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Mr. Ben Jacoby
 Ft. Perice Re-Powering Proj.
 1400 Smith Street
 Houston, TX 77002-7361

2. Article Number (Copy from service label)

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 Houston, TX 77002-7361

PS Form 3800, February 2000. See Reverse for Instructions

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Fort Pierce Re-Powering Project, LLC
1400 Smith Street
Houston, TX 77002-7361


Fort Pierce Re-Powering Project, LLC
Project No. 1110102-001-AC
Air Permit No. PSD-FL-320
180 MW Combined Cycle Gas Turbine

Authorized Representative:
Ben Jacoby, Attorney-In-Fact

Enclosed is Final Air Permit No. PSD-FL-320 (Project No. 1110102-001-AC). This permit authorizes the construction of a new nominal 180 MW electrical generating plant to be located adjacent to the existing H.D. King Electric Generating Plant at 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. As noted in the Final Determination (attached), minor changes to the draft permit were made by the Department, mostly at the request of the applicant. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.


C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

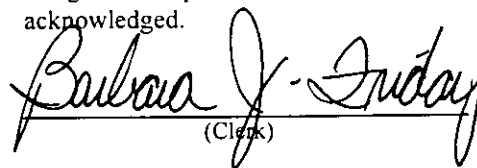
The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 8/15/01 to the person(s) listed:

Mr. Ben Jacoby, Fort Pierce Re-Powering Project, LLC*
Mr. Scott Churbok, Enron North America Corporation
Mr. Tom Davis, ECT
Mr. Isidore Goldman, SED

Chair, St. Lucie Board of County Commissioners
Mr. Gregg Worley, EPA Region 4
Mr. John Bunyak, NPS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


(Clerk) 8/15/01
(Date)

FINAL DETERMINATION

PERMITTEE

Ben Jacoby, Attorney-In-Fact (Authorized Representative)
Fort Pierce Re-Powering Project, LLC
1400 Smith Street
Houston, TX 77002-7361

PERMITTING AUTHORITY

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

PROJECT

Project Name: Fort Pierce Re-Powering Project, LLC
Project No. 1110102-001-AC
Air Permit No. PSD-FL-320

This permit authorizes the construction of a new nominal 180 MW electrical generating plant, the Fort Pierce Re-Powering Project, to be located adjacent to the existing H.D. King Electric Generating Plant at 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. The Fort Pierce Utilities Authority owns and operates the existing H.D. King Plant and has no ownership in, or control over, the proposed new plant. The plant will consist of one combined cycle gas turbine and associated equipment. The new plant will also generate steam for sale to the existing plant. The UTM coordinates are Zone 17, 566.8 km East, and 3036.3 km North. The project is subject to PSD preconstruction review.

NOTICE AND PUBLICATION

The Department distributed an "Intent to Issue Permit" package on June 20, 2001. The applicant published the "Public Notice of Intent to Issue" in The Tribune on June 27, 2001. The Department received the proof of publication on July 10, 2001. No requests for administrative hearings were filed. The Department received comments from EPA Region 4 and the applicant.

EPA COMMENTS

On July 26, 2001, the Department received a fax from EPA Region 4 that it had no substantial comments on the proposed project. Previously, EPA Region 4 recommended replacing the word "boiler" with "stack" in Condition No. 12 of Section 3. The Department made this revision.

APPLICANT'S COMMENTS AND REQUESTS

On July 20, 2001, the Department received faxed comments regarding the draft permit package. The following section summarizes the applicant's comments and provides the Department's response.

1. Comment: Throughout Permit Documents, Use of the Term "combined cycle": The applicant requests removal of the term "combined cycle" or clarification in the final permit because the proposed facility lacks the steam electrical components to complete the Rankine cycle.

