

**Golder Associates Inc.**  
5100 West Lemon Street  
Suite 114  
Tampa, FL USA 33609  
Telephone: (813) 287-1717  
Fax: (813) 287-1716

RECEIVED



**Golder  
Associates**

JUN 23 2008

BUREAU OF AIR REGULATION

June 20, 2008

Our Ref.: 083-89507

Florida Department of Environmental Protection  
North Permitting Section  
Division of Air Resource Management  
2600 Blair Stone Road MS 5000  
Tallahassee, Florida 32399-2400

Attention: Mr. Jonathan Holtom

**RE: SHADY HILLS GENERATING STATION  
TITLE V REVISION AND AIR CONSTRUCTION PERMIT APPLICATION  
FACILITY ID NO. 1010373**

Dear Mr. Holtom:

*Project No.: 1010373-009-AC/  
1010373-010-AV*

Please find enclosed an original and three copies of the Title V (TV) revision and minor source air construction permit application for several requested revisions that apply to existing facility operations. TV Permit No. 1010373-006-AV, for the Shady Hills Generating Station, was issued on January 1, 2008. This application is consistent with the project scope we had discussed during our pre-application meeting in your offices on April 9, 2008.

The Shady Hills Power Company, LLC (Shady Hills), a subsidiary of GE Energy Financial Services, owns and operates the Shady Hills Generating Station located at 14240 Merchant Energy Way, Spring Hill, Pasco County, Florida. This facility consists of three, dual-fuel, nominal 170 megawatt (MW) General Electric model PG7241FA (GE 7FA) simple cycle combustion turbine-electric generators, three 75-foot exhaust stacks, and one 2.8 million gallon fuel oil storage tank.

This application package consists of the required permit application forms (Attachment 1), the requested revisions to the current TV permit language (Attachment 2) and an assessment of the requested heat input increase (Attachment 3). The revisions requested are to provide clarification regarding several current permit conditions:

- Condition A.1 with respect to permitted capacity;
- Condition A.5 with respect to hours of operation;
- Condition A.9, which requires a NOx Reduction Plan;
- Condition A.16 to allow for excess emissions during a tuning event; and
- Condition A.21, which refers to the need for annual compliance tests.

In addition, this permit application serves to request an increase in the allowable fuel firing rate of the combustion turbines (EU 001, 002, and 003) for both natural gas and fuel oil firing. Specifically, it is requested that the heat input limit for natural gas firing be increased from the current 1,612 MMBtu/hr (LHV at ISO conditions) to 1,704 MMBtu/hr (LHV at ISO conditions), an increase of approximately 6 percent. Similarly, it is requested that the heat input limit for fuel oil firing be increased from the current 1,806 MMBtu/hr (LHV at ISO conditions) to 1,889 MMBtu/hr (LHV at ISO conditions), an increase of approximately 5 percent. Attachment 3 presents a figure depicting the current permitted heat input values and the requested curves.

Shady Hills is requesting this increase for several reasons. Research on the existing units indicates that these CTs are capable of achieving a higher fuel firing rate. In addition, the requested heat input limits would be consistent with those requested for other recent projects utilizing GE 7FA units, such as the Progress energy Hines Energy Complex, as well as the proposed new CTs at the Shady Hills site. In addition, the requested limit would avoid future restrictions on operational flexibility, as the performance of these units degrades. Specifically, a CT's heat rate (Btu/kw-hr) will degrade over time, requiring additional fuel firing (MMBtu/hr) to produce the same output (MW). This analysis will demonstrate that any emissions increases associated with the heat input increase are less than the PSD Significant Emission Rates (SERs); hence, this project is not subject to PSD review. This permit application is, therefore, a minor source construction permit application. Additional information regarding this project is provided in the attachments.

This letter further addresses the following items associated with the requested heat input increase:

- Emission Estimates.
- Regulatory Review.
- Requested Permit Conditions.

### **EMISSION ESTIMATES**

Previous criteria pollutant emissions from the Shady Hills Generating Station are summarized in Tables 1-A through 1-E of Attachment 3, which follows this letter. These data are presented for Calendar Years (CYs) 2003 through 2007. These data were obtained from the Annual Operating Reports (AORs) submitted to the Florida Department of Environmental Protection (FDEP). Table 1-F presents the highest 2-year average for each pollutant, and Table 1-G presents the potential increase in annual emissions (TPY) from the baseline. Specifically, it is requested that the heat input limit for natural gas firing be increased by approximately 6 percent and that the heat input for fuel oil firing be increased by approximately 5 percent. However, these projected emissions conservatively assume that the combustion turbine emissions increase from baseline levels by 6 percent for both fuels.

