Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

May 8, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Steven F. Gilliland, Senior Vice President
Duke Energy North America
5400 Westheimer Court
Houston, TX 77056-5310

Re: Project No. 1110100-001-AC
Draft Air Permit No. PSD-FL-302
Duke Energy Fort Pierce, LLC
Correction to Location Description

Dear Mr. Gilliland:

Enclosed is one copy of the corrected Public Notice document for Duke Energy's project to construct a new 640 MW electrical generating plant located in St. Lucie County, Florida. Your engineering consultant indicated that the description of the project location in the application was in error. The correct description is "located approximately one mile east of the Florida Turnpike and one-half mile north of Midway Road". This is noted for the Department's public file and corrected in the attached Public Notice. In addition, the text "average of" was inserted to clarify that oil firing is limited to *an average of* 500 hours per gas turbine per year.

If you have any, please contact Jeff Koerner at 850/921-9536.

Sincerely,

Jeffery F. Koerner, Project Engineer
New Source Review Section

AAI/jfk

Enclosures

Mr. Steven F. Gilliland, Duke Energy
Mr. Nathan K. Plagens, Duke Energy
Mr. George Howroyd, CH2MHILL
Chair, St. Lucie Board of County Commissioners
Mr. Isidore Goldman, SED
Mr. Gregg Worley, EPA Region 4
Mr. John Bunyak, NPS

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Project No. 1110100-001-AC
Draft Permit PSD-FL-302

Duke Energy Fort Pierce, LLC
Proposed 640 MW Simple Cycle Gas Turbine Plant
Emissions Units 001 - 009

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Duke Energy Fort Pierce, LLC to construct a nominal 640 MW simple cycle gas turbine plant. The proposed plant will be located approximately one mile east of the Florida Turnpike and one-half mile north of Midway Road in St. Lucie County, Florida. The applicant plans to install eight new simple cycle gas turbine-electrical generator sets with inlet air fogging systems and necessary support equipment. Each unit is a General Electric Model PG7121(EA) gas turbine with a nominal generating capacity of 80 MW. The applicant's authorized representative is Mr. Steven F. Gilliland, Senior Vice President of Duke Energy North America. The applicant's mailing address is 5400 Westheimer Court, Houston, TX 77056-5310.

Each simple cycle gas turbine will be fired primarily with pipeline-quality natural gas and very low sulfur distillate oil as a backup fuel. Operation is restricted to an average of 2500 hours per gas turbine per year with no more than an average of 500 hours of oil firing per gas turbine per year. When firing natural gas, nitrogen oxide emissions will be minimized with dry low-NOx combustion technology. When firing very low sulfur distillate oil, nitrogen oxide emissions will be minimized with wet injection and restricted operation. Emissions of carbon monoxide, particulate matter, sulfuric acid mist, sulfur dioxides, and volatile organic compounds will be minimized by the efficient combustion of these clean fuels.

The potential emissions from this project are shown in the following table.

Pollutant	Potential Emissions (Tons Per Year)	Significant Emissions Rate (Tons Per Year)	Significant? (Table 212.400-2)	BACT Required?
CO	540	100	Yes	Yes
NOx	632	40	Yes	Yes
PM/PM10	60	25/15	Yes	Yes
SAM	17	7	Yes	Yes
SO2	147	40	Yes	Yes
VOC	29	40	No	No

As indicated, a determination of Best Available Control Technology (BACT) was required for carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM10), sulfuric acid mist (SAM) and sulfur dioxide (SO2) pursuant to Rule 62-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. An air quality impact analysis was conducted by the applicant and reviewed by the Department. The ambient impact analysis predicted all pollutant emissions to have an insignificant impact on Class I and Class II Areas. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standard. The Department will issue the Final Permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of thirty (30) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

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

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Florida Department of Environmental Protection
Bureau of Air Regulation
(111 S. Magnolia Drive, Suite 4)
2600 Blair Stone Road, MS #5505
Tallahassee, Florida, 32399-2400
Telephone: 850/488-0114
Fax: 850/922-6979

Florida Department of Environmental Protection
Southeast District Office – Air Resources
(400 North Congress Avenue)
P.O. Box 15425
West Palm Beach, Florida 33401
Telephone: 561/681-6600
Fax: 561/681-6790

The complete project file includes the application, Technical Evaluation and Preliminary Determination, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project for additional information at the address and phone numbers listed above.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Steven F. Gilliland
Senior Vice President
Duke Energy North America
5400 Westheimer Court
Houston, TX 77056-5310

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* Trevor Woodrupp — B. Date of Delivery 5/4/01

C. Signature X Trevor Woodrupp ☐ Agent ☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)* 7099 3400 0000 1453 1996

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

7099 3400 0000 1453 1996

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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Return Receipt Fee (Endorsement Required)	
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Total Postage & Fees	$

Postmark Here

Name (Please Print Clearly) (to be completed by mailer) Mr. Steven F. Gilliland
Street, Apt. No., or PO Box No. 5400 Westheimer Ct.
City, State, ZIP+4 Houston, TX 77056-5310

PS Form 3800, July 1999 See Reverse for Instructions

DRAFT PERMIT

PERMITTEE:

Duke Energy North America
5400 Westheimer Court
Houston, TX 77056-5310

Authorized Representative:
Mr. Steven F. Gilliland, Senior Vice President

Duke Energy Fort Pierce, LLC
Project No. 1110100-001-AC
Air Permit No. PSD-FL-302
Facility ID No. 1110100
SIC No. 4911
Expires: December 1, 2002

PROJECT AND LOCATION

This permit authorizes the construction of a new 640 MW electrical generating plant (Duke Energy Fort Pierce, LLC) to be located approximately one-half mile east of the Florida Turnpike and one mile north of Midway Road in St. Lucie County, Florida. The plant will consist of eight simple cycle gas turbine-electrical generator sets, each with a nominal generating capacity of 80 MW. The UTM coordinates are Zone 17, 561.6 km East, and 3029.0 km North.

STATEMENT OF BASIS

This PSD air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and 40 CFR 52.21. Specifically, this permit is issued pursuant to the requirements for the Prevention of Significant Deterioration (PSD) of Air Quality, Rule 62-212.400, F.A.C. The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

APPENDICES

The following Appendices are attached as part of this permit.

Appendix A - Terminology
Appendix BD - BACT Determinations and Emissions Standards Summary
Appendix GC - General Conditions
Appendix GG - NSPS Subpart GG Requirements for Gas Turbines
Appendix XS - CEMS Excess Emissions and Data Exclusion Report

(DRAFT)

Howard L. Rhodes, Director
Division of Air Resources Management

(Date)

FACILITY DESCRIPTION

The new 640 MW electrical generating plant will consist of eight new 80 MW simple cycle gas turbine-electrical generator sets, evaporative inlet air foggers, continuous monitoring equipment, exhaust stacks, and associated support equipment.