Response: The definition of "combined cycle gas turbine" in Subpart Da of 40 CFR 60 is: "A stationary turbine combustion system where heat from the turbine exhaust gases is recovered by a steam generating unit." The definition of "combined cycle gas turbine" in Subpart GG of 40 CFR 60 is: "Any stationary gas

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turbine which recovers heat from the gas turbine exhaust gases to heat water or steam.” Neither definition is specific as to the final use of the steam that is being generated. Even assuming that this should be a consideration, the application clearly indicates that the steam will ultimately be used to generate electricity. According to the application, Enron’s only customer is the existing H. D. King Power Plant. In fact, the project is named the “Fort Pierce Re-powering Project, LLC”. The facility description in the draft permit does describe the sale of steam to the existing H. D. King Power Plant. The Department believes that the term “combined cycle” is appropriate and no change was made.

2. Comment: Project Location, Signature Page, Facility Address: The applicant requests correction of the facility’s address from “1311” to “311” North Indian River Drive in Fort Pierce, St. Lucie County, Florida. This was a typographical error in the original application.

Response: The Department corrected the error and revised the description as follows, “This permit authorizes the construction of a new nominal 180 MW electrical generating plant to be located adjacent to the existing H.D. King Electric Generating Plant at 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. The new plant will be called the “Fort Pierce Re-Powering Project” and is affiliated with the Enron North America Corporation. The new plant will consist of one combined cycle gas turbine and associated equipment. It will provide electricity for sale to the power grid and sell steam to the H.D. King Plant to re-power existing steam turbine-electrical generators. The Fort Pierce Utilities Authority owns and operates the existing H.D. King Plant and has no ownership in, or control over, the proposed new plant. The UTM coordinates are Zone 17, 566.80 km East, and 3036.25 km North.”

3. Comment: Emissions Unit Description, Page 3A-1, HRSG Heat Input Reference: The applicant requests addition of the text “higher heating value, (HHV)]” with the HRSG description.

Response: The Department added the term “HHV” after the description.

4. Comment: Emissions Unit Description, Page 3A-1, Gas Turbine Heat Input Capacity: The applicant requests correction of the second “natural gas” term to “distillate oil”.

Response: The Department notes the typographical error and corrected the term to “At a compressor inlet air temperature of 32° F, the gas turbine produces approximately 166 MW when firing approximately 1827 ~~1824~~ mmbTU (HHV) per hour of ~~natural gas~~ very low sulfur distillate oil.” The heat input was corrected from “1821” to “1827” to be consistent with Condition No. 7 regulating capacity.

5. Comment: Emissions Unit Description, Page 3A-1, Exhaust Flow: The applicant requests correction of the exhaust flow rate from “2,465,000” to “1,158,000” acfm. These rates were inadvertently reversed in the original application, which included simple cycle operation.

Response: The Department notes the typographical error and corrected the term to “1,158,000” acfm. A check on the modeling inputs indicates that the proper flow rate was used for the air quality impacts analysis.

6. Comment: Condition 3, Page 3A-1, HRSG Heat Input Reference: The applicant requests addition of the text “higher heating value, (HHV)” with the HRSG description.

Response: The Department added the term “HHV” after the HRSG description.

7. Comment: Condition 4, Page 3A-2, DLN Combustion Technology Description: The applicant requests that the word “minimize” be changed to “control” with regard to NOx emissions reductions with DLN combustion technology.

Response: The Department changed the word “minimize” to “control”.

8. Comment: Condition 5, Page 3A-2, SCR System: The applicant requests that the text “aqueous ammonia storage” be changed to “urea to ammonia system”, which represents a more accurate description. In

FINAL DETERMINATION

addition, the applicant requests that the word “minimizing” be changed to “controlling” with regard to ammonia slip.

Response: The Department included the text “urea-to-ammonia system” as requested and revised the last sentence to, “The SCR system shall be designed to reduce NOx emissions *and control ammonia slip* below the permitted levels ~~while minimizing ammonia slip.~~”

9. Comment: Condition 7, Page 3A-2, Permitted Capacity, Air Inlet Cooling: The applicant requests correction of the text “evaporative cooling” to “inlet air chilling” to reflect the proposed equipment.

Response: The Department corrected the text to “inlet air chilling”.

10. Comment: Condition 9, Page 3A-2, Restricted Operations: The applicant requests addition of the text “excluding startups, shutdowns, and malfunctions” to the first sentence and revision of the reference gas turbine inlet temperature from “59° F” to “45° F”.