### **REGULATORY REVIEW**

The first aspect of the regulatory review involves the classification of the change from a programmatic perspective. The facility is considered an existing major source for the PSD regulations as the permitted potential emissions for the site exceed the 250 ton per year (TPY) threshold for both oxides of nitrogen (NOx) and carbon monoxide (CO). Hence, the projected emissions increases (past actual to future projected actual) are compared to the PSD SERs. Table 1-F

summarizes the highest past actual 2-year average annual emission per pollutant (TPY) for the facility, in accordance with recent revisions to the State of Florida's new source review program (62-210.200) that require the "actual emissions" be determined over "consecutive 24-month periods," rather than the highest 2-year period in the previous 5 years. Therefore, Table 1-F also indicates which 24-month periods were considered for each pollutant. The emission increases above the baseline are presented in Table 1-G. The projected criteria pollutant emission increases are considerably less than the corresponding PSD SERs. Hence, PSD review is not required for this construction permit application.

This request will trigger applicability of the recently promulgated New Source Performance Standard (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 method of operation accompanied by an increase in the actual hourly emission rate of a regulated pollutant, commencing after February 18, 2005. The facility, as currently permitted, will meet the allowable emissions requirements in this newly promulgated NSPS. This NSPS regulates the pollutants SO<sub>2</sub> and NO<sub>x</sub>. The SO<sub>2</sub> emission limit involves a choice of two limits, one that is expressed based on mass per power output, and one that is based on fuel sulfur content. These two limits are contained in 40 CFR §60.4330, and are summarized following:

1. 0.90 pounds SO<sub>2</sub> per megawatt-hour gross output; or,
2. 0.060 pounds SO<sub>2</sub> per MMBtu heat input.

The facility uses pipeline quality natural gas, which because of its low sulfur content, enables the combustion turbine to meet either of these two limits with a large margin of compliance. In addition, the backup fuel oil used is less than or equal to 0.05 percent sulfur, which is in compliance with these standards.

The NO<sub>x</sub> emission limit for this combustion turbine (based on maximum heat input rating being greater than 850 MMBtu/hr) is similarly stated as a choice of two limits. One limit is based on concentration in the effluent gas, and the other limit is based on mass per power output. These two limits are contained in Table 1 of the NSPS, and are summarized following:

1. 15 ppm at 15 percent O<sub>2</sub>; or,
2. 0.43 pounds per megawatt-hour gross output.

The 15 ppm limit is less stringent than the current limit as contained in permit Condition A.9. Hence, no changes to the emission limit are required for the NO<sub>x</sub> limit to incorporate the NSPS. Shady Hills has reviewed the remaining requirements of NSPS Subpart KKKK (e.g., recordkeeping and testing), and believes that the current permit addresses these requirements. Therefore, no other changes are requested to the operating permit to accommodate the NSPS.

## **REQUESTED PERMIT CONDITIONS**

The requested permit conditions are expressed based on the current Title V operating permit and are included in Attachment 2. Regarding the heat input issue, the requested revised permit language is presented for Condition A.1 (permitted capacity). Shady Hills is not requesting an increase in the current allowable emission limits on either an annual basis (TPY) or on a short-term basis [i.e.,

---

concentration (ppmvd) or mass emissions (lb/hr)] as Shady Hills believes there is sufficient margin in the current emission limits.

**CLOSING**


Thank you in advance for your timely processing of this permit request. If you should have any questions, please do not hesitate to contact one of the undersigned at (813) 287-1717 or Roy Belden of Shady Hills Power Company, LLC at (203) 357-6820.

Sincerely,

**GOLDER ASSOCIATES INC.**



Scott Osbourn, P.E.  
Senior Consultant



Dave Larocca  
Senior Project Engineer

Attachments: 1 – Permit Application Forms  
2 – Requested Revisions to Title V permit  
3 – Heat Input Emissions Assessment

cc: Roy Belden, Shady Hills Power Company, LLC  
William Stevens, Shady Hills Power Company, LLC  
Rick Waggoner, Compliance Opportunities Group  
Phil Carlotta, Facility Manager

SE/DL/lr

H:\PROJECTS\2008proj\083-89507 GE Financial PSD Permit\Air Permit\TV Revision\Final\DEP Transmittal rev1.docx

**ATTACHMENT 1**  
**PERMIT APPLICATION FORMS**



# Department of Environmental Protection

## Division of Air Resource Management

### APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

**Air Operation Permit** – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial/revised/renewal Title V air operation permit.

**Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option)** – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

#### Identification of Facility

|                                                                                                                                                                       |                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 1. Facility Owner/Company Name: <b>Shady Hills Power Company, LLC</b>                                                                                                 |                                                                                                                |
| 2. Site Name: <b>Shady Hills Generating Station</b>                                                                                                                   |                                                                                                                |
| 3. Facility Identification Number: <b>1010373</b>                                                                                                                     |                                                                                                                |
| 4. Facility Location...:<br>Street Address or Other Locator: <b>14240 Merchant Energy Way</b><br>City: <b>Spring Hill</b> County: <b>Pasco</b> Zip Code: <b>34610</b> |                                                                                                                |
| 5. Relocatable Facility?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                       | 6. Existing Title V Permitted Facility?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

#### Application Contact

|                                                                                                                                                                                                                     |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Application Contact Name: <b>Roy S. Belden</b>                                                                                                                                                                   |  |
| 2. Application Contact Mailing Address...<br>Organization/Firm: <b>Shady Hills Power Company, LLC</b><br>Street Address: <b>120 Long Ridge Rd.</b><br>City: <b>Stamford</b> State: <b>CT</b> Zip Code: <b>06927</b> |  |
| 3. Application Contact Telephone Numbers...<br>Telephone: <b>(203) 357-6820</b> ext. Fax: <b>(203) 961-5116</b>                                                                                                     |  |
| 4. Application Contact Email Address: <b>Roy.Belden@GE.com</b>                                                                                                                                                      |  |

#### Application Processing Information (DEP Use)

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| 1. Date of Receipt of Application:         | 3. PSD Number (if applicable):    |
| 2. Project Number(s): <b>1010373-097AD</b> | 4. Siting Number (if applicable): |

**1010373-010-AV**

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is submitted to obtain: (Check one)**

#### **Air Construction Permit**

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

#### **Air Operation Permit**

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

#### **Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)**

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

**Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:**

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

## APPLICATION INFORMATION

### Application Comment

This application is for the revision of Title V permit No. 1010373-006-AV for the Shady Hills Generating Station, which was issued on January 1, 2008.

The facility consists of three, dual-fuel, nominal 170-megawatt (MW) GE Model PG7241FA combustion turbine (CT) electric generators, and one 2.8-million gallon fuel oil storage tank.

The revisions requested are to provide clarification regarding several current permit conditions:

- A.1. Permitted capacity;
- A.5. Hours of operation;
- A.9.(c). NOx Reduction Plan;
- A.16 to allow excess emissions during a tuning event; and
- A.21. Annual Compliance Tests.

The construction permit application is to request an increase in the allowable heat input for the CTs. Attachments 1 through 3 of this air permit application serve to provide the permit application forms, the requested revisions to the TV permit and the heat input emissions assessment, respectively.





**APPLICATION INFORMATION**

**Owner/Authorized Representative Statement**

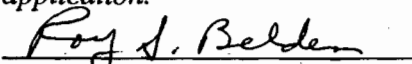
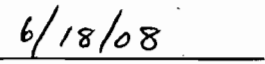
**Complete if applying for an air construction permit or an initial FESOP.**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Owner/Authorized Representative Name :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2. Owner/Authorized Representative Mailing Address...<br>Organization/Firm:<br>Street Address:<br>City: State: Zip Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3. Owner/Authorized Representative Telephone Numbers...<br>Telephone: ( ) - ext. Fax: ( ) -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4. Owner/Authorized Representative Email Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Owner/Authorized Representative Statement:<br><br><i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i><br><br>_____<br>Signature<br><br>_____<br>Date |

