INTEROFFICE MEMORANDUM

TO:

Trina Vielhauer

THRU:

Jeff Koerne

FROM:

Bruce Mitchell

DATE:

November 14, 2007

SUBJECT:

Shady Hills Power Company, LLC – Shady Hills Generating Station

Title V Air Operation Permit Renewal

PROPOSED Permit Project No. 1010373-006-AV

Attached is the PROPOSED Permit Renewal for the Shady Hills Generating Station located at 14240 Merchant Energy Way, Spring Hill, Pasco County. Two minor comments were received during the comment period and are addressed in the PROPOSED Determination.

Attachments

TLV/jfk/bm



Florida Department of Environmental Protection

Bob Martinez Center 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

November 15, 2007

Electronically Sent - Received Receipt Requested

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

Re:

PROPOSED Title V Air Operation Permit Renewal

Project No. 1010373-006-AV Shady Hills Generating Station

Dear Mr. Belden:

One copy of the PROPOSED Determination for the Title V permit renewal for the Shady Hills Generating Station, located at 14240 Merchant Energy Way, Spring Hill, Pasco County, is enclosed. This letter is only a courtesy to inform you that the DRAFT Title V permit has become a PROPOSED Title V permit.

An electronic version of this determination has been provided to the United States Environmental Protection Agency (USEPA) Region 4 office for their review.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED Title V permit is made by the USEPA within 45 days, the PROPOSED Title V permit will become a FINAL Title V permit no later than 55 days after the date on which the PROPOSED Title V permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED Title V permit, the FINAL Title V permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Bruce Mitchell at 850/413-9198.

Sincerely,

Trina L. Vielhauer

Chief

Bureau of Air Regulation

Lua Nielhaur

TLV/jfk/rbm

Enclosures

Copy furnished to:

Roy S. Belden, Shady Hills Power Company, LLC (roy.belden@ge.com)

Bruce Lobach, Shady Hills Generating Station (bruce.lobach@ge.com)

Rick Waggoner, Compliance Opportunities Group, LLC (rick.waggoner@complianceops.com)

Kennard F. Kosky, Golder Associates Inc. (kkosky@golder.com)

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

Posted for EPA Region 4 Review

PROPOSED Determination

Shady Hills Generating Station

Title V Permit Renewal PROPOSED Title V Permit Project No. 1010373-006-AV

I. Public Notice.

An Intent to Issue Title V Air Operation Permit Renewal for the Shady Hills Generating Station, located at 14240 Merchant Energy Way, Spring Hill, Pasco County, was clerked on October 9, 2007. The Public Notice of Intent to Issue Title V Air Operation Permit Renewal was published in the St. Petersburg Times on October 15, 2007. The DRAFT Permit was available for public inspection at the permitting authority's office in Tallahassee. Proof of publication of the Public Notice of Intent to Issue Title V Air Operation Permit Renewal was received on October 18, 2007, via e-mail.

II. Public Comment(s).

Mr. Roy S. Belden, V.P. and R.O., Shady Hills Power Company, LLC, submitted comments on November 14, 2007, via facsimile and e-mail. Referenced below are the comments and the responses to the comments.

- A. Facsimile and e-mail from Mr. Roy S. Belden received November 14, 2007.
- 1. DRAFT Title V Permit.
- **a.** Comment. Since the initial VOC performance tests have been completed, a request was made to include a statement that this has been done in specific condition A.20.

Response. The request is acceptable and the following is added to specific condition A.20.: The initial VOC test requirement has been satisfied.

b. Comment. The first specific condition A.33. should be renumbered to A.32.

Response. The request is acceptable and the correction is made.

III. Conclusion.

The permitting authority will issue the PROPOSED Title V Operation Permit Renewal, No. 1010373-006-AV, with any changes noted above.

Shady Hills Power Company, LLC Shady Hills Generating Station Facility ID No. 1010373 Pasco County

Title V Air Operation Permit Renewal PROPOSED Permit Project No. 1010373-006-AV

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Permitting North Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114 Facsimile: 850/921-9533

Compliance Authority:

Department of Environmental Protection
Southwest District Office
Air Resource Section
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone, \$13/632, 7600

Telephone: 813/632-7600 Facsimile: 813/632-7668

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Permittee:

Shady Hills Power Company, LLC 120 Long Ridge Road Stamford, Connecticut 06927 PROPOSED Permit No. 1010373-006-AV Shady Hills Generating Station Facility ID No. 1010373 SIC No. 4911

The purpose of this permitting action is to renew the Title V air operation permit. The existing facility is located at 14240 Merchant Energy Way, Shady Hills, Pasco County; UTM Coordinates: Zone 17, 347.0 km East and 3139.0 km North; Latitude: 28° 22' 00" North and Longitude: 82° 30' 00" West.