Response: The Department revised the first two sentences of this condition to, “*In accordance with the control equipment manufacturer’s recommendations,* The gas turbine shall operate only in the combined cycle mode with full emissions control by the SCR and catalytic oxidation systems. The gas turbine shall fire no more than 13,122,000 gallons of distillate oil during any consecutive 12 months (equivalent to *approximately* 1000 hours per year of full load operation at a gas turbine inlet air temperature of ~~45~~ 59° F).” Emissions during startup, shutdown, and malfunction are addressed in Condition Nos. 14 and 15 of the permit.

11. Comment: Condition 10, Page 3A-2, Alternate Method of Operation: The applicant requests addition of the text “higher heating value, (HHV)” with the HRSG description.

Response: The Department added the text “based on the higher heating value (HHV) of natural gas” to the description.

12. Comment: Condition 11, Page 3A-3, Operating Procedures: The applicant requests that the word “minimize” be changed to “control” with regard to emissions resulting from good operating practices. In addition, the applicant requests that the word “minimizing” be changed to “controlling” with regard to excess emissions.

Response: The Department changed the text to “control” with regard to emissions resulting from good operating practices. However, the word “minimizing” was not changed because Rule 62-210.700, F.A.C. requires the operator to minimize the amount and duration of excess emissions.

13. Comment: Condition 12, Page 3A-3, Emission Standards: The applicant requests the word “boiler” be changed to “gas turbine/fired heat recovery steam generator unit” and the text “gas turbine” be inserted before “compressor inlet air temperature”.

Response: The Department changed the first three sentences of this condition to, “Emissions from the ~~boiler~~ exhaust stack shall not exceed the following limits for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfuric acid mist (SAM), sulfur dioxide (SO₂), and volatile organic compounds (VOC). The limits apply to the exhaust from *both the gas turbine and* heat recovery steam generator, with and without duct firing. Mass emission limits are based a gas turbine compressor inlet air temperature of 32° F.”

14. Comment: Condition 12, Page 3A-3, Emission Standards: The applicant requests revising the VOC emissions standard when firing gas above 75% load from “4.4” to “6.0” lb/hour.

Response: The Department believes that the VOC mass emission limit is consistent with the other limits that include duct firing and reduction through the catalytic control system. No change was made.

15. Comment: Condition 13, Page 3A-4, Emission Standards-Duct Burner Alone: The applicant requests the addition of references to the SO₂ emissions standard from Subpart Da.

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Response: The Department revised the last sentence of this condition to, “Based on the allowable maximum heat inputs, compliance with the particulate *matter and sulfur dioxide* emissions standards in Condition No. 12 shall demonstrate compliance with the NSPS Subpart Da standards of 0.03 *and 0.20* lb/mmBTU, *respectively*. In addition, the rule citation was changed to “[40 CFR 60.43a and 40 CFR 60.44a]”.

16. Comment: Condition 15.b., Page 3A-4: The applicant requests deletion of the limit of four hourly average emission rate values in any calendar day. The applicant believes that this condition would preclude any other startups or shutdowns from occurring on a calendar day that also included a cold startup because excess emissions during a cold startup may last for four hours.

Response: For identifiable and routine periods of operation such as warm startups, shutdowns and even limited periods of unavoidable malfunctions, the permit allows the exclusion of up to nearly 17% of the CEMS data collected in a 24-hour period. The full four hours of data may also be excluded for the less frequent case of a cold startup. However, the Department believes that it would be a rare occurrence that additional startups after a cold startup would be necessary within that same 24-hour period. For these situations, the operator should provide specific background information to the Compliance Authority regarding the excess emissions and the cause. The permit cannot automatically authorize excess emissions or the exclusion of additional CEMS data for every conceivable scenario. However, the first three sentences were revised to clarify the condition to the following, “No more than two hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations due to warm startups, shutdowns, or unavoidable malfunctions. No more than four hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations due to cold startups. No more than a total of four hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations for all such episodes.”

