete.

## 2. APPLICABLE REGULATIONS

### State Regulations

This project is subject to the applicable rules and regulations defined in the following F.A.C. Chapters: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, Prevention of Significant Deterioration (PSD Increments), and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards) and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures). PSD applicability and the preconstruction review requirements of Rule 62-212.400, F.A.C. are discussed in Section 3 of this report. This project will not result in any newly applicable state regulations.

### Federal Regulations

The Environmental Protection Agency establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 identifies New Source Performance Standards (NSPS) for a variety of industrial

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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activities. Part 61 specifies National Emissions Standards for Hazardous Air Pollutant (NESHAP) based on specific pollutants. Part 63 specifies NESHAP provisions based on the Maximum Achievable Control Technology (MACT) for given source categories. Federal regulations are adopted in Rule 62-204.800, F.A.C.

This project will trigger applicability of NSPS Subpart KKKK, Standards of Performance for Stationary Combustion Turbines. This applicability is due to the fact that this request constitutes a change in the actual hourly emission rate of a regulated pollutant, commencing after February 18, 2005. This NSPS regulates sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>). The facility uses pipeline quality natural gas as its primary fuel and distillate oil containing less than 0.05 percent sulfur, which will enable the turbines to meet the SO<sub>2</sub> limits with a large margin of compliance. The NSPS NO<sub>x</sub> emissions limit is less stringent than the current permit limit. Therefore the facility, as permitted, will meet the allowable requirements in the NSPS. The recordkeeping and testing requirements of Subpart KKKK are attached as Appendix NKKKK in Section 5.

### 3. PSD APPLICABILITY REVIEW

#### General PSD Applicability

The Department regulates major stationary sources in accordance with Florida's PSD program pursuant to Rule 62-212.400, F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for these regulated pollutants. As defined in Rule 62-210.200, F.A.C., a facility is considered a "major stationary source" if it emits or has the potential to emit 5 tons per year of lead, 250 tons per year or more of any PSD pollutant, or 100 tons per year or more of any PSD pollutant and the facility belongs to one of the 28 listed PSD major facility categories. PSD pollutants include: carbon monoxide (CO); nitrogen oxides (NO<sub>x</sub>); sulfur dioxide (SO<sub>2</sub>); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM<sub>10</sub>); volatile organic compounds (VOC); lead (Pb); Fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H<sub>2</sub>S); total reduced sulfur (TRS), including H<sub>2</sub>S; reduced sulfur compounds, including H<sub>2</sub>S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO<sub>2</sub> and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as nonmethane organic compounds (NMOC); and mercury (Hg).

For major stationary sources, PSD applicability is based on emissions thresholds known as the "significant emission rates" as defined in Rule 62-210.200, F.A.C. Emissions of PSD pollutants from the project exceeding these rates are considered "significant" and the Best Available Control Technology (BACT) must be employed to minimize emissions of each PSD pollutant. Although a facility may be "major" for only one PSD pollutant, a project must include BACT controls for any PSD pollutant that exceeds the corresponding significant emission rate. In addition, applicants must provide an Air Quality Analysis for each PSD pollutant.

#### PSD Applicability for the Project

The project is located in Pasco County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable. The existing plant emits or has the potential to emit 250 tons per year or more of at least one PSD pollutant. Therefore, the facility is a major stationary source and the project is subject to a PSD applicability review.

The applicant provided the following data to summarize the projected NO<sub>x</sub> emissions increases based on the highest past actual 2-year average annual emissions and the requested 6 percent heat input limit increase:

**TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

Emission Unit	Highest 2 Year Average (TPY)	Projected Increase (TPY)
EU-001, EU-002 and EU-003, 170 MW Simple Cycle Units	153.9	9.2

The Department reviewed emissions test data for the last seven years conducted at or near 100% of the current maximum heat input rates. The following table summarizes the projected NO<sub>x</sub> emissions increases based on this data, the requested heat input rate increases of 92 MMBtu/hr when firing natural gas and 83 MMBtu/hr when firing distillate oil, 2390 hours per year of natural gas firing and 1000 hours per year of distillate oil firing.