This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Effective Date: January 1, 2008

Renewal Application Due Date: July 5, 2012

Expiration Date: December 31, 2012

(Draft)

Joseph Kahn, Director Division of Air Resource Management

JK/tlv/jfk/bm

Subsection A. Facility Description.

This facility consists of three, dual-fuel, nominal 170 megawatt (MW) General Electric Frame 7FA combustion turbine-electrical generators (Model PG 7241FA), three exhaust stacks that are 18 feet in diameter and 75 feet tall, and one 2.8-million gallon distillate fuel oil storage tank. The combustion turbine units can operate in simple-cycle mode and intermittent duty mode. The units are equipped with Dry Low-nitrogen oxides or Dry Low-NOx combustors and water injection capability. Also included in this permit are miscellaneous insignificant and unregulated emissions units and activities.

Dry Low-NOx combustors are used to control NOx emissions when firing natural gas. Water injection systems are used to control NOx emissions when firing distillate oil. Compliance Assurance Monitoring (CAM) does not apply to these emissions units because compliance is demonstrated by using a NOx continuous emissions monitoring system (CEMS).

Based on the initial Title V permit application received July 3, 2007, this facility is *not* a major source of hazardous air pollutants (HAP).

Subsection B. Summary of Emissions Units.

Regulated Emissions Units

EU No.	Brief Description
-001	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator
-002	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator
-003	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator

Unregulated Emissions Unit

	•		
-004	Distillate Fuel Oil Storage Tank	•	

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit ID Nos. on all correspondence, test report submittals, applications, etc.

SECTION II. FACILITY-WIDE CONDITIONS

The following conditions apply facility-wide:

- 1. <u>Appendices</u>. The Appendices identified in the Table of Contents are attached as an enforceable part of the permit unless otherwise indicated.
- 2. Prevention of Accidental Releases (Section 112(r) of CAA).
- a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to: RMP Reporting Center, Post Office Box 1515, Lanham-Seabrook, MD 20703-1515. The telephone number is 301/429-5018; and,
- b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C. [40 CFR 68]
- 3. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. See Condition 51. of Appendix TV-6, Title V Conditions. [Rules 62-213.440(3) and 62-213.900, F.A.C.]
- **4.** Compliance Authority. The permittee shall submit all compliance related notifications and reports required of this permit to: Department of Environmental Protection, Southwest District Office, Air Resource Section, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926. The telephone number is 813/632-7600 and facsimile number is 813/632-7668.
- **5.** <u>U.S. EPA Region 4</u>. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to: United States Environmental Protection Agency, Region 4, Air, Pesticides & Toxics Management Division, Air & EPCRA Enforcement Branch, Air Enforcement Section, 61 Forsyth Street, Atlanta, Georgia 30303-8960. The telephone number is 404/562-9155 and the facsimile number is 404/562-9163.
- 6. Certification by Responsible Official (R.O.). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a R.O. that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any R.O. who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

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

EU Nos.	Brief Description					
001, 002 and	Simple-cycle Units 1, 2 and 3 are identical systems. The initial startup date for the					
003	simple-cycle units was 12/20/2001. Each unit consists of a General Electric Frame					
	7FA (Model PG 7241FA) combustion turbine-electrical generator rated at a nominal					
	170 megawatts. Each unit is fired with pipeline natural gas and No. 2 distillate fuel oil					
	and uses dry low emission combustor technology. Each unit has its own stack that is					
	18 feet in diameter and 75 feet tall. Each unit can operate in simple-cycle mode and					
	intermittent duty mode. Each unit is equipped with Dry Low-NOx combustors and					
	water injection capability to minimize NOx emissions. A CEMS is used for					
	determining compliance with NOx.					