17. Comment: Section 4., Appendix BD, Table B-2, Oil-Firing: The applicant requests correction of the fuel sulfur content of distillate oil from “2.0 grains of sulfur per 100 SCF” to “0.05 percent by weight” and the corresponding test methods.

Response: The Department acknowledges that this was a typographical error and made the changes consistent with the body of the permit.

18. Comment: Section 4, Appendix Da, Page Da-3: The applicant requests addition of §60.47a(o), “The owner or operator of a duct burner, as described in §60.41a, which is subject to the NO_x standards of §60.44a(a)(1) or (d)(1) is not required to install or operate a continuous emissions monitoring system to measure NO_x emissions; a wattmeter to measure gross electrical output; meters to measure steam flow, temperature, and pressure; and a continuous flow monitoring system to measure the flow of exhaust gases is charged to the atmosphere.”

Response: The Department contacted EPA Region 4 for an interpretation of the NSPS requirements. §60.47a(o) is only applicable if the applicant elects to comply with the NO_x standard in accordance with §60.46a(k)(1), which requires testing of the HRSG inlet before duct firing and at the HRSG outlet. For this project, the applicant elected to comply with the NO_x standard in accordance with §60.46a(k)(2), which requires continuous monitoring of the NO_x emissions and the megawatt-hour gross energy output to demonstrate compliance with the 30-day rolling average specified by §60.44a(d)(1). Therefore, the requirements of §60.47a(o) are not applicable.

OTHER CHANGES

1. Throughout the Permit: The term “fired heat recovery steam generator” was changed to “*gas-fired* heat recovery steam generator”.
2. Placard Page, Project and Location: At the request of the Department’s Southeast District office, the UTM map coordinates were updated to: Zone 17, 566.80 East, 3036.25 North.

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3. Page 3A-3, Condition 12, Table: Combined the standards for SAM and SO₂ because the requirements are identical.
4. Page 3A-4, Condition 12.c: Added the following clarifying text, "*NO_x emissions are defined as oxides of nitrogen expressed as NO₂*".
5. Page 3A-4, Condition 12.e: Added the following clarifying text regarding the particulate matter emissions standard, "*... based on a 3-hour test average*".
6. Page 3A-9, Condition 26: Correct the requirement to report "the hours of operation between 50% and 75% of base load when firing natural gas" to "the hours of operation between 50% and 75% of base load when firing natural gas". This is the range of operation restricted in Condition No. 9.

CONCLUSION

The above minor revisions were made as well as corrections of typographical errors. The final action of the Department is to issue the permit with the changes described above.



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

PERMITTEE:

Fort Pierce Re-Powering Project, LLC
1400 Smith Street
Houston, TX 77002-7361

Authorized Representative:

Ben Jacoby, Attorney-In-Fact

Project No. 1110102-001-AC Air Permit No. PSD-FL-320 Facility ID No. 1110102 SIC No. 4911 Expires: January 30, 2003

PROJECT AND LOCATION

This permit authorizes the construction of a new nominal 180 MW electrical generating plant to be located adjacent to the existing H.D. King Electric Generating Plant at 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. The new plant will be called the "Fort Pierce Re-Powering Project" and is affiliated with Enron North America Corporation. The new plant will consist of one combined cycle gas turbine and associated equipment. It will provide electricity for sale to the power grid and sell steam to the H.D. King Plant to re-power existing steam turbine-electrical generators. The Fort Pierce Utilities Authority owns and operates the existing H.D. King Plant and has no ownership in, or control over, the proposed new plant. The UTM coordinates are Zone 17, 566.80 km East, and 3036.25 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 Title 40, Part 52, Section 21 of the Code of Federal Regulations. 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.

CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices

Howard L. Rhodes, Director
Division of Air Resources Management

(Date)

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SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The proposed project is for a new electrical power plant, the Fort Pierce Re-Powering Project, LLC, which will generate a nominal 180 MW of electricity and sell steam to the existing H.D. King Plant to re-power their existing steam turbine-electrical generators. The proposed new plant consists of one 180 MW combined cycle gas turbine and associated equipment.

NEW EMISSIONS UNITS

This permit authorizes construction and installation of the following new emissions units.