NEW EMISSIONS UNITS

This permit authorizes construction of the following new emissions units.

ID No.	Common Emission Unit Description
001 to 008	**Simple Cycle Unit Nos. 1 - 8**: Each simple cycle unit is a General Electric Model PG7121(EA) gas turbine-electrical generator set designed to produce a nominal 80 MW of electrical power fired primarily with natural gas and with very low sulfur distillate oil as a backup fuel.
009	**Distillate Oil Storage Tanks**

REGULATORY CLASSIFICATION

Title III: Based on available data, the new facility is not a major source of hazardous air pollutants (HAP).

Title IV: The new facility is subject to the acid rain provisions of the Clean Air Act.

Title V: The new facility is a Title V major source of air pollution because potential emissions of at least one regulated pollutant exceed 100 tons per year. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

PSD: Emissions of at least one regulated pollutant from the new facility will be greater than 250 tons per year. The project is located in an area designated as in attainment or unclassifiable for each pollutant subject to a National Ambient Air Quality Standard. Therefore, the project is subject to new source preconstruction review in accordance with Rule 62-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality.

NSPS: New units subject to the New Source Performance Standards of 40 CFR 60 include the gas turbines (Subpart GG) and the fuel storage tanks (Subpart Kb).

RELEVANT DOCUMENTS

- Permit application received on 10/05/00 and all related correspondence.

ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP), at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400 and phone number 850/488-0114.

2. Compliance Authorities: All documents related compliance activities such as reports, tests, and notifications should be submitted to the Air Resources Section of the Southeast District Office, Florida Department of Environmental Protection, P.O. Box 15425, West Palm Beach, Florida 33401. The phone number is 561/681-6600 and the fax number is 561/681-6790.

3. Terminology: The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. Appendix A lists frequently used abbreviations and explains the format used to cite rules and regulations in this permit.

4. General Conditions: The permittee is subject to, and shall operate under, the attached General Conditions listed in Appendix GC of this permit. General Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

5. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and the Title 40, Parts 51, 52, 60, 72; 73, and 75 of the Code of Federal Regulations (CFR), adopted by reference in Rule 62-204.800, F.A.C. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

6. PSD Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)]

7. Permit Expiration: For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C]

8. BACT Determination: In conjunction with an extension of the 18-month period to commence or continue construction, phasing of the project, or an extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for the source. [Rule 62-212.400(6)(b), F.A.C. and 40 CFR 51.166(j)(4)]

9. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

10. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

11. Application for Title IV Permit: At least 24 months before the date on which the new unit begins serving an electrical generator greater than 25 MW, the permittee shall submit an application for a Title IV Acid

Rain Permit to the Region 4 office of the U.S. Environmental Protection Agency in Atlanta, Georgia and a copy to the Department's Bureau of Air Regulation in Tallahassee. [40 CFR 72]

12. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least ninety days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's Bureau of Air Regulation, and copies to each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, F.A.C. and Chapter 62-213, F.A.C.]

EMISSIONS AND CONTROLS

13. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

14. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

15. Excess Emissions Prohibited: Excess emissions caused 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. [Rule 62-210.700(4), F.A.C.]

16. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]

TESTING REQUIREMENTS

17. Sampling Facilities: The permittee shall provide stack testing facilities and sampling locations in accordance with Rule 62-297.310(6), F.A.C.

18. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]

19. Test Procedures: Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.

    a. *Required Sampling Time.* Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.

b. *Minimum Sample Volume.* Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

c. *Calibration of Sampling Equipment.* Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

[Rule 62-297.310(4), F.A.C.]

20. Test Notification: The permittee shall notify the Compliance Authority in writing at least 30 days prior to any initial NSPS performance tests and at least 15 days prior to any other required tests. [Rule 62-297.310(7)(a)9., F.A.C.; 40 CFR 60.7 and 60.8]

21. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

22. Determination of Process Variables

a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. [Rule 62-297.310(5)(a), F.A.C.]

b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5)(b), F.A.C.]

23. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

RECORDS AND REPORTS

24. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2., F.A.C.]

25. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to each Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. [Rule 62-297.310(8), F.A.C.]

26. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

This section of the permit addresses the following new emissions units.

Emissions Unit ID Nos. 001 – 008: Simple Cycle Unit Nos. 1 - 8
Each simple cycle unit consists of a General Electric Model PG7121(EA) gas turbine-electrical generator set, an automated gas turbine control system, an inlet air filtration system, an evaporative inlet air cooling system, an exhaust stack that is 93 feet tall and 15 feet in diameter, and associated support equipment. Each unit is fired primarily with pipeline-quality natural gas and very low sulfur distillate oil as a backup fuel. Emissions of CO, PM/PM10, SAM, SO_2, and VOC are minimized by the efficient combustion of these clean fuels at high temperatures. NOx emissions are reduced by dry low-NOx (DLN) combustion technology when firing natural gas and wet injection when firing distillate oil. The automated gas turbine control system modulates critical parameters of the dry low-NOx combustors to achieve a lean, pre-mix steady state operation. At a compressor inlet air temperature of 59° F, operating at 100% load, and firing 977 mmBTU (HHV) per hour of natural gas, each unit produces approximately 84 MW. Exhaust gases exit the stack at 970° F with a volumetric flow rate of approximately 1,570,000 acfm. At a compressor inlet air temperature of 59° F, operating at 100% load, and firing 1007 mmBTU (HHV) per hour of distillate oil, each unit produces approximately 87 MW. Exhaust gases exit the stack at 994° F with a volumetric flow rate of approximately 1,604,000 acfm.

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: The emissions units addressed in this section are subject to Best Available Control Technology (BACT) determinations for carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM10), sulfuric acid mist (SAM) and sulfur dioxide (SO_2). See Appendix BD for the BACT determinations and a summary of the emissions standards. [Rule 62-212.400(BACT), F.A.C.]

2. NSPS Requirements: Each gas turbine shall comply with the following applicable requirements of 40 CFR 60, adopted by reference in Rule 62-204.800(7)(b), F.A.C.

   a. *Subpart A, General Provisions*, including: 40 CFR 60.7 (Notification and Record Keeping), 40 CFR 60.8 (Performance Tests), 40 CFR 60.11 (Compliance with Standards and Maintenance Requirements), 40 CFR 60.12 (Circumvention), 40 CFR 60.13 (Monitoring Requirements), and 40 CFR 60.19 (General Notification and Reporting Requirements).

   b. *Subpart GG, Standards of Performance for Stationary Gas Turbines* as specified in Appendix GG of this permit.