These emissions units are regulated under Acid Rain-Phase II, 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800, F.A.C.; and, Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), including a determination of Best Available Control Technology (BACT) as established in Permit No. 1010373-001-AC/PSD-FL-280. Dry Low-NOx combustors are used to control NOx emissions when firing natural gas. Water injection systems are used to control NOx emissions when firing distillate oil. CAM does not apply to these emissions units because compliance is demonstrated by using a NOx CEMS.

ESSENTIAL 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 59°F temperature, 60% relative humidity, 100% load and 14.7 psi pressure, shall not exceed 1,612 million Btu per hour (MMBtu/hr) when firing natural gas, nor 1,806 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.2.** Emissions Units Operating Rate Limitation After Testing. The operating rate of an emissions unit may be restricted based on compliance testing. See Appendix STR (Stack Testing Requirements). [Rule 62-297.310(2), F.A.C.]
- **A.3.** Methods of Operation Fuels. Only pipeline natural gas or No. 2 fuel oil or superior grade of distillate fuel oil shall be fired in these units. {Note: The limitation of this specific condition is more stringent than the NSPS sulfur dioxide limitation and thus assures compliance with 40 CFR 60.333 and 60.334.} [Rule 62-210.200(PTE), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.4.** <u>Fuel Oil Usage.</u> The amount of back-up fuel (fuel oil) burned at the site (in Btu's) shall not exceed the amount of natural gas (primary fuel) burned at the site (in Btu's) during any consecutive 12-month period. [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 1,000 hours on fuel oil 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]

SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

CONTROL TECHNOLOGY

- **A.6.** <u>Dry Low-NOx Combustors</u>. The Dry Low-NOx (DLN-2.6) combustors shall be used on the stationary combustion turbines to control NOx emissions while firing natural gas. The DLN-2.6 combustor systems shall each be tuned to optimize emissions reductions consistent with normal operation and maintenance practices and shall be maintained to minimize NOx emissions and CO emissions, consistent with normal operation and maintenance practices. Operation of the DLN systems in the diffusion-firing mode shall be minimized when firing natural gas. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.7.** Water Injection System. The water injection system shall be used when firing No. 2 or superior grade distillate fuel oil for control of NOx emissions. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]

EMISSION LIMITATIONS AND STANDARDS

{Permitting Note: Unless otherwise specified, the averaging times for the emission limitations are based on the specified averaging time of the applicable test method.}

A.8. The following is a summary of the emission limits and required control technology. These limits, or their equivalent in terms of lbs/hr or NSPS units, are followed by the applicable specific conditions.

POLLUTANT	CONTROL TECHNOLOGY	EMISSION LIMIT
Particulate Matter (PM/PM10)	Pipeline Natural Gas Good Combustion	10/17 lbs/hr (Gas/Fuel Oil)
Visible Emissions (VE)	Pipeline Natural Gas Good Combustion	10 Percent Opacity (Gas or Fuel Oil)
Volatile Organic Compounds (VOC) (not PSD)	Pipeline Natural Gas Good Combustion	1.4 ppmvd (Gas) 7 ppmvw (Fuel Oil)
Carbon Monoxide (CO)	Pipeline Natural Gas Good Combustion	12 ppmvd (Gas) 20 ppmvd (Fuel Oil)
Sulfur Dioxide (SO ₂) and Sulfuric Acid Mist (SAM)	Pipeline Natural Gas Low Sulfur Fuel Oil	<1 gr S/100 scf (in Gas) 0.05% sulfur, by weight (in Fuel Oil)
NOx	Dry Low-NOx for Natural Gas Wet Injection and limited Fuel Oil usage	9 ppmvd @ 15% O ₂ (Gas) 42 ppmvd @ 15% O ₂ (Fuel Oil)

[Rules 62-212.400(BACT) and 62-210.200(PTE) F.A.C.; and 1010373-001-AC]

A.9. NOx Emissions.