ID	Emission Unit Description
001	Combined Cycle Unit No. CC-1 consists of a Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set (180 MW), a gas-fired heat recovery steam generator, a selective catalytic reduction system, a catalytic oxidation system, inlet air cooling, and other associated equipment.

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 gas turbine is subject to the acid rain provisions of the Clean Air Act.

Title V: Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the new facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), and volatile organic compounds (VOC).

PSD: The project is located in an area designated as "attainment" or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. The facility is considered a "fossil fuel fired steam electric plant of more than 250 million BTU per hour of heat input", which is one of the 28 PSD source categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C, the Prevention of Significant Deterioration (PSD) of Air Quality.

PPSC: This project is not subject to Chapter 62-17, F.A.C. for Power Plant Site Certification because there will be no net increase in steam generated electrical power.

NSPS: The New Source Performance Standards in 40 CFR 60 apply to the new gas turbine (Subpart GG) and the heat recovery steam generator with duct firing (Subpart Da).

PERMITTING AUTHORITY

All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

COMPLIANCE AUTHORITIES

All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resources Section of the Department's Southeast District Office at P.O. Box 15425 (400 North Congress Avenue) in West Palm Beach, Florida 33416-5425.

SECTION 1. GENERAL INFORMATION

APPENDICES

The following Appendices are attached as part of this permit.

Appendix BD. Final BACT Determinations and Emissions Standards

Appendix CF. Citation Format

Appendix Da. NSPS Subpart Da Requirements for Duct Burners

Appendix GC. General Conditions

Appendix GG. NSPS Subpart GG Requirements for Gas Turbines

Appendix SC. Standard Conditions

Appendix XS. Continuous Monitor Systems Quarterly Report

RELEVANT DOCUMENTS

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action and are on file with the Department.

- Permit application received on April 20, 2001 and all related correspondence to make complete.
- Draft permit package issued on June 20, 2001.
- Comments received from the public, the applicant, the Southeast District Office, the EPA Region 4 Office, and the National Park Service.

CITATION FORMAT

Appendix CF of this permit describes the format used to cite applicable rules and regulations as well as previous permitting actions.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. General Conditions: The owner and operator are 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.]
2. 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 terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. 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.]
3. 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)]
4. 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.]
5. 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)]
6. 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.]
7. 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.]
8. 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]
9. 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 90 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, and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Combined Cycle Gas Turbine

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

Emissions Unit No. 001: Combined Cycle Gas Turbine No. CC-1

Description: The combined cycle unit consists of a Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set with a nominal capacity of 180 MW, a gas-fired heat recovery steam generator (384 mmBTU per hour, HHV), a selective catalytic reduction system, and a catalytic oxidation system. Ancillary equipment includes an automated gas turbine control system, an inlet air filtration system, monitoring systems, and an inlet air-cooling system.

Fuel: The combined cycle unit is fired primarily with pipeline-quality natural gas and very low sulfur distillate oil as a backup fuel.

Capacity: At a compressor inlet air temperature of 32° F, the gas turbine produces approximately 185 MW when firing approximately 1998 mmBTU (HHV) per hour of natural gas. At a compressor inlet air temperature of 32° F, the gas turbine produces approximately 166 MW when firing approximately 1827 mmBTU (HHV) per hour of very low sulfur distillate oil.

Controls: The efficient combustion of very low sulfur fuels at high temperatures minimizes emissions of CO, PM/PM₁₀, SAM, SO₂, and VOC. A catalytic oxidation system further reduces emissions of CO and VOC. Combined with dry low-NO_x (DLN) combustion technology when firing natural gas and wet injection when firing distillate oil, a selective catalytic reduction (SCR) system reduces NO_x emissions.

Stack Parameters: When firing natural gas at 100% load with a compressor inlet temperature of 59° F, exhaust gases exit a 20.0 feet diameter stack that is 142 feet tall with a flow rate of approximately 1,158,000 acfm at 287° F.