EQUIPMENT

3. Simple Cycle Gas Turbines: The permittee is authorized to install, tune, operate and maintain eight new General Electric Model PG7121(EA) gas turbines with electrical generator sets. Each unit shall be designed and installed as a simple cycle system to include an automated gas turbine control system, General Electric's latest dry low-NOx combustion system, an inlet air filtration system, a compressor inlet air evaporative cooling system, a single exhaust stack that is 93 feet tall and 15.0 feet in diameter, and associated support equipment. Prior to the initial emissions performance tests, each gas turbine and control system shall be tuned to optimize the reduction of NOx emissions. Thereafter, each unit shall be maintained and tuned in accordance with the manufacturer's recommendations. The permittee shall provide at least 7 days advance notice prior to any regularly scheduled tuning performed by the manufacturer. [Applicant Request; Design; Rule 62-212.400(BACT), F.A.C.]

PERFORMANCE RESTRICTIONS

4. Permitted Capacity: The maximum heat input rates to each gas turbine shall not exceed 977 mmBTU per hour when firing natural gas and 1007 mmBTU per hour when firing distillate oil. The maximum heat-input rates are based on 100% load, a compressor inlet air temperature of 59° F, and the higher heating values (HHV) of each fuel. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, and evaporative cooling. The permittee shall provide the manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Design; Rule 62-210.200(PTE), F.A.C.]

5. Fuel Specifications: Each gas turbine shall fire pipeline-quality natural gas as the primary fuel with a maximum of 2 grains of sulfur per 100 SCF of natural gas. As restricted by this permit, No. 2 distillate oil (or a superior grade) may be fired as backup fuel with a maximum of 0.05% sulfur by weight. [Project Design; Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.]

6. Restricted Operation: No individual gas turbine shall operate more than 5000 hours during any consecutive 12-month period. All eight gas turbines (combined) shall not operate more than an average of 2500 hours per installed unit during any consecutive 12-month period. No individual gas turbine shall fire distillate oil for more than 12 hours during any calendar day. No individual gas turbine shall fire distillate oil for more than 1000 hours during any consecutive 12-month period. All eight gas turbines (combined) shall not fire distillate oil for more than an average of 500 hours per installed unit during any consecutive 12-month period. [Applicant Request; Rules 62-212.400(BACT) and 62-210.200(PTE), F.A.C.]

7. Simple Cycle Operation Only: Each gas turbine shall operate only in simple cycle mode. This restriction is based on the permittee's request, which formed the justification for the CO and NOx BACT determinations and resulted in the emission standards specified in this permit. Specifically, the CO and NOx BACT determinations eliminated several control alternatives based on technical considerations due to the elevated temperatures of the exhaust gas as well as costs related to restricted operation. Future conversion of any unit to combined cycle operation or a relaxation in the hours of operation will invoke the source obligation requirements of Rule 62-212.400(2)(g), F.A.C. Such requests will be reviewed as if the simple cycle units had never been constructed with a new determination of the Best Available Control Technology for each significant pollutant. [Applicant Request; Rules 62-210.300 and 62-212.400, F.A.C.]

8. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to minimize emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the simple cycle gas turbines and pollution control systems in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

EMISSIONS STANDARDS

{Permitting Note: The following standards apply to each simple cycle gas turbine. The mass emission limits are based a compressor inlet temperature of 59° F and 100% load. For comparison to the standard, actual measured mass emissions shall be corrected to this compressor inlet temperature with manufacturer's data on file with the Department. Emissions standards with continuous monitoring requirements apply at all loads. Appendix BD provides a summary of the emissions standards of this permit.}

9. Carbon Monoxide (CO)

   a. *First 12 Months*: When firing natural gas, CO emissions from each gas turbine shall not exceed 52.0 pounds per hour nor 25.0 ppmvd corrected to 15% oxygen. When firing low sulfur distillate oil, CO emissions from each gas turbine shall not exceed 43.0 pounds per hour nor 20.0 ppmvd corrected to 15% oxygen. These standards are based on 3-hour test averages conducted at base load as determined by EPA Method 10 and apply during the initial performance tests and during the 12 month period following the initial performance tests.

   b. *After First 12 Months*: When firing natural gas or low sulfur distillate oil, CO emissions from each gas turbine shall not exceed 43.0 pounds per hour nor 20.0 ppmvd corrected to 15% oxygen, as determined by EPA Method 10. These standards are based on 3-hour test averages conducted at base load and apply after the 12 month period following the initial performance tests.

   [Rule 62-212.400(BACT), F.A.C.]

10. Nitrogen Oxides (NOx)

   a. *Initial Performance Test*: When firing natural gas, NOx emissions from each gas turbine (new and clean) shall not exceed 32.0 pounds per hour nor 9.0 ppmvd corrected to 15% oxygen. When firing low sulfur distillate oil, NOx emissions from each gas turbine shall not exceed 167.0 pounds per hour nor 42.0 ppmvd corrected to 15% oxygen. These standards are based on 3-hour test averages conducted at base load as determined by EPA Method 7E or 20 and apply during the initial performance tests.

   b. *CEMS*: When firing natural gas, NOx emissions shall not exceed 10.5 ppmvd corrected to 15% oxygen based on a 3-hour rolling average. When firing low sulfur distillate oil, NOx emissions shall not exceed 42.0 ppmvd corrected to 15% oxygen based on a 3-hour rolling average. These standards are based on valid data collected from the certified NOx CEMS and apply at all times.

   NOx emissions are defined as oxides of nitrogen expressed as NO_2. [Rule 62-212.400(BACT), F.A.C.]

11. Particulate Matter (PM/PM_{10}): The efficient combustion of clean fuels represents the Best Available Control Technology (BACT) for particulate matter emissions from each gas turbine. Compliance with the fuel specifications and the CO emissions standards of this section shall serve as indicators of good combustion. The following visible emissions limit is established as a work-practice standard for particulate matter emissions. Visible emissions from each gas turbine shall not exceed 10% opacity, based on a 6-minute average as determined by EPA Method 9. {Permitting Note: As determined by EPA Method 5 (front-half catch only), particulate matter emissions from each unit are expected to be less than 5/10 pounds per hour when firing natural gas/low sulfur distillate oil.} [Rule 62-212.400(BACT), F.A.C.]