- a. While Firing Natural Gas. The emission rate of NOx in the exhaust gas shall not exceed 9 ppmvd @ 15% O₂ on a 24-hr block average (of valid hours during which the unit is operated only) as measured by the CEMS. See specific condition **A.23.** for a discussion of valid hours contributing to the block average. In addition, NOx emissions calculated as NO₂ shall not exceed 64.1 lbs/hr (at ISO conditions) and 9 ppmvd @ 15% O₂ to be demonstrated by stack test. [Rule 62-212.400(BACT), F.A.C.]
- b. While Firing Fuel Oil. The concentration of NOx in the exhaust gas shall not exceed 42 ppmvd at 15% O₂ on the basis of a 3-hr average (of valid hour hours during which the unit is actually operated only) as measured by the CEMS. In addition, NOx emissions calculated as NO₂ shall not exceed 351 lbs/hr (at ISO conditions) and 42 ppmvd @ 15% O₂ to be demonstrated by stack test. [Rule 62-212.400(BACT), F.A.C.]

SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

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. 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]

- **A.10.** CO Emissions. The concentration of CO in the stack exhaust gas shall exceed neither 12 ppmvd nor 42.5 lbs/hr (at ISO conditions) while firing gas, and neither 20 ppmvd nor 71.4 lbs/hr (at ISO conditions) while firing fuel oil. The permittee shall demonstrate compliance with these limits annually by stack testing using EPA Method 10. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.11.** <u>VOC Emissions</u>. The concentration of VOC in the stack exhaust gas with the combustion turbine operating on natural gas shall exceed neither 1.4 ppmvd nor 2.8 lbs/hr (at ISO conditions) and neither 7 ppmvw nor 16.2 lbs/hr (at ISO conditions) while firing fuel oil and demonstrated by *initial* stack test using EPA Method 18, 25 or 25A. The initial test requirement has been satisfied. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.12.** SO₂ Emissions. SO₂ emissions shall be limited by firing pipeline natural gas or No. 2 or superior grade distillate fuel oil. Emissions of SO₂ (at ISO conditions) shall not exceed 5 lbs/hr (natural gas) and 98.7 lbs/hr (fuel oil). The permittee shall demonstrate compliance with these limits annually by stack testing using EPA Method 20 or by fuel monitoring provisions of this permit. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.13.** PM/PM₁₀. PM/PM₁₀ emissions shall not exceed 10 lbs/hr when operating on natural gas and 17 lbs/hr when operating on fuel oil. VE testing shall serve as a surrogate for PM/PM₁₀ compliance testing. If a compliance test is required to demonstrate compliance with these limits, the permittee shall stack test using EPA Method 5 or 17. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.14.** <u>VE</u>. VE emissions shall not exceed 10% opacity and serve as a surrogate for PM/PM₁₀ emissions. The permittee shall demonstrate compliance with this limit annually by using EPA Method 9. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.15.** Fuel Sulfur Content. The sulfur content of the pipeline natural gas shall be less than 1 grain per 100 standard cubic feet. The maximum sulfur content of the No. 2 or superior grade distillate fuel oil is 0.05 percent, by weight. [Rule 62-212.400(BACT), F.A.C.; and 1010373-001-AC/PSD-FL-280]

EXCESS EMISSIONS

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of a NSPS or NESHAP provision.}

A.16. Excess Emissions - Allowed. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. Operation below 50% output shall

SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

be limited to 2 hours per unit cycle (breaker closed to breaker open). [Rule 62-210.700(1), F.A.C.; and 1010373-001-AC/PSD-FL-280]

- **A.17.** Excess Emissions Prohibited. Excess emissions entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C. These emissions shall be included in the 24-hr average for NOx. [Rule 62-210.700(4), F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.18.** Excess Emissions NSPS. For excess emissions regarding the NSPS Subpart GG provisions, see Appendix NA (NSPS Subpart A General Provisions) and Appendix NGG (NSPS Subpart GG Stationary Gas Turbines). [40 CFR 60.7 and 40 CFR 60, Subpart GG]

TEST METHODS AND PROCEDURES

- **A.19.** Testing Requirements. See Appendix STR (Stack Testing Requirements) of this permit for notification, testing, recordkeeping and reporting requirements regarding a performance test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. [Rule 62-297.310, F.A.C.; and 1010373-001-AC/PSD-FL-280]
- **A.20.** <u>Initial Compliance Test for VOC</u>. An *initial* test is required to demonstrate compliance with the VOC emission limit using EPA Method 18, 25 and/or 25A as described in 40 CFR 60, Appendix A. Thereafter, compliance with the CO emission limit will serve as a surrogate for VOC and no annual testing for VOC is required. The initial VOC test requirement has been satisfied. [1010373-001-AC/PSD-FL-280]
- **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/PM10 (VE surrogate), after any modification (and shake down period not to exceed 100 days after re-starting the combustion turbine) of air pollution control equipment such as change or tuning of combustors; and, these tests are allowed to be conducted at a single load in lieu of the four loads.
- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources".
- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources". Compliance testing for CO may be conducted at less than capacity when compliance testing is conducted concurrent with the annual Relative Accuracy and Test Audit (RATA) testing for the NOx CEMS required pursuant to 40 CFR 75.
- EPA Reference Method 20, "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]