Emission Unit	NO <sub>x</sub> Test Data (lb/MMBtu)		Potential NO <sub>x</sub> Increase (TPY)
	Gas	Oil	
EU-001	41.3	309.5	10.0
EU-002	43.8	313.5	10.3
EU-003	40.0	294.6	9.5

The estimated potential emissions increase of 29.8 tons per year is well below the PSD significant emissions rate of 40 tons/year. The use of pipeline natural gas as the primary fuel source with No. 2 distillate fuel oil serving as a backup fuel will insure any potential emissions increases of CO, PM/PM<sub>10</sub>/PM<sub>2.5</sub>, SO<sub>2</sub> and VOC would also be well below the PSD significant emissions rates. Therefore, the draft permit will authorize the requested revised heat input rates.

**PRELIMINARY DETERMINATION**

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the Draft Permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the Draft Permit. Bruce Thomas is the project engineer responsible for reviewing the application and drafting the permit changes. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

**PERMITTEE**

Shady Hills Power Company, LLC  
120 Long Ridge Road  
Stamford, CT 06927

*Responsible Official:*

Mr. Roy S. Beldon, Vice President

Draft Permit No. 1010373-009-AC  
Shady Hills Generating Station  
Facility ID No. 1010373  
Combustion Turbine Heat Input  
Increases

**FACILITY AND LOCATION**

This permit revises the original air construction Permit No. 1010373-001-AC/PSD-FL-280 and concurrently revises Title V air operation Permit No. 1010373-006-AV to allow nominal increases to the heat input rates for the three existing 170 megawatt (MW) simple cycle combustion turbines. The facility is located in Pasco County at 14240 Merchant Energy Way, Spring Hill, Florida. The UTM coordinates are Zone 17, 347 km East, and 3139 km North.

**STATEMENT OF BASIS**

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Parts 60 and 63 of the Code of Federal Regulations (CFR).

(DRAFT)

\_\_\_\_\_  
Joseph Kahn, Director  
Division of Air Resource Management

\_\_\_\_\_  
Effective Date

## AIR CONSTRUCTION PERMIT REVISIONS

This permitting action will revise the following specific conditions in Permit No. 1010373-001-AC/PSD-FL-280. Deletions are shown in strikethrough; additions are shown in double-underline.

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

**8. Capacity:** The maximum heat input rates, based on the lower heating value (LHV) of each fuel to each unit (-001, -002, and -003), ambient conditions of 59°F temperature, 60% relative humidity, 100% load and 14.7 psi pressure, shall not exceed ~~1,612~~ 1,704 million Btu per hour (MMBtu/hr) when firing natural gas, nor ~~1,806~~ 1,889 MMBtu/hr when firing No. 2 or superior grade of distillate fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Compliance Authority within 45 days of completing the initial compliance testing. [Rule 62-210.200(PTE), F.A.C.; and 1010373-001-AC/PSD-FL-280A]

**13. Maximum allowable hours:** The stationary gas turbines shall only operate up to 3,390 hours per unit, including an average of up to 1,000 hours on fuel oil per unit during any calendar year. No single combustion turbine shall operate more than 5,000 hours in a single year. [Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.; 1010373-001-AC/PSD-FL-280A and 1010373-006-AV]

**19. Reduction Plan.** The permittee shall develop a NO<sub>x</sub> reduction plan when the hours of oil firing reach the allowable limit of 1,000 hours per year on any combustion turbine. This plan shall include a testing protocol designed to establish the maximum water injection rate and the lowest NO<sub>x</sub> emissions possible without affecting the actual performance of the gas turbine. The testing protocol shall set a range of water injection rates and attempt to quantify the corresponding NO<sub>x</sub> emissions for each rate and noting any problems with performance. Based on the test results, the plan shall recommend a new NO<sub>x</sub> emissions limiting standard and shall be submitted to the Department's Bureau of Air Regulation and Compliance Authority for review. If the Department determines that a lower NO<sub>x</sub> emissions standard is warranted for oil firing, this permit shall be revised. To date, not one single emissions unit has fired fuel oil for 1,000 hours in a year. [1010373-001-AC/PSD-FL-280A]

**29. Annual Compliance Tests.** Unless otherwise indicated, *annual* compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on each unit by using the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other test methods may be used for compliance testing unless prior Departmental approval is received in writing. Additional compliance tests shall also be conducted for all pollutants, except for PM/PM<sub>10</sub> (VE surrogate), after any modification (and shake down period not to exceed 100 days after re-starting the combustion turbine) of the unit or air pollution control equipment ~~such as change or tuning of combustors~~; and these tests are allowed to be conducted at a single load in lieu of the four loads.

- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".
- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources". Compliance testing for CO may be conducted at less than capacity when compliance testing is conducted concurrent with the annual Relative Accuracy and Test Audit (RATA) testing for the NO<sub>x</sub> CEMS required pursuant to 40 CFR 75.
- EPA Reference Method ~~20-7E~~, "Determination of Oxides of Nitrogen Oxide, ~~Sulfur Dioxide and Diluent~~ Emissions from Stationary Gas Turbines."
- EPA Reference Method 18, 25 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.

[1010373-001-AC/PSD-FL-280A; and 1010373-001-AC/PSD-FL-280 amendment]



**Livingston, Sylvia**

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**From:** Belden, Roy S (GE Comm Fin) [roy.belden@ge.com]  
**Sent:** Tuesday, September 16, 2008 7:25 PM  
**To:** Livingston, Sylvia  
**Cc:** SOSbourn@golder.com; Zhang-Torres; forney.kathleen@epa.gov; Walker, Elizabeth (AIR); Friday, Barbara; Gibson, Victoria  
**Subject:** RE: CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION; 1010373-009-AC (PSD-FL-280A) & Title V Permit No. 1010373-010-AV

Ms. Livingston,

I can view the documents. Regards, Roy

Roy S. Belden  
Shady Hills Power Company, LLC  
c/o GE Energy Financial Services  
120 Long Ridge Road  
Stamford, CT 06927  
203-357-6820  
[roy.belden@ge.com](mailto:roy.belden@ge.com)

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Tuesday, September 16, 2008 4:05 PM  
**To:** Belden, Roy S (GE Comm Fin)  
**Cc:** SOSbourn@golder.com; Zhang-Torres; forney.kathleen@epa.gov; Walker, Elizabeth (AIR); Friday, Barbara; Gibson, Victoria  
**Subject:** CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION; 1010373-009-AC (PSD-FL-280A) & Title V Permit No. 1010373-010-AV

Dear Sir/Madam:

Attached is the official *Written Notice of Intent to Issue* for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; 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 that you are able to access the documents.** Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

[http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/1010373.009.AC.D\\_pdf.zip](http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1010373.009.AC.D_pdf.zip)

**Owner/Company Name:** SHADY HILLS POWER COMPANY, L.L.C.  
**Facility Name:** SHADY HILLS GENERATING STATION  
**Project Number:** 1010373-009-AC (PSD-FL-280A)/ 1010373-010-AV  
**Permit Status:** DRAFT  
**Permit Activity:** CONSTRUCTION/ TITLE V  
**Facility County:** PASCO  
**Processor:** Bruce Thomas

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. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Permit project documents are addressed in this email may require immediate action within a specified time frame.

9/17/2008

## Livingston, Sylvia

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**From:** Osbourn, Scott [Scott\_Osbourn@golder.com]  
**To:** undisclosed-recipients  
**Sent:** Tuesday, September 16, 2008 4:37 PM  
**Subject:** Read: CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION;  
1010373-009-AC (PSD-FL-280A) & Title V Permit No. 1010373-010-AV

Your message

To: Scott\_Osbourn@golder.com  
Subject:

was read on 9/16/2008 4:37 PM.