APPLICABLE STANDARDS AND REGULATIONS

1. **BACT Determinations:** The emissions standards specified for this unit represent Best Available Control Technology (BACT) determinations for carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM/PM₁₀), sulfuric acid mist (SAM), sulfur dioxide (SO₂), and volatile organic compounds (VOC). See Appendix BD of this permit for a summary of the final BACT determinations. [Rule 62-212.400 (BACT), F.A.C.]
2. **NSPS Requirements:** The Department determines that compliance with the emissions performance and monitoring requirements of Section 3A also demonstrates compliance with the New Source Performance Standards in 40 CFR 60 for gas turbines (Subpart GG) and heat recovery steam generator with duct firing (Subpart Da). For completeness, the applicable Subpart GG and Subpart Da requirements are included in Appendix Da and Appendix GG of this permit. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

3. **Combined Cycle Gas Turbine:** The permittee is authorized to install, tune, maintain and operate a new combined cycle unit consisting of: a Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set; an automated gas turbine control system; filtration and cooling systems for the compressor inlet air; a gas-fired (384 mmBTU per hour, HHV) heat recovery steam generator (HRSG); a selective catalytic reduction system; a catalytic oxidation system; emissions monitoring systems; a stack that is 20.0 feet in diameter and 142 feet tall; and other miscellaneous support equipment. The combined cycle unit shall be designed as a system to generate a nominal 180 MW of shaft-driven electrical power and to sell steam from the HRSG to the existing H.D. King Plant. The design includes a dump condenser that will

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Combined Cycle Gas Turbine

allow combined cycle operation with full emissions control should the H.D. King Plant be unable to accept steam. [Applicant Request; Design]

4. DLN Combustion Technology and Wet Injection: The permittee shall tune and maintain the Mitsubishi dry low-NO_x combustion system to control NO_x emissions from the gas turbine when firing natural gas. The permittee shall tune, operate and maintain a wet injection system to control NO_x emissions from the gas turbine when firing distillate oil. Prior to the initial emissions performance tests for each gas turbine, each control system shall be tuned along with the automated gas turbine control system to control NO_x emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations. [Design; Rule 62-212.400 (BACT), F.A.C.]
5. SCR System: The permittee shall install, tune, maintain and operate a selective catalytic reduction (SCR) system to control NO_x emissions from the combined cycle gas unit when firing either fuel. The SCR system consists of an ammonia injection grid, catalyst bed, urea-to-ammonia system, monitoring and control system, electrical, piping and other auxiliary equipment. The SCR system shall be designed to reduce NO_x emissions and control ammonia slip below the permitted levels. [Rule 62-212.400 (BACT), F.A.C.]
6. Catalytic Oxidation System: The permittee shall install, maintain and operate a catalytic oxidation system to control CO and VOC emissions from the combined cycle unit when firing either fuel. It consists of an additional catalyst bed and support framework. The system shall be designed and maintained to reduce CO and VOC emissions below the permitted levels. [Rule 62-212.400 (BACT), F.A.C.]

PERFORMANCE RESTRICTIONS

7. Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 1998 mmBTU per hour while producing approximately 185 MW based on a compressor inlet air temperature of 32° F, the higher heating value (HHV) of natural gas, and 100% load. The maximum heat input rate to the gas turbine shall not exceed 1827 mmBTU per hour while producing approximately 166 MW based on a compressor inlet air temperature of 32° F, the higher heating value (HHV) of distillate oil, and 100% load. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and inlet air chilling. The permittee shall provide 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. [Rule 62-210.200(PTE), F.A.C.]
8. Authorized Fuel: The gas turbine shall fire only pipeline-quality natural gas with a maximum of 2 grains of sulfur per 100 standard cubic feet of natural gas. As a backup fuel, the gas turbine may fire a limited amount of No. 2 (or a superior grade) distillate oil containing no more than 0.05% sulfur by weight. [Applicant Request; Rules 62-210.200(PTE) and 62-212.400 (BACT), F.A.C.]
9. Restricted Operation: In accordance with the control equipment manufacturer's recommendations, the gas turbine shall operate only in the combined cycle mode with full emissions control by the SCR and catalytic oxidation systems. The gas turbine shall fire no more than 13,122,000 gallons of distillate oil during any consecutive 12 months (equivalent to approximately 1000 hours per year of full load operation at a gas turbine inlet air temperature of 45° F). When firing natural gas, operation below 50% load is prohibited, excluding startups and shutdowns. When firing natural gas and operating between 50% and 75% of base load, the gas turbine shall not operate more than 2000 hours during any consecutive 12 months. When firing distillate oil, operation below 75% load is prohibited, excluding startups and shutdowns. [Rules 62-210.200(PTE) and 62-212.400 (BACT), F.A.C.]