MONITORING OF OPERATIONS

A.22. <u>CEMS</u>. The permittee shall calibrate, maintain, and operate a CEMS in the stack to measure and record the NOx emissions from these units. Upon request from the EPA or the Compliance Authority, the CEMS emission rates for NOx on these units shall be corrected to ISO conditions to demonstrate compliance with the NOx standard established in 40 CFR 60.332. [40 CFR 75; 40 CFR 60.7; and 1010373-001-AC/PSD-FL-280]

SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

A.23. Continuous Compliance with the NOx Emission Limits. Continuous compliance with the NOx emission limits shall be demonstrated with the CEMS based on the applicable averaging time of 24-hr block average. Based on CEMS data, a separate compliance determination is conducted at the end of each operating day and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous operating day. A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at least 15 minutes apart. Valid hourly emission rates shall not include periods of startup, shutdown, or malfunction unless prohibited by Rule 62-210.700, F.A.C. These excess emissions periods shall be reported as required in specific conditions **A.16.** and **A.17.**

All CEMS shall be in continuous operation except for breakdowns, repairs, calibration checks, and zero and span adjustments. These CEMS shall meet minimum frequency of operation requirements: one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data average. [Rules 62-4.070 and 62-210.700, F.A.C.; 40 CFR 75; 40 CFR 60.13; and 1010373-001-AC/PSD-FL-280]

- **A.24.** CEMS for Reporting Excess Emissions. Excess Emissions and Monitoring System Performance Reports shall be submitted as specified in 40 CFR 60.7(c). CEMS monitor downtime shall be calculated and reported according to the requirements of 40 CFR 60.7(c)(3) and 40 CFR 60.7(d)(2). Periods when the NOx emissions (ppmvd @ 15% oxygen) are above the BACT standards shall be reported to the Compliance Authority within one working day (verbally) followed up by a written explanation not later than three working days (alternatively by facsimile within one working day). [1010373-001-AC/PSD-FL-280]
- **A.25.** CEMS in Lieu of Water to Fuel Ratio. The NOx CEMS data shall be used for identifying excess emissions in accordance with 40 CFR 60.334(b)(3). The calibration of the water/fuel monitoring device required in 40 CFR 60.335(b)(4) will be replaced by the 40 CFR 75 certification tests of the NOx CEMS. [1010373-001-AC/PSD-FL-280; 40 CFR 60.334(b)(3); and application No. 1010373-006-AV]
- A.26. Continuous Monitoring Certification and Quality Assurance Requirements. The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F, or 40 CFR 75. [1010373-001-AC/PSD-FL-280]
- **A.27.** Natural Gas Custom Fuel Monitoring Schedule. A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used as long as the following conditions are met:
 - a. The permittee shall use a primary fuel of pipeline supplied natural gas (sulfur content less than 1 gr/100 scf pursuant to 40 CFR 75.11(d)(2)).
 - b. Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.
 - c. This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO₂ emissions must be accounted for as required pursuant to 40 CFR 75.11(d).

[1010373-001-AC/PSD-FL-280]

A.28. Natural Gas Monitoring. The owner or operator shall monitor and maintain records of sulfur content of the natural gas pursuant to the custom fuel monitoring schedule. The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions) for natural gas. The analysis may be

SUBSECTION A. SIMPLE-CYCLE COMBUSTION TURBINES 1, 2 AND 3

performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard, either the ASTM methods D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA-approved custom fuel monitoring schedule, or the natural gas supplier data may be submitted or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be utilized. However, the applicant is responsible for ensuring that the procedures in 40 CFR 60.335 or 40 CFR 75 are used when determination of the fuel sulfur content is made. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e). [Rules 62-4.070(3) and 62-213.440, F.A.C.; 1010373-001-AC/PSD-FL-280; and 40 CFR 60.335(b)(10) & (11)]