12. Sulfuric Acid Mist (SAM) and Sulfur Dioxide (SO_2): The fuel specifications of Condition No. 5 in this section represent the Best Available Control Technology (BACT) for SAM and SO_2 emissions from each gas turbine and effectively limit potential emissions. Compliance with the fuel specifications shall be determined by Condition No. 21 of this section. [Rules 62-204.800(7) and 62-212.400(BACT), F.A.C.]

13. Volatile Organic Compounds (VOC)

   a. *Initial Performance Test*: When firing natural gas, VOC emissions from each gas turbine shall not exceed 2.5 pounds per hour nor 2.0 ppmvd corrected to 15% oxygen. When firing low sulfur distillate oil, VOC emissions from each gas turbine shall not exceed 4.5 pounds per hour nor 3.5 ppmvd corrected to 15% oxygen. These standards are based on 3-hour test averages conducted at base load as determined by EPA Method 25A. Optionally, EPA Method 18 may be used concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions. VOC

emissions shall be expressed in terms of methane. [Design; Rule 62-4.070, F.A.C.; To Avoid Rule 62-212.400(BACT), F.A.C.]

b. *After Initial Performance Test*: The efficient combustion design, use of clean fuels, and good operating practices minimize VOC emissions from each gas turbine. Compliance with the fuel specifications and CO standards of this section shall serve as indicators of good combustion. After the initial performance tests, subsequent tests shall only be required when the Department has good reason to believe that a VOC emission standard is being violated pursuant to Rule 62-297.310(7)(b), F.A.C. [Design; Rule 62-4.070, F.A.C.]

EXCESS EMISSIONS

14. Excess Emissions Prohibited: Excess emissions caused 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. All such emissions shall be included in the calculation of the 3-hour averages to demonstrate compliance with the continuous NOx emissions standard. [Rule 62-210.700(4), F.A.C.]

15. Excess Emissions Defined: During startup, shutdown, and documented unavoidable malfunction of each gas turbine, the following permit conditions allow excess emissions or the exclusion of monitoring data for specifically defined periods of operation. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of excess emissions during such incidents.

    a. During startup and shutdown, visible emissions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during any calendar day, which shall not exceed 20% opacity. Data for each 6-minute averaging period shall be exclusive from other 6-minute averaging periods.

    b. Except for startup and shutdown, operation below 50% base load is prohibited.

    c. In accordance with Condition No. 20 of this section, certain data collected by each CEMS during startup, shutdown, malfunction, and tuning may be excluded from the NOx compliance averaging periods. If a CEMS reports emissions in excess of a 3-hour rolling average emissions standard, the permittee shall notify the Compliance Authority within one (1) working day with a preliminary report 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.

    [Design; Rules 62-210.700, 62-4.130, and 62-212.400 (BACT), F.A.C.]

EMISSIONS PERFORMANCE TESTING

16. Initial Tests Required: Each gas turbine shall be tested initially for each fuel to demonstrate compliance with the emission standards for CO, NOx, VOC and visible emissions. The initial tests shall be conducted within 60 days after achieving at least 90% of the maximum permitted capacity, but not later than 180 days after initial operation of each unit. Tests for CO and VOC emissions shall be conducted concurrently. Valid NOx emissions data collected by the certified CEMS during each CO test run shall be included in the test report. [Rules 62-297.310(7)(a)1. and 62-212.400(BACT), F.A.C.]

17. Continuous Compliance: Each gas turbine shall demonstrate continuous compliance with the 3-hour rolling average NOx emissions standards as determined by valid data collected from the certified CEMS specified in Condition No. 20 of this section. [Rule 62-212.400 (BACT), F.A.C.]

18. Annual Performance Tests: Each gas turbine shall be tested annually to demonstrate compliance with the emission standards for CO and visible emissions. Annual tests shall be conducted at least once during each federal fiscal year (October 1st to September 30th). Valid NOx emissions data collected by the certified CEMS during each CO test run shall be included in the test report. If less than 400 hours of oil is fired in a gas turbine during a federal fiscal year, the annual CO test is waived. [Rule 62-297.310(7)(a)4., F.A.C.]

19. Test Methods: As required, tests shall be performed in accordance with the following reference methods.

EPA Method	Description of Method and Comments
5	Determination of Particulate Matter Emissions from Stationary Sources
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources • The method shall be based on a continuous sampling train. • The ascarite trap may be omitted or the interference trap of section 10.1 may be used in lieu of the silica gel and ascarite traps.
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography • Optionally, EPA Method 18 may be used concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Volatile Organic Concentrations

The above reference methods are specified in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used to demonstrate compliance unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

CONTINUOUS MONITORING REQUIREMENTS

20. NOx CEMS: The permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) to measure and record the emissions of NOx from each gas turbine in a manner sufficient to demonstrate compliance with the CEM emission standards of this permit. The oxygen content or the carbon dioxide (CO_2) content of the flue gas shall also be monitored at the location where NOx is monitored to correct the measured NOx emissions rates to 15% oxygen. If a CO_2 monitor is installed, the oxygen content of the flue gas shall be calculated by the CEMS using F-factors that are appropriate for the fuel fired. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. The CEMS shall be used to demonstrate continuous compliance with the CEMS emission standards for NOx specified in this permit.

    a. *Data Collection.* Compliance with the CEMS emission standards for NOx shall be based on a 3-hour rolling average. The 3-hour rolling average shall be calculated from three successive hourly average emission rate values. Each hourly value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points

separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly averages. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour. If the CEMS measures concentration on a wet basis, the CEMS shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the permittee may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as "ppmvd corrected to 15% oxygen". Upon request from the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of Subpart GG in 40 CFR 60.

b. *Data Exclusion.* Data for NOx emissions and oxygen (or CO_2) content shall be recorded by the CEMS during all episodes of startup, shutdown and malfunction. Individual hourly NOx emission rate values recorded during these episodes may be excluded from the continuous NOx compliance determination. No more than three (3) hourly average emission rate values shall be excluded in any 24-hour block period due to all gas turbine startups, shutdowns, and documented unavoidable malfunctions. If an hourly average emission rate value is excluded, the next valid hourly emission rate value (within the same period of operation) shall be used to complete the 3-hour average. A documented unavoidable malfunction is a malfunction beyond the control of the operator that is documented within 24 hours of occurrence by contacting each Compliance Authority by telephone or facsimile transmittal.