## APPLICATION INFORMATION

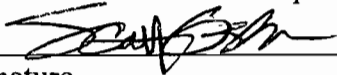
### Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Application Responsible Official Name:<br><b>Roy S. Belden</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):<br><input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.<br><input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.<br><input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.<br><input type="checkbox"/> The designated representative at an Acid Rain source.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3. Application Responsible Official Mailing Address...<br>Organization/Firm: <b>Shady Hills Power Company, LLC</b><br>Street Address: <b>120 Long Ridge Rd.</b><br>City: <b>Stamford</b> State: <b>CT</b> Zip Code: <b>06927</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4. Application Responsible Official Telephone Numbers...<br>Telephone: <b>(203) 357-6820</b> ext. Fax: <b>(203) 961-5116</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5. Application Responsible Official Email Address: <b>Roy.Belden@GE.com</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6. Application Responsible Official Certification:<br><i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i><br><br><br>Signature<br><br><br>Date |

# APPLICATION INFORMATION

## Professional Engineer Certification

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Professional Engineer Name: <b>Scott H. Osbourn</b><br>Registration Number: <b>57557</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Professional Engineer Mailing Address...<br>Organization/Firm: <b>Golder Associates Inc.**</b><br>Street Address: <b>5100 West Lemon St., Suite 114</b><br>City: <b>Tampa</b> State: <b>FL</b> Zip Code: <b>33609</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3. Professional Engineer Telephone Numbers...<br>Telephone: <b>(813) 287-1717</b> ext. <b>53304</b> Fax: <b>(813) 287-1716</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4. Professional Engineer Email Address: <b>SOsbourn@golder.com</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5. Professional Engineer Statement:<br><i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i><br><i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i><br><i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i><br><i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i><br><i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input checked="" type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i><br><i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i><br><br>Signature  Date <u>6/20/08</u><br><br>(seal) |

\* Attach any exception to certification statement.

\*\* Board of Professional Engineers Certificate of Authorization # 00001670



## FACILITY INFORMATION

### II. FACILITY INFORMATION

#### A. GENERAL FACILITY INFORMATION

##### Facility Location and Type

|                                                                                                                                          |                                         |                                                                                                                  |                                    |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1. Facility UTM Coordinates...<br>Zone <b>17</b> East (km) <b>347.0</b><br>North (km) <b>3,139.0</b>                                     |                                         | 2. Facility Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/22/00</b><br>Longitude (DD/MM/SS) <b>82/30/00</b> |                                    |
| 3. Governmental<br>Facility Code:<br><b>0</b>                                                                                            | 4. Facility Status<br>Code:<br><b>A</b> | 5. Facility Major<br>Group SIC Code:<br><b>49</b>                                                                | 6. Facility SIC(s):<br><b>4911</b> |
| 7. Facility Comment :<br><br><b>Emission units designated in this application correspond to those in FDEP permit No. 1010373-006-AV.</b> |                                         |                                                                                                                  |                                    |

##### Facility Contact

|                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Facility Contact Name:<br><b>Roy S. Belden, Vice President</b>                                                                                                                                                |
| 2. Facility Contact Mailing Address...<br>Organization/Firm: <b>Shady Hills Power Company, LLC</b><br>Street Address: <b>120 Long Ridge Rd.</b><br>City: <b>Stamford</b> State: <b>CT</b> Zip Code: <b>06927</b> |
| 3. Facility Contact Telephone Numbers:<br>Telephone: <b>(203) 357-6820</b> ext. Fax: <b>(203) 961-5116</b>                                                                                                       |
| 4. Facility Contact Email Address: <b>Roy.Belden@GE.com</b>                                                                                                                                                      |

##### Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

|                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Facility Primary Responsible Official Name:<br><b>Roy S. Belden</b>                                                                                                                                                                |
| 2. Facility Primary Responsible Official Mailing Address...<br>Organization/Firm: <b>Shady Hills Power Company, LLC</b><br>Street Address: <b>120 Long Ridge Rd.</b><br>City: <b>Stamford</b> State: <b>CT</b> Zip Code: <b>06927</b> |
| 3. Facility Primary Responsible Official Telephone Numbers...<br>Telephone: <b>(203) 357-6820</b> ext. Fax: <b>(203) 961-5116</b>                                                                                                     |
| 4. Facility Primary Responsible Official Email Address: <b>Roy.Belden@GE.com</b>                                                                                                                                                      |