A.29. Fuel Oil Monitoring Schedule. The monitoring schedule for the No. 2 or superior grade fuel oil shall be as follows: For all bulk shipments of No. 2 fuel oil or superior grade fuel oil received at this facility, an analysis which reports the sulfur content, by weight, of the fuel oil shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analysis was conducted and shall comply with the requirements of 40 CFR 60.334(i)(1). For liquid fuels, 40 CFR 60.335(b)(10)(i) allows the following test methods for liquid fuel sulfur analysis: ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00 or D1552-01 (all of which are incorporated by reference, see 40 CFR 60.17). [1010373-001-AC/PSD-FL-280; 40 CFR 60.335(b)(10); and 1010373-006-AV]

RECORDKEEPING AND RECORDING REQUIREMENTS

- **A.30.** Excess Emissions Report. If excess emissions occur due to malfunction, the owner or operator shall notify the Compliance Authority within one working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Following the NSPS format, 40 CFR 60.7, Subpart A, periods of startup, shutdown, malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; 40 CFR 60.7; and 1010373-001-AC/PSD-FL-280]
- **A.31.** Excess Emissions. For additional recordkeeping, reporting and notification requirements, see Appendices CC and NA. [Rule 62-210.700(6), F.A.C.; and 40 CFR 60.7]
- **A.32.** Recordkeeping, Reporting and Notification Requirements. For additional recordkeeping, reporting and notification requirements, see Appendices CC, STR, NA and NGG. [Rule 62-4.070(3), F.A.C.]
- **A.33.** Additional Reports Required. The owner or operator shall report the following with the Air Operating Report (AOR): sulfur content and LHV of the fuel being fired, annual fuel consumption of natural gas and distillate fuel oil, and hours of operation per fuel usage. See also Appendix CC. [Rule 62-210.370(3), F.A.C.; and 1010373-001-AC/PSD-FL-280]

TRAINING REQUIREMENTS

A.34. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.; and 1010373-001-AC]

BACT DETERMINATION

A.35. Source Obligation. In accordance with Rule 62-212.400(12)(a), F.A.C. (and 40 CFR 51.166(j)(4)), the BACT determination shall be reviewed and modified as appropriate in the event of a plant conversion. This

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

paragraph states: "For phased construction project, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source." This reassessment will also be conducted for this project if there are any increases in heat input limits, hours of operation, oil firing, low or base load operation (e.g., conversion to combined-cycle operation), short-term or annual emission limits, annual fuel heat input limits or similar changes. [40 CFR 51.166(j)(4); Rule 62-212.400(12)(a), F.A.C.; and 1010373-001-AC/PSD-FL-280]

SECTION IV. ACID RAIN PART

Facility: Shady Hills Generating Station

ORIS code: 55414

The emissions units listed below are regulated under Phase II of the Federal Acid Rain Program.

EU No.	Brief Description
001	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator
002	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator
003	One nominal 170 Megawatt Gas Simple-Cycle Combustion Turbine-Electrical Generator

1. The Acid Rain Part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these acid rain units must comply with the standard requirements and special provisions set forth in the following application: DEP Form No. 62-210.900(1)(a), version 06/16/2003, received 09/25/2007.

[Chapter 62-213 and Rule 62-214.320, F.A.C.]

2. Summary of SO₂ Allowances. SO₂ allowance allocations requirements for each Acid Rain unit are as follows:

FUN	EPA ID	SO2 Allowances* for Each Year				
EU No.		2008	2009	2010	2011	2012
-001	GT 101	0*	0*	0*	0*	0*
-002	GT 201	0*	0*	0*	. 0*	0*
-003	GT 301	0*	0*	0*	0*	0*

- 3. <u>Emission Allowances</u>. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
 - a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
 - b. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
 - c. Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c)1., 2. & 3., F.A.C.]