   The permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions, to the extent practicable. Data recorded during startup, shutdown or malfunction events shall not be excluded if the startup, shutdown or malfunction episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during episodes of startup, shutdown and malfunction. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.

c. *NOx Monitor Certification.* The NOx monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. For purposes of determining compliance with the CEM emission standards of this permit, missing data shall not be substituted. Instead, the next valid hourly emission rate value (within the same period of operation) shall be used to complete the 3-hour average. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NOx monitor shall be performed using EPA Method 20 or 7E, of Appendix A of 40 CFR 60. The monitor shall be a dual range monitor with a lower span no greater than 30 ppm and an upper span no greater than 125 ppm.

d. *Oxygen (or CO_2) Monitor Certification.* The oxygen (or CO_2) monitor shall be certified and operated in accordance with 40 CFR 60, Appendix B, Performance Specification 3. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of section 7 shall be made each calendar quarter, and reported quarterly to each Compliance Authority. The RATA tests required for the oxygen (or CO_2) monitor shall be performed using EPA Method 3B, of Appendix A of 40 CFR 60.

e. *Data Exclusion Reports.* A summary report of duration of data excluded from the 3-hour average calculation, and all instances of missing data from monitor downtime, shall be reported quarterly to

each Compliance Authority. This report shall be consolidated with the report required pursuant to 40 CFR 60.7. For purposes of reporting "excess emissions" pursuant to the requirements of 40 CFR 60.7, excess emissions shall be defined as the hourly emissions which are recorded by the CEMS during periods of data excluded for episodes of startup, shutdown and malfunction, as allowed above. The duration of excess emissions shall be the duration of the periods of data excluded for such episodes. Reports required by this paragraph and by 40 CFR 60.7 shall be submitted no less than quarterly, including quarterly periods in which no data is excluded or no instances of missing data occur.

f. *Availability.* NOx monitor availability shall not be less than 95% in any calendar quarter. The report required in Appendix XS shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter.

{Permitting Note: Compliance with these requirements will ensure compliance with the other applicable CEMS requirements such as: NSPS Subpart GG; Rule 62-297.520, F.A.C.; 40 CFR 60.7(a)(5) and 40 CFR 60.13; 40 CFR Part 51, Appendix P; 40 CFR 60, Appendix B - Performance Specifications; and 40 CFR 60, Appendix F - Quality Assurance Procedures.} [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

RECORDS

21. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records.

    a. *Natural Gas*: Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 or the most recent versions.

    b. *Distillate Oil*: Compliance with the fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling and analyzing the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90. More recent versions of these methods may be used. For each subsequent distillate oil delivery, the permittee shall maintain a permanent file of the certified fuel sulfur analysis from the vendor. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

    The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

22. Monitoring of Operations: To demonstrate compliance with the capacity requirements, the permittee shall monitor and record the operating rate of each simple cycle gas turbine on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). Such monitoring shall be made using a monitoring component of the CEMS required above, or by monitoring daily rates of consumption and heat content of each allowable fuel in accordance with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

23. Monthly Operations Summary: By the fifth calendar day of each month, the permittee shall record the following information in a written or electronic log.

- Hours of operation for each gas turbine for the previous month and 12 months of operation;
- Average hours operation per installed gas turbine for the previous 12 months of operation;
- Hours of distillate oil firing for each gas turbine for the previous month and 12 months of operation;
- Average hours of distillate oil firing per installed gas turbine for the previous 12 months of operation;
- For any gas turbine firing distillate oil for more than 12 hours in a calendar day, indicate the date and hours of oil firing;

Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request from the Department or a Compliance Authority. [Rules 62-4.160(15) and 62-4.070(3), F.A.C.]

REPORTS

24. Quarterly Excess Emissions Reports: Following the NSPS format provided in Appendix XS of this permit, emissions shall be reported as "excess emissions" when emission levels exceed the standards specified in this permit (including periods of startup, shutdown and malfunction). Within 30 days following each calendar quarter, the permittee shall submit a report to the Compliance Authority summarizing periods of excess emissions, periods of data exclusion, and NOx monitor availability for the previous calendar quarter. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; and 40 CFR 60.7]

B. DISTILLATE OIL STORAGE TANKS

This section of the permit addresses the following emissions unit.

Emissions Unit No. 009: Distillate Oil Storage Tanks
Four storage tanks supply low sulfur distillate oil as a backup fuel to the gas turbines.

RULE APPLICABILITY

1. NSPS Subpart Kb Applicability: NSPS Subpart Kb applies to any storage tank with a capacity greater than or equal to 10,300 gallons (40 cubic meters) that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. [Rule 62-204.800(7)(b)16., F.A.C.; 40 CFR 60.110b(a)]

2. Exemption from Portions of NSPS Subpart Kb: Tanks with a capacity greater than or equal to 40,000 gallons (151 cubic meters) storing a liquid with a maximum true vapor pressure less than 3.5 kPa are exempt from the General Provisions (40 CFR 60, Subpart A) and from the provisions of NSPS Subpart Kb, *except* for the record keeping requirements specified below. [Rule 62-204.800(7)(b)16., F.A.C.; 40 CFR 60.110b(c)]

PERFORMANCE REQUIREMENTS

3. Equipment: The distillate oil tanks shall provide storage for the very low sulfur distillate oil used as backup fuel for the gas turbines. [Applicant Request]

4. Hours of Operation: Operation of the distillate oil storage tank is not restricted (8760 hours per year). [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

RECORDS

5. Records: For purposes of reporting in the Annual Operating Report, the permittee shall keep records sufficient to document the annual throughput of distillate oil through each storage tank. [Rule 62-210.370(3), F.A.C.]

6. Oil Tank Records: The permittee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of the storage tank. Records shall be retained for the life of the tank. [Rule 62-204.800(7)(b)16., F.A.C.; 40 CFR 60.116b(a) and (b)]

TERMINOLOGY

Abbreviations and Acronyms

CEM	-	Continuous Emissions Monitor
CT	-	Combustion Turbine
DARM	-	Division of Air Resource Management
DEP	-	State of Florida, Department of Environmental Protection
DLN	-	Dry Low-NOx Combustion Technology
EPA	-	United States Environmental Protection Agency
°F	-	Degrees Fahrenheit
F.A.C.	-	Florida Administrative Code
F.S.	-	Florida Statute
GT	-	Gas Turbine
HRSG	-	Heat Recovery Steam Generator
OC	-	Oxidation Catalyst Technology for CO Control
ppmvd	-	Parts per million by volume on a dry basis
SOA	-	Specific Operating Agreement
SCR	-	Selective Catalytic Reduction
UTM	-	Universal Transverse Mercator

Rule Citations

The following examples illustrate the methods used in this permit to abbreviate and cite the references of rules, regulations, permit numbers, and identification numbers.

Florida Administrative Code (F.A.C.):

Example: [Rule 62-213.205, F.A.C.]