## FACILITY INFORMATION

### Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

|                                                                                                                                                                                                                                                                                   |                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1. <input type="checkbox"/> Small Business Stationary Source                                                                                                                                                                                                                      | <input type="checkbox"/> Unknown |
| 2. <input type="checkbox"/> Synthetic Non-Title V Source                                                                                                                                                                                                                          |                                  |
| 3. <input checked="" type="checkbox"/> Title V Source                                                                                                                                                                                                                             |                                  |
| 4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)                                                                                                                                                                 |                                  |
| 5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs                                                                                                                                                                                             |                                  |
| 6. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)                                                                                                                                                                                                       |                                  |
| 7. <input type="checkbox"/> Synthetic Minor Source of HAPs                                                                                                                                                                                                                        |                                  |
| 8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)                                                                                                                                                                               |                                  |
| 9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)                                                                                                                                                                           |                                  |
| 10. <input type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)                                                                                                                                                                            |                                  |
| 11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))                                                                                                                                                                                         |                                  |
| 12. Facility Regulatory Classifications Comment:                                                                                                                                                                                                                                  |                                  |
| <p><b>Emissions units 001, 002, and 003 are currently subject to NSPS Subpart GG - Standards of Performance for Stationary Gas Turbines. As a result of this construction permit application for a heat input increase, these units will be subject to NSPS Subpart KKKK.</b></p> |                                  |







**FACILITY INFORMATION**

**C. FACILITY ADDITIONAL INFORMATION**

**Additional Requirements for All Applications, Except as Otherwise Stated**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>6/27/07</u>                                                |
| 2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>6/27/07</u>                                           |
| 3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>6/27/07</u> |

**Additional Requirements for Air Construction Permit Applications**

|                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Area Map Showing Facility Location:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)                          |
| 2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):<br><input type="checkbox"/> Attached, Document ID: <u>NA</u>                                               |
| 3. Rule Applicability Analysis:<br><input type="checkbox"/> Attached, Document ID: <u>NA</u>                                                                                                              |
| 4. List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
| 5. Fugitive Emissions Identification:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                         |
| 6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                         |
| 7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                       |
| 8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                             |
| 9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable             |
| 10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                         |

## FACILITY INFORMATION

### Additional Requirements for FESOP Applications

- |                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Additional Requirements for Title V Air Operation Permit Applications

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. List of Insignificant Activities (Required for initial/renewal applications only):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application)                                                                                                                                                                                                                                             |
| 2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)                                                                               |
| 3. Compliance Report and Plan (Required for all initial/revision/renewal applications):<br><input type="checkbox"/> Attached, Document ID: <u>NA</u><br>Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing. |
| 4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):<br><input type="checkbox"/> Attached, Document ID: _____<br><input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                         |
| 5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                              |
| 6. Requested Changes to Current Title V Air Operation Permit:<br><input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment 2</u> <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                   |

### Additional Requirements Comment

**In Attachment 2, each of the sub-attachments (2-1 through 2-4) addresses a separate permit condition and provides requested permit language in a track change format.**

**ATTACHMENT 2**  
**REQUESTED REVISIONS TO TV PERMIT**

## ATTACHMENT 2-1

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

---

#### ESTIMATED POTENTIAL TO EMIT (PTE) PARAMETERS

**A.1. Permitted 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 59F temperature, 60% relative humidity, 100% load and 14.7 psi pressure, shall not exceed ~~4,642~~ **1,704** million Btu per hour (MMBtu/hr) when firing natural gas, nor ~~4,806~~ **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-280].

**A.5. Hours of Operation.** The stationary gas turbines are allowed to operate an average of 3,390 hours per unit, including ~~up to~~ **an average of** 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-280; and 1010373-006-AV]

## ATTACHMENT 2-2

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

---

#### EMISSION LIMITATIONS AND STANDARDS

**A.9.c. Reduction Plan.** The permittee shall develop a NOx 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 NOx 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 NOx emissions for each rate and noting any problems with performance. Based on the test results, the plan shall recommend a new NOx 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 NOx 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-280; and 1010373-006-AV]

## ATTACHMENT 2-3

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

---

#### TEST METHODS AND PROCEDURES

**A.21. 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 combustor~~; 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 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 ~~207E~~, "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-280; and 1010373-001-AC/PSD-FL-280 amendment]

## ATTACHMENT 2-4

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

---

#### EXCESS EMISSIONS

##### A.16. Excess Emissions Allowed.

CEMS Data Exclusion – DLN Tuning. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMSD compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or major maintenance to a combustor. Prior to performing any major tuning session, the permittee shall provide the Department's Southwest District Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Rule 62-4.070(3), F.A.C.]