## Livingston, Sylvia

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**From:** Mail Delivery System [MAILER-DAEMON@mseive01.rtp.epa.gov]  
**Sent:** Tuesday, September 16, 2008 4:07 PM  
**To:** Livingston, Sylvia  
**Subject:** Successful Mail Delivery Report

**Attachments:** Delivery report; Message Headers



Delivery report.txt  
(487 B)



Message  
Headers.txt (2 KB)

This is the mail system at host mseive01.rtp.epa.gov.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<forney.kathleen@epa.gov>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK,  
sent 48D011EB\_25911\_14190\_8 BE54A443E6

Message Headers.txt

Received: from tlhexsprot2.floridadep.net (tlhexsprot2.floridadep.net [199.73.152.8])  
by mseive01.rtp.epa.gov (Postfix) with ESMTP id 4B572443F9  
for <forney.kathleen@epa.gov>; Tue, 16 Sep 2008 16:05:23 -0400 (EDT)

Content-Transfer-Encoding: 7bit

Importance: normal

Priority: normal

Received: from tlhexsmb4.floridadep.net ([172.20.30.47]) by tlhexsprot2.floridadep.net with Microsoft  
SMTPSVC(5.0.2195.6713); Tue, 16 Sep 2008 16:05:07 -0400

X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2800.1896

Content-Class: urn:content-classes:message

Return-Receipt-To: "Livingston, Sylvia" <Sylvia.Livingston@dep.state.fl.us>

MIME-Version: 1.0

Content-Type: multipart/mixed;

boundary="----=\_NextPart\_001\_01C91837.81360911"

Disposition-Notification-To: "Livingston, Sylvia" <Sylvia.Livingston@dep.state.fl.us>

Subject: CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION; 1010373-009-AC  
(PSD-FL-280A) & Title V Permit No. 1010373-010-AV

Date: Tue, 16 Sep 2008 16:05:02 -0400

Message-ID: <864D0E673032DD47ABE8B4EE542DF7CAC71D99@tlhexsmb4.floridadep.net>

X-MS-Has-Attach: yes

X-MS-TNEF-Correlator:

Thread-Topic: CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION;  
1010373-009-AC (PSD-FL-280A) & Title V Permit No. 1010373-010-AV

thread-index: AckYN4FCn/BVUCI5SgWBMLa5Kbc81Q==

From: "Livingston, Sylvia" <Sylvia.Livingston@dep.state.fl.us>

To: <Roy.Belden@GE.com>

Cc: <SOsbourn@golder.com>,

"Zhang-Torres" <Cindy.Zhang-Torres@dep.state.fl.us>,

<forney.kathleen@epa.gov>,

"Walker, Elizabeth \(\AIR\)" <Elizabeth.Walker@dep.state.fl.us>,

"Friday, Barbara" <Barbara.Friday@dep.state.fl.us>,

"Gibson, Victoria" <Victoria.Gibson@dep.state.fl.us>

X-OriginalArrivalTime: 16 Sep 2008 20:05:07.0370 (UTC) FILETIME=[840110A0:01C91837]

Delivery report.txt

Reporting-MTA: dns; mseive01.rtp.epa.gov  
X-Postfix-Queue-ID: 4B572443F9  
X-Postfix-Sender: rfc822; Sylvia.Livingston@dep.state.fl.us  
Arrival-Date: Tue, 16 Sep 2008 16:05:23 -0400 (EDT)

Final-Recipient: rfc822; forney.kathleen@epa.gov  
Original-Recipient: rfc822;forney.kathleen@epa.gov  
Action: relayed  
Status: 2.0.0  
Remote-MTA: dns; 127.0.0.1  
Diagnostic-Code: smtp; 250 OK, sent 48D011EB\_25911\_14190\_8 BE54A443E6

## Livingston, Sylvia

---

**From:** Zhang-Torres  
**To:** Livingston, Sylvia  
**Sent:** Wednesday, September 17, 2008 8:36 AM  
**Subject:** Read: CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION;  
1010373-009-AC (PSD-FL-280A) & Title V Permit No. 1010373-010-AV

### Your message

**To:** 'Roy.Belden@GE.com'  
**Cc:** 'SOSbourn@golder.com'; Zhang-Torres; 'forney.kathleen@epa.gov'; Walker, Elizabeth (AIR); Friday, Barbara; Gibson, Victoria  
**Subject:** CONCURRENT AC/AV Draft Permit for SHADY HILLS GENERATING STATION; 1010373-009-AC (PSD-FL-280A) & Title V Permit No.  
1010373-010-AV  
**Sent:** 9/16/2008 4:05 PM

was read on 9/17/2008 8:35 AM.