Where:

62	-	identifies the specific Title of the F.A.C.
62-213	-	identifies the specific Chapter of the F.A.C.
62-213.205	-	identifies the specific Rule of the F.A.C.

Facility Identification (ID) Number:

Example: Facility ID No. 099-0001

Where:

099	-	identifies the specific county location
0221	-	identifies the specific facility

New Permit Numbers:

Example: Permit No. 099-2222-001-AC or 099-2222-001-AV

Where:

AC	-	identifies the permit as an Air Construction Permit
AV	-	identifies the permit as a Title V Major Source Air Operation Permit
099	-	identifies the specific county that project is located in
2222	-	identifies the specific facility
001	-	identifies the specific permit project

Old Permit Numbers:

Example: Permit No. AC50-123456 or AO50-123456

Where:

AC	-	identifies the permit as an Air Construction Permit
AO	-	identifies the permit as an Air Operation Permit
123456	-	identifies the specific permit project

The following tables summarize the final Best Available Control Technology determinations for this project and the corresponding emissions standards. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

Table B-1. EU-001 through 008: Eight 80 MW Simple Cycle Gas Turbines – Natural Gas Firing

Parameter	Controls and Emissions Standards	Compliance Method
Fuel	*Specification*: Pipeline-quality natural gas with 2 grains of sulfur per 100 SCF of gas, max.	ASTM Methods D4084-82, D3246-81 or more recent versions with monthly vendor analysis.
CO	*BACT Control*: Efficient combustion design, good operating practices	Emissions Performance Tests
	BACT Standards, First Year: 25.0 ppmvd @ 15% oxygen (52.0 lb/hour), 3-hour test avg.	EPA Method 10 at base load for initial tests
	BACT Standards, Thereafter: 20.0 ppmvd @ 15% oxygen (43.0 lb/hour), 3-hour test avg.	EPA Method 10 at base load for annual tests
NOx	*BACT Control*: Dry low-NOx combustion design	Certified CEMS data.
	BACT Standard: 9.0 ppmvd @ 15% oxygen (32.0 lb/hour), 3-hour test avg.	EPA Method 7E (or 20) at base load for initial tests "new and clean"
	BACT Standard: 10.5 ppmvd @ 15% O_2, 3-hour rolling CEMS avg.	Certified CEM data for continuous compliance demonstration
PM/PM10	*BACT Control*: Efficient combustion of clean fuels, good operating practices	Compliance with fuel specifications and CO standards
	BACT Standard: Visible emissions ≤ 10% opacity, 6-minute avg.	EPA Method 9 for initial/annual tests
	Comment: Particulate matter emissions are expected to be less than 5.0 lb/hour.	EPA Method 5 (front-half catch only); no test required
SO_2	*BACT Control*: Fuel specifications (low sulfur)	See compliance methods for fuel specifications.
	BACT Standard: Potential SO_2 emissions are effectively limited by the fuel specifications.	See compliance methods for fuel specifications.
VOC	*Control*: Efficient combustion of clean fuels, good operating practices	Compliance with fuel specifications and CO standards
	Standard: 2.0 ppmvd @ 15% oxygen (2.5 lb/hr), 3-hour test avg.	EPA Method 25A with emissions measured and reported as methane; (Optionally, EPA Method 18 may be conducted concurrently to deduct methane and ethane emissions.)
	Comment: *Total potential VOC emissions from all eight gas turbines are estimated to be 26 tons per year. The project is not subject to PSD for VOC emissions.*	

Note: Mass emissions standards are based on the following conditions: 100% load (approximately 83 MW), 977 mmBTU per hour of heat input (HHV) from firing natural gas, and a compressor inlet air temperature of 59° F.

Table B-2. EU-001 through 008: Eight 80 MW Simple Cycle Gas Turbines – Distillate Oil Firing

Parameter	Controls and Emissions Standards	Compliance Method
Fuel	*Specification*: No. 2 Distillate oil with 0.05% sulfur by weight, maximum	ASTM D 2880-71 (equivalent) with vendor analysis
CO	*BACT Control*: Efficient combustion design, good operating practices	Emissions performance tests
	BACT Standards: 20.0 ppmvd @ 15% oxygen (43.0 lb/hour), 3-hour test avg.	EPA Method 10 at base load for annual tests
NOx	*BACT Control*: Dry low-NOx combustion design	Certified CEMS data.
	BACT Standard: 42.0 ppmvd @ 15% oxygen (167.0 lb/hour), 3-hour test avg.	EPA Method 7E (or 20) at base load for initial tests "new and clean"
	BACT Standard: 42.0 ppmvd @ 15% O_2, 3-hour rolling CEMS avg.	Certified CEM data for continuous compliance demonstration
PM/PM10	*BACT Control*: Efficient combustion of clean fuels, good operating practices	Compliance with fuel specifications and CO standards
	BACT Standard: Visible emissions ≤ 10% opacity, 6-minute avg.	EPA Method 9 for initial/annual tests
	Comment: Particulate matter emissions are expected to be less than 5.0 lb/hour.	EPA Method 5 (front-half catch only); no test required
SO_2	*BACT Control*: Fuel specifications (low sulfur)	See compliance methods for fuel specifications.
	BACT Standard: Potential SO_2 emissions are effectively limited by the fuel specifications.	See compliance methods for fuel specifications.
VOC	*Control*: Efficient combustion of clean fuels, good operating practices	Compliance with fuel specifications and CO standards
	Standard: 3.5 ppmvd @ 15% oxygen (4.5 lb/hr), 3-hour test avg.	EPA Method 25A with emissions measured and reported as methane; (Optionally, EPA Method 18 may be conducted concurrently to deduct methane and ethane emissions.)
	Comment: *Total potential VOC emissions from all eight gas turbines are estimated to be 31 tons per year. The project is not subject to PSD for VOC emissions.*	

Note: Mass emissions standards are based on the following conditions: 100% load (approximately 83 MW), 977 mmBTU per hour of heat input (HHV) from firing natural gas, and a compressor inlet air temperature of 59° F.

BACT DETERMINATIONS

As summarized in the previous table, the Department determines that the standards specified in this permit represent the Best Available Control Technology (BACT) for carbon monoxide, particulate matter, nitrogen oxides, and sulfur dioxide. The Department's technical review and rationale for the BACT determinations are presented in Technical Evaluation and Preliminary Determination issued concurrently with the draft permit.