**ATTACHMENT 3**  
**HEAT INPUT EMISSIONS ASSESSMENT**



### Shady Hills GE 7FA CTs

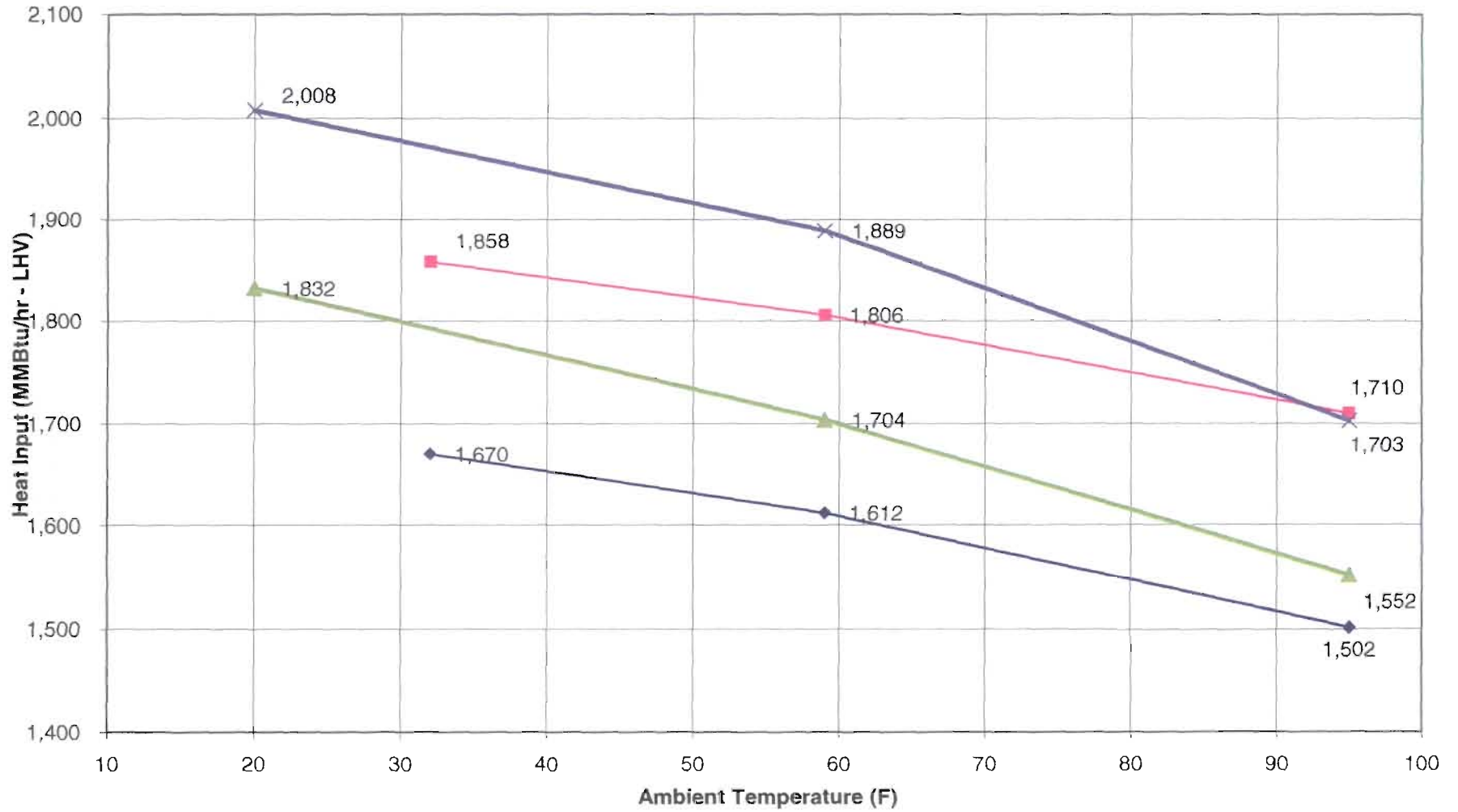


TABLE 1-A

2003 FACILITY EMISSIONS SUMMARY  
SHADY HILLS POWER COMPANY, LLC

| Air Pollutant    | Emission Unit 001 |                 | Emission Unit 002 |                 | Emission Unit 003 |                 | Total 2003 Emissions (TPY) |
|------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------|
|                  | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) |                            |
| CO               | 1.26              | 0.36            | 0.31              | 0.45            | 0.76              | 0.14            | 3.28                       |
| NO <sub>x</sub>  | 26.7              | 36.4            | 29.6              | 47.3            | 28.9              | 30.4            | 199.2                      |
| Pb               | 0                 | 0.0028          | 0                 | 0.0039          | 0                 | 0.0026          | 0.009                      |
| PM               | 1.6               | 0.9             | 1.8               | 1.2             | 1.8               | 0.8             | 8.0                        |
| PM <sub>10</sub> | 1.6               | 0.9             | 1.8               | 1.2             | 1.8               | 0.8             | 8.0                        |
| SO <sub>2</sub>  | 0.5               | 10.3            | 0.6               | 13.9            | 0.6               | 8.7             | 34.6                       |
| VOC              | 0.10              | 0.02            | 0.10              | 0.03            | 0.11              | 0.02            | 0.39                       |

**TABLE 1-B**

**2004 FACILITY EMISSIONS SUMMARY  
SHADY HILLS POWER COMPANY, LLC**

| Air Pollutant    | Emission Unit 001 |                 | Emission Unit 002 |                 | Emission Unit 003 |                 | Total 2004 Emissions (TPY) |
|------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------|
|                  | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) |                            |
| CO               | 0.1               | 0.2             | 0.2               | 0.1             | 0.3               | 0.1             | 1.1                        |
| NO <sub>x</sub>  | 16.1              | 25.1            | 17.4              | 13.7            | 18.5              | 17.9            | 108.7                      |
| Pb               | 0                 | 0.0019          | 0                 | 0.0011          | 0                 | 0.0015          | 0.005                      |
| PM               | 0.9               | 0.6             | 1.0               | 0.3             | 1.1               | 0.5             | 4.4                        |
| PM <sub>10</sub> | 0.9               | 0.6             | 1.0               | 0.3             | 1.1               | 0.5             | 4.4                        |
| SO <sub>2</sub>  | 0.3               | 6.8             | 0.3               | 4.0             | 0.4               | 5.2             | 16.9                       |
| VOC              | 0.06              | 0.01            | 0.06              | 0.01            | 0.08              | 0.01            | 0.23                       |