4. Where an applicable requirement of the Act is more stringent than applicable regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator. [40 CFR 70.6(a)(1)(ii); and, Rule 62-210.200, F.A.C., Definitions – Applicable Requirements]

Roy S. Belden Shady Hills Power Company, L.L.C 120 Long Ridge Road Stamford, CT 06927 203-357-6820



To:	Mr.	Bruce Mitchell		From:	Roy S. Belden	<u> </u>
Fax:	850	-921-9533		Pages:	2	
Phone	: 			Date:	11/14/2007	
Re:	Sha	dy Hills - Title V Per	mit Comments	CC:		
□ Urg	ent	☐ For Review	☐ Please Co	mment	☐ Please Reply	☐ Please Recycle
• Con						

Mr. Mitchell,

Attached are comments on the draft Title V permit for the Shady Hills Power Company, L.L.C. facility. A hard copy of the comments will also be sent for your files via FedEx for delivery later this week. Please feel free to contact Rick Waggoner or me with any questions on the attached comments. Thank you for considering our comments. Roy Belden

Shady Hills Power Company, L.L.C. 120 Long Ridge Road, Stamford, CT 06927

November 14, 2007

Via Facsimile

Bruce Mitchell FDEP Bureau of Air Regulation, MS #5505 2600 Blair Stone Road Tallahassee, FL 32399-2400

Re:

Shady Hills Power Company, L.L.C. Draft Title V Permit No. 1010373-006-AV Comments to Draft Permit

Dear Mr. Mitchell:

Attached, please find comments for the Shady Hills Power Company, L.L.C. draft Permit No. 1010373-006-AV.

If you have any questions or require additional information, please do not hesitate to call Rick Waggoner, Compliance Opportunities Group, at (817) 313-0920, or Bruce Lobach, Plant Manager, at (727) 857-1787.

Sincerely,

Roy S. Belden Vice President

cc: Bill Stevens – GE Energy Financial Services
Bruce Lobach – Shady Hills Power Company
Rick Waggoner – Compliance Opportunities Group

Shady Hills Power Company, L.L.C.
Title V Air Operation Permit Renewal Project No. 1010373-006-AV
Draft Permit Comments

DRAFT PERMIT No. 1010373-006-AV

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

SUBSECTION A. SIMPLE CYCLE COMBUSTION TURBINES 1, 2 AND 3

Page 7

TEST METHODS AND PROCEDURES

A.20. Initial Compliance Test for VOC. An *initial* test is required to demonstrate compliance with the VOC emission limit using EPA Method 18, 25 and/or 25A as described in 40 CFR 60, Appendix A. Thereafter, compliance with the CO emission limit will serve as a surrogate for VOC and no annual testing for VOC is required. [1010373-001-AC/PSD-FL-280]

Comment:

This initial testing requirement has been completed for all three units. Please insert the language seen in other permit conditions with completed initial requirements, "The initial test requirement has been satisfied."

Page 9

RECORDKEEPING AND RECORDING REQUIREMENTS

A.33. Recordkeeping, Reporting and Notification Requirements. For additional recordkeeping, reporting and notification requirements, see Appendices CC, STR, NA and NGG. [Rule 62-210.370(3), F.A.C.; and 1010373-001-AC/PSD-FL-280]

Comment:

This condition should be numbered A.32.

To:

roy.belden@ge.com; Lobach, Bruce (GE Infra, Energy); rick.waggoner@complianceops.com;

'KKosky@Golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power Company,

LLC - Shady Hills Generating Station

Attachments: 1010373.006.AV.P_pdf[1].zip

Dear Sir/Madam:

A copy of the "<u>PROPOSED PERMIT DETERMINATION</u>" and the related permit documents for the above referenced facility are attached. This e-mail is being provided as a courtesy to inform you that the DRAFT permit has become a PROPOSED permit, and that the PROPOSED permit has been transmitted to the USEPA for their review.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED permit, the FINAL permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

The attached document(s) is(are) in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: http://www.adobe.com/products/acrobat/readstep.html.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

From:

System Administrator

To:

Nasca, Mara

Sent:

Thursday, November 15, 2007 10:28 AM

Subject:

Delivered: PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power

Company, LLC - Shady Hills Generating Station

Your message

To:

'roy.belden@ge.com'; 'Lobach, Bruce (GE Infra, Energy)'; 'rick.waggoner@complianceops.com'; 'KKosky@Golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power Company, LLC - Shady Hills Generating Station

Sent:

11/15/2007 10:28 AM

was delivered to the following recipient(s):

Nasca, Mara on 11/15/2007 10:28 AM

From:

System Administrator

To:

Mitchell, Bruce

Sent:

Thursday, November 15, 2007 10:28 AM

Subject:

Delivered: PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power

Company, LLC - Shady Hills Generating Station

Your message

To:

'roy.belden@qe.com'; 'Lobach, Bruce (GE Infra, Energy)'; 'rick.waggoner@complianceops.com'; 'KKosky@Golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power Company, LLC - Shady Hills Generating Station

Sent:

11/15/2007 10:28 AM

was delivered to the following recipient(s):

Mitchell, Bruce on 11/15/2007 10:28 AM

Florida Department of

Charlie Crist Governor



Kata CitiQn nline-age.net Mail Delivery ENWIGAN

Thursday, November 15, 2007 Friday, Barbara

2600 Blair Stone Road

Jeff Kottkamp Lt. Governor

Tallahassee, Florida 32399-2400

Michael W. Sole Secretary

Attachments:

ATT870995.txt; ATT870996.txt





ATT870995.txt (735 B)

ATT870996.txt (2 KB)

The original message was received at Thu, 15 Nov 2007 10:28:17 -0500 from tlhexsprot2.floridadep.net [199.73.152.8]

---- The following addresses had successful delivery notifications -----<roy.belden@ge.com> (relayed to non-DSN-aware mailer) <bruce.lobach@ge.com> (relayed to non-DSN-aware mailer)

further notifications <roy.belden@ge.com>... relayed; expect no further notifications

Florida Department of

Charlie Crist Governor

Mail Delivery System (MALE) Thursday, November 15, 2007 10:28 AM Bob Martinez Center Friday, Barbara

Jeff Kottkamp Lt. Governor

Successful Mail Delivery Report Blair Stone Road Tallahassee, Florida 32399-2400 Michael W. Sole Secretary

Attachments:

Delivery report; Message Headers





Delivery report.txt (457 B)

Message

Headers.txt(2 KB)
This is the mail system at host sophos.golder.com.

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

The mail system

<KKosky@Golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent 473C6595 14183 232 4

Florida Department of

Charlie Crist Governor

Lobach, Bruce (Se hira, Energy) [bruce.lobach@ge.com]
Undisclosed-recipients
Thursday, November 15, 2007 10:34 AM

Read: PROPOSED Title V2Pernilli Refression Secretary

Secretary

Your message

To:

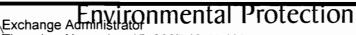
bruce.lobach@ge.com

Subject:

was read on 11/15/2007 10:34 AM.

Florida Department of

Charlie Crist Governor



Thursday, November 15, 2007 10:41 AM Friday, Barbara

Jeff Kottkamp Lt. Governor

Delivery Status Notification (Relay) Stone Road Tallahassee, Florida 32399-2400

Michael W. Sole Secretary

Attachments:

ATT871990.txt; PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills

Power Company, LLC - Shady Hills Generating Station





ATT871990.txt (369 B)

PROPOSED Title V Permit Renewa...

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rick.waggoner@complianceops.com

Florida Department of

Charlie Crist Governor

Nasca, Mara Environmental Protection

Jeff Kottkamp Lt. Governor

Friday, Barbara

Thursday, November 15, 2007 10:41 AM Permit Renew Briton: 1010373-006-AV - Shady Hills Power! W. Sole company, LLC - Shady Hills Sen Entitled Station 0 Secretary

Your message

To:

'roy.belden@ge.com'; 'Lobach, Bruce (GE Infra, Energy)'; 'rick.waggoner@complianceops.com'; 'KKosky@Golder.com'; Nasca, Mara

Cc:

Subject:

PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power Company, LLC - Shady Hills Generating Station

Sent:

11/15/2007 10:28 AM

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From:

rick.waggoner@complianceops.com

Sent:

Thursday, November 15, 2007 10:52 AM

To:

Friday, Barbara

Subject:

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Attachments:

ATT873122.txt



Your message was delivered to the recipient.

Sent via BlackBerry by AT&T

From:

Belden, Roy S (GE Comm Fin) [roy.belden@ge.com]

To:

undisclosed-recipients

Sent:

Thursday, November 15, 2007 11:06 AM

Subject:

Read: PROPOSED Title V Permit Renewal No.: 1010373-006-AV - Shady Hills Power

Company, LLC - Shady Hills Generating Station

Your message

To:

roy.belden@ge.com

Subject:

was read on 11/15/2007 11:06 AM.