Determination By:

(DRAFT)

J. F. Koerner, P.E., Project Engineer (Date)
New Source Review Section

Recommended By:

(DRAFT)

C. H. Fancy, Chief (Date)
Bureau of Air Regulation

Approved By:

(DRAFT)

Howard L. Rhodes, Director (Date)
Division of Air Resources Management

GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

   a. Have access to and copy and records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit;
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of non-compliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

   The permittee shall be responsible for any and all damages, which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (X);
    b. Determination of Prevention of Significant Deterioration (X); and
    c. Compliance with New Source Performance Standards (X).

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        (1) The date, exact place, and time of sampling or measurements;
        (2) The person responsible for performing the sampling or measurements;
        (3) The dates analyses were performed;
        (4) The person responsible for performing the analyses;
        (5) The analytical techniques or methods used; and
        (6) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

40 CFR 60, SUBPART A - NSPS GENERAL PROVISIONS

Emissions units subject to a specific New Source Performance Standard are also subject to the applicable General Provisions in Subpart A of 40 CFR 60, including:

- 40 CFR 60.7, Notification and Record Keeping
- 40 CFR 60.8, Performance Tests
- 40 CFR 60.11, Compliance with Standards and Maintenance Requirements
- 40 CFR 60.12, Circumvention
- 40 CFR 60.13, Monitoring Requirements
- 40 CFR 60.19, General Notification and Reporting Requirements

For copies of these requirements, please contact the Department's New Source Review Section.

40 CFR 60, SUBPART GG - STATIONARY GAS TURBINES

{Note: The new gas turbines are subject to 40 CFGR 60, Subpart GG for stationary gas turbines adopted by reference in Rule 62-204.800(7)(b), F.A.C. Inapplicable provisions have been deleted in the following conditions, but the numbering of the original rules has been preserved for ease of reference to the original rules. The term "Administrator" when used in 40 CFR 60 shall mean the Department's Secretary or the Secretary's designee. Department notes and requirements related to the Subpart GG requirements are shown in **bold** immediately following the section to which they refer. The rule basis for the Department requirements specified below is Rule 62-4.070(3), F.A.C.}

11. Pursuant to 40 CFR 60.332 Standard for Nitrogen Oxides:

(a) On and after the date of the performance test required by § 60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraph (b) section shall comply with:

(1) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075 \frac{(14.4)}{Y} + F$$

where:

STD = allowable NOx emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NOx emission allowance for fuel-bound nitrogen as de-fined in paragraph (a)(3) of this section.

(3) F shall be defined according to the nitrogen content of the fuel as follows:

Fuel-bound nitrogen (percent by weight)	F (NOx percent by volume)
N≤0.015	0
0.015<N≤0.1	0.04(N)
0.1<N≤0.25	0.004+0.0067(N–0.1)
N>0.25	0.005

Where, N = the nitrogen content of the fuel (percent by weight).

Department requirement: "F" is zero because the fuel bound nitrogen content is negligible.

[Note: This is required by EPA's March 12, 1993 determination regarding the use of NOx CEMS. Based on the manufacturer's heat rates (LHV) of 10,510 BTU/kW-hr and 10,960, the "Y" values are approximately 11.3 for natural gas and 11.7 for distillate oil, respectively. The equivalent emission standards are approximately 96 and 92 ppmvd at 15% oxygen, respectively. The standards of this permit are much more stringent than this requirement.]

(b) Electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.

12. Pursuant to 40 CFR 60.333 Standard for Sulfur Dioxide:

On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with:

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel, which contains sulfur in excess of 0.8 percent by weight.

13. Pursuant to 40 CFR 60.334 Monitoring of Operations:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(1) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.

Department requirement: Very low sulfur No. 2 distillate oil will be stored in four tanks. Compliance with the fuel sulfur limit may be satisfied by a certified fuel vendor analysis for each delivery. The requirement to monitor the nitrogen content of distillate oil is waived because a NOx CEMS shall be used to demonstrate compliance with the NOx limits of this permit.

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

Department requirement: The requirement to monitor the nitrogen content of pipeline quality natural gas is waived because a NOx CEMS shall be used to demonstrate compliance with the NOx limits of this permit. For purposes of complying with the sulfur content monitoring requirements of this rule, the permittee shall obtain a monthly report from the vendor indicating the sulfur content of the natural gas being supplied from the pipeline for each month of operation.

[Note: This is consistent with the custom fuel monitoring policy and guidance from EPA Region 4.]

(c) For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as follows:

(1) *Nitrogen oxides.* Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in § 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in § 60.8. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and

nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335(a).

Department requirement: The NOx monitor availability threshold shall not be less than 95% in any calendar quarter. The report required in Appendix XS shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the owner or operator shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter.

[Note: As required by EPA's March 12, 1993 determination, the NOx monitor shall meet the applicable requirements of 40 CFR 60.13, Appendix B and Appendix F for certifying, maintaining, operating and assuring the quality of the system; shall be capable of calculating NOx emissions concentrations corrected to 15% oxygen; shall have no less than 95% monitor availability in any given calendar quarter; and shall provide a minimum of four data points for each hour and calculate an hourly average. The requirements for the CEMS specified by the specific conditions of this permit satisfy these requirements.]

(2) *Sulfur dioxide.* Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

14. Pursuant to 40 CFR 60.335 Test Methods and Procedures:

(a) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired.

(b) In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as pro-vided for in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.

(c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in 40 CFR 60.332 and 60.333(a) as follows:

(1) The nitrogen oxides emission rate (NOx) shall be computed for each run using the following equation:

$$NOx = (NOxo)\,(Pr/Po)^{0.5}\, e^{19(Ho-0.00633)}\,(288°K/Ta)^{1.53}$$

where:

NOx = emission rate of NOx at 15 percent O2 and ISO standard ambient conditions, volume percent.

NOxo = observed NOx concentration, ppm by volume.

Pr = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.

Po = observed combustor inlet absolute pressure at test, mm Hg.

Ho = observed humidity of ambient air, g H2O/g air.

e = transcendental constant, 2.718.

Ta = ambient temperature, °K.

Department requirement: The permittee is not required to have the NOx monitor continuously correct NOx emissions concentrations to ISO conditions. However, the permittee shall keep records

of the data needed to make the correction, and shall make the correction when required by the Department or Administrator.

[Note: This is consistent with guidance from EPA Region 4.]

(2) The monitoring device of 40 CFR 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with 40 CFR 60.332 at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.

Department requirement: The permittee is allowed to conduct initial performance tests at a single load because a NOx monitor shall be used to demonstrate compliance with the BACT NOx limits of this permit.

[Note: This is consistent with guidance from EPA Region 4.]

(3) Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NOx emissions shall be determined at each of the load conditions specified in paragraph (c)(2) of this section.