TABLE 1-C

2005 FACILITY EMISSIONS SUMMARY  
SHADY HILLS POWER COMPANY, LLC

| Air Pollutant    | Emission Unit 001 |                 | Emission Unit 002 |                 | Emission Unit 003 |                 | Total 2005 Emissions (TPY) |
|------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------|
|                  | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) |                            |
| CO               | 0.2               | 0.1             | 0.7               | 0.1             | 0.1               | 0.0             | 1.2                        |
| NO <sub>x</sub>  | 20.5              | 7.9             | 20.0              | 10.2            | 20.7              | 8.8             | 88.1                       |
| Pb               | 0                 | 0.0005          | 0                 | 0.0008          | 0                 | 0.0007          | 0.002                      |
| PM               | 1.2               | 0.2             | 1.1               | 0.3             | 1.1               | 0.2             | 3.9                        |
| PM <sub>10</sub> | 1.2               | 0.2             | 1.1               | 0.3             | 1.1               | 0.2             | 3.9                        |
| SO <sub>2</sub>  | 0.4               | 1.9             | 0.4               | 2.9             | 0.4               | 2.3             | 8.1                        |
| VOC              | 0.08              | 0.00            | 0.07              | 0.01            | 0.07              | 0.01            | 0.23                       |

Reviewed by:  
Revised on:

Golder Associates

**TABLE 1-D**

**2006 FACILITY EMISSIONS SUMMARY  
SHADY HILLS POWER COMPANY, LLC**

| Air Pollutant    | Emission Unit 001 |                 | Emission Unit 002 |                 | Emission Unit 003 |                 | Total 2006 Emissions (TPY) |
|------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------|
|                  | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) |                            |
| CO               | 0.3               | 0.0             | 0.2               | 0.0             | 0.4               | 0.0             | 0.9                        |
| NO <sub>x</sub>  | 20.3              | 0.1             | 19.8              | 0.1             | 20.1              | 0.1             | 60.5                       |
| Pb               | 0                 | 0               | 0                 | 0               | 0                 | 0               | 0.0                        |
| PM               | 1.1               | 0.0             | 1.1               | 0.0             | 1.1               | 0.0             | 3.2                        |
| PM <sub>10</sub> | 1.1               | 0.0             | 1.1               | 0.0             | 1.1               | 0.0             | 3.2                        |
| SO <sub>2</sub>  | 0.4               | 0.0             | 0.4               | 0.0             | 0.4               | 0.0             | 1.1                        |
| VOC              | 0.07              | 0.00            | 0.07              | 0.00            | 0.07              | 0.00            | 0.20                       |