Department requirement: The permittee is allowed to make the initial compliance demonstration for NOx emissions using certified CEM system data, provided that compliance be based on a minimum of three test runs representing a total of at least three hours of data, and that the CEMS be calibrated in accordance with the procedure in section 6.2.3 of Method 20 following each run. Alternatively, initial compliance may be demonstrated using data collected during the initial relative accuracy test audit (RATA) performed on the NOx monitor. The span value specified in the permit shall be used instead of that specified in paragraph (c)(3) above.

[Note: These initial compliance demonstration requirements are consistent with guidance from EPA Region 4. The span value is changed pursuant to Department authority and is consistent with guidance from EPA Region 4.]

(d) The owner or operator shall determine compliance with the sulfur content standard in 40 CFR 60.333(b) as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels (incorporated by reference – see 40 CFR 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator.

Department requirement: The permit specifies sulfur testing methods and allows the owner or operator to follow the requirements of 40 CFR 75 Appendix D to determine the sulfur content of liquid fuels.

[Note: This requirement establishes different methods than provided by paragraph (d) above, but the requirements are equally stringent and will ensure compliance with this rule.]

(e) To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in paragraphs (a) and (d) of this section to determine the nitrogen and sulfur contents of the fuel being burned. The 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.

[Note: The fuel analysis requirements of the permit meet or exceed the requirements of this rule and will ensure compliance with this rule.]

SECTION IV. APPENDIX XS

CEMS EXCESS EMISSIONS AND DATA EXCLUSION REPORT

Figure 1 – Quarterly Performance Summary Report
Gaseous Excess Emission and Monitoring System

[Note: This form is referenced in 40 CFR 60.7, Subpart A-General Provisions]

Pollutant: Nitrogen Oxides (NOx)

Reporting period dates: From _____ to _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer and Model No.: _____

Date of Latest CMS Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period [a]: _____

Emission data summary [a]		CMS performance summary [a]	
1. Duration of Excess Emissions In Reporting Period Due To:		1. CMS downtime in reporting period due to:	
a. Startup/Shutdown		a. Monitor Equipment Malfunctions	
b. Control Equipment Problems		b. Non-Monitor Equipment Malfunctions	
c. Process Problems		c. Quality Assurance Calibration	
d. Other Known Causes		d. Other Known Causes	
e. Unknown Causes		e. Unknown Causes	
2. Total Duration of Excess Emissions		2. Total CMS Downtime	
3. [Total Duration of Excess Emissions] x (100%) [Total Source Operating Time] [b]		3. [Total CMS Downtime] x (100%) [Total source operating time]	

[a] For gases, record all times in hours.

[b] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 CFR 60.7(c) shall be submitted.

Note: On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

_____
(Company Name)

_____
(Name and Title)

_____ _____
(Signature) *(Date)*

Florida Department of
Environmental Protection

Memorandum

TO: Clair Fancy, Chief, BAR

THROUGH: Al Linero, Administrator - New Source Review Section

FROM: Jeff Koerner, New Source Review Section

DATE: April 25, 2001

SUBJECT: Project No. 1110100-001-AC (PSD-FL-302)
Duke Energy Fort Pierce, LLC
New 640 MW Gas Turbine Peaking Plant, St. Lucie County
(Eight 80 MW Simple Cycle Gas Turbines)

Attached for your review are the following items:

- Intent to Issue Permit and Public Notice Package;
- Technical Evaluation and Preliminary Determination;
- Draft Permit; and
- PE Certification

The Technical Evaluation and Preliminary Determination provides a detailed description of the project, rule applicability, and BACT determinations. The P.E. certification briefly summarizes the proposed project and BACT determinations. Note that this project is nearly identical to the recently issued draft for Duke's Lake County project except it allows low sulfur distillate oil as a backup fuel for up to 500 hours per year per gas turbine. Day #74 is May 11, 2001. I recommend your approval of the attached Draft Permit for this project.

CHF/AAL/jfk

Attachments

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

P.E. CERTIFICATION STATEMENT

PERMITTEE

Mr. Steven F. Gilliland, Senior Vice President
Duke Energy North America
5400 Westheimer Court
Houston, TX 77056-5310

Duke Energy Fort Pierce, LLC
Project No. 1110100-001-AC
Draft Permit No. PSD-FL-302
SIC No. 4911

PROJECT DESCRIPTION

The applicant proposes construction of a new 640 MW electrical generating plant (Duke Energy Fort Pierce, LLC) to be located approximately one-half mile east of the Florida Turnpike and one mile north of Midway Road in St. Lucie County, Florida. The plant will consist of eight gas turbine-electrical generator sets, each with a nominal generating capacity of 80 MW. The primary fuel will be pipeline-quality natural gas with very low sulfur distillate oil as a backup fuel. Operation of the simple cycle peaking plant is limited to an average of 2500 hours per gas turbine per year with no more than 500 hours of oil firing per gas turbine per year. The new plant is not subject to the requirements of the Power Plant Siting Act because it does not produce steam-generated electrical power.

Emissions from the proposed project exceed the PSD Significant Emission Rates for carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM10), sulfuric acid mist (SAM) and sulfur dioxide (SO_2). The Department establishes the efficient combustion of natural gas and very low sulfur distillate oil as the Best Available Control Technology (BACT) for emissions of CO, PM/PM10, and SO_2. This technique also reduces the emissions of volatile organic compounds (VOC) below the PSD Significant Emission Rate of 40 tons per year. For the firing of natural gas, the Department establishes the dry low-NOx combustion technology of the General Electric Model PG7121(EA) gas turbine as BACT for emissions of NOx. For the firing of low sulfur distillate oil, the Department establishes wet injection and restricted operation as BACT for emissions of NOx. The specified technologies utilize clean fuels and are consistent with recent determinations in other states. The emissions standards and compliance requirements based on the Department's BACT determinations are summarized in Appendix BD of the Draft Air Permit.

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

Jeffery J. Koerner

04-25-01

Jeffery F. Koerner, P.E.
Registration Number: 49441

(Date)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Steven F. Gilliland
Senior Vice President
Duke Energy North America
5400 Westheimer Court
Houston, TX 77056-5310

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* | B. Date of Delivery

C. Signature
X Edna Jenn
☑ Agent
☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)*
7000 0600 0026 4129 9426

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

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Postage	$
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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Duke Energy
Postmark Here

Recipient's Name (Please Print Clearly) (to be completed by mailer)
Mr. Steven F. Gilliland
Street, Apt. No.; or PO Box No.
5400 Westheimer Court
City, State, ZIP+4
Houston, Tx 77056-5310

PS Form 3800, February 2000 See Reverse for Instructions