TABLE 1-E

2007 FACILITY EMISSIONS SUMMARY  
SHADY HILLS POWER COMPANY, LLC

| Air Pollutant    | Emission Unit 001 |                 | Emission Unit 002 |                 | Emission Unit 003 |                 | Total 2007 Emissions (TPY) |
|------------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|----------------------------|
|                  | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) | Nat. Gas (TPY)    | Dist. Oil (TPY) |                            |
| CO               | 1.0               | 0.1             | 1.0               | 0.1             | 0.6               | 0.1             | 2.8                        |
| NO <sub>x</sub>  | 58.3              | 9.4             | 55.4              | 8.7             | 59.2              | 11.9            | 202.8                      |
| Pb               | 0                 | 0.0006          | 0                 | 0.0007          | 0                 | 0.0009          | 0.002                      |
| PM               | 3.6               | 0.2             | 3.3               | 0.2             | 3.7               | 0.3             | 11.2                       |
| PM <sub>10</sub> | 3.6               | 0.2             | 3.3               | 0.2             | 3.7               | 0.3             | 11.2                       |
| SO <sub>2</sub>  | 1.2               | 2.4             | 1.1               | 2.4             | 1.2               | 3.1             | 11.3                       |
| VOC              | 0.22              | 0.01            | 0.20              | 0.01            | 0.22              | 0.01            | 0.65                       |

TABLE 1-F

EMISSION ANALYSIS  
SHADY HILLS POWER COMPANY, LLC

| Air Pollutant    | Total 2003 Emissions (Tons/Year) | Total 2004 Emissions (Tons/Year) | Total 2005 Emissions (Tons/Year) | Total 2006 Emissions (Tons/Year) | Total 2007 Emissions (Tons/Year) | Highest 2-yr Average | CY        |
|------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------|-----------|
| CO               | 3.3                              | 1.1                              | 1.2                              | 0.9                              | 2.8                              | 2.2                  | 2003-2004 |
| NO <sub>x</sub>  | 199.2                            | 108.7                            | 88.1                             | 60.5                             | 202.8                            | 153.9                | 2003-2004 |
| Pb               | 0.009                            | 0.005                            | 0.002                            | 0.000                            | 0.002                            | 0.007                | 2003-2004 |
| PM               | 8.0                              | 4.4                              | 3.9                              | 3.2                              | 11.2                             | 7.2                  | 2006-2007 |
| PM <sub>10</sub> | 8.0                              | 4.4                              | 3.9                              | 3.2                              | 11.2                             | 7.2                  | 2006-2007 |
| SO <sub>2</sub>  | 34.6                             | 16.9                             | 8.1                              | 1.1                              | 11.3                             | 25.8                 | 2003-2004 |
| VOC              | 0.4                              | 0.2                              | 0.2                              | 0.2                              | 0.6                              | 0.4                  | 2006-2007 |

Reviewed by:  
Reviewed on:

Golder Associates

**TABLE 1-G**

**EMISSION ANALYSIS  
SHADY HILLS POWER COMPANY, LLC**

| Air Pollutant    | Highest 2-yr Average (TPY) | 6% HI Increase (TPY)* | PSD Netting Analysis |         |       |
|------------------|----------------------------|-----------------------|----------------------|---------|-------|
|                  |                            |                       | Increase (TPY)       | PSD SER | PSD ? |
| CO               | 2.2                        | 2.3                   | 0.1                  | 100     | NO    |
| NO <sub>x</sub>  | 153.9                      | 163.2                 | 9.2                  | 40      | NO    |
| Pb               | 0.0                        | 0.0                   | 0.0                  | 1       | NO    |
| PM               | 7.2                        | 7.6                   | 0.4                  | 25      | NO    |
| PM <sub>10</sub> | 7.2                        | 7.6                   | 0.4                  | 15      | NO    |
| SO <sub>2</sub>  | 25.8                       | 27.3                  | 1.5                  | 40      | NO    |
| VOC              | 0.4                        | 0.4                   | 0.0                  | 40      | NO    |

\* While the request is for a 6% increase in heat input for natural gas-firing and a 5% increase in heat input for fuel oil-firing, the emissions increase is conservatively estimated at 6% for both fuels.