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A. Combined Cycle Gas Turbine

10. Alternate Method of Operation: The combined cycle unit may operate with duct firing in the heat recovery steam generator. Only pipeline quality natural gas shall be fired in the duct burner. The maximum heat input rate to the duct burner shall not exceed 384 mMBTU per hour based on the higher heating value (HHV) of natural gas. [Design; Applicant Request; Rule 62-212.400 (BACT), F.A.C.]
11. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this permit rely on “good operating practices” to control emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the combined cycle gas turbine and pollution control systems in accordance with the guidelines and procedures established by each 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: Appendix BD provides a summary of the BACT determinations specified in this permit.}

12. Emission Standards – Gas Turbine and Gas-Fired HRSG: Emissions from the exhaust stack shall not exceed the following limits for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfuric acid mist (SAM), sulfur dioxide (SO₂), and volatile organic compounds (VOC). The limits apply to the exhaust from both the gas turbine and heat recovery steam generator, with and without duct firing. Mass emission limits are based a compressor inlet air temperature of 32° F. These limits are specified as representing the Best Available Control Technology in accordance with Rule 62-212.400 (BACT), F.A.C.

Pollutant	Fuel	Load	lb/hour	Emissions Standard
Ammonia ^a	All	All	NA	≤ 5 ppm corrected to 15% oxygen based on a 3-hour test average
CO ^b	Gas	≥ 75%	14.4	≤ 3.5 ppmvd corrected to 15% oxygen based on 24-hour CEMS average
		50-75%	18.9	≤ 10.0 ppmvd corrected to 15% oxygen based on 24-hour CEMS average
	Oil	≥ 75%	31.8	≤ 8.0 ppmvd corrected to 15% oxygen based on 24-hour CEMS average
NOx ^c	Gas	≥ 50%	23.0	≤ 3.5 ppmvd corrected to 15% oxygen based on 3-hour CEMS average
	Oil	≥ 75%	65.0	≤ 10.0 ppmvd corrected to 15% oxygen based on 3-hour CEMS average
Opacity ^d	Gas	≥ 50%	NA	≤ 10% opacity based on a 6-minute average
	Oil	≥ 75%	NA	
PM/PM ₁₀ ^e	Gas	≥ 50%	17.0	Pipeline natural gas with no more than 2 grains of sulfur per 100 SCF
	Oil	≥ 75%	42.5	Distillate oil with no more than 0.05% sulfur by weight
SAM/SO ₂ ^f	Gas	≥ 50%	NA	Pipeline natural gas with no more than 2 grains of sulfur per 100 SCF
	Oil	≥ 75%	NA	Distillate oil with no more than 0.05% sulfur by weight
VOC ^g	Gas	≥ 75%	4.4	≤ 2.2 ppmvd corrected to 15% oxygen based on 3-hour test average
		50-75%	17.2	≤ 16.0 ppmvd corrected to 15% oxygen based on 3-hour test average
	Oil	≥ 75%	22.2	≤ 10.0 ppmvd corrected to 15% oxygen based on 3-hour test average

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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- a. Compliance with the ammonia slip limit shall be determined by EPA Method CTM-027.
 - b. Compliance with the CO limits shall be determined by EPA Method 10 and CEMS certified in accordance with Performance Specification No. 4. For operation at both load conditions in a 24-hour block, the emissions standard shall be prorated according to the number of hours operated at each load.
 - c. Compliance with the NO_x limits shall be determined by EPA Method 7E and CEMS certified in accordance with the acid rain provisions. The compliance period is a 3-hour rolling average. NO_x emissions are defined as oxides of nitrogen expressed as NO₂.
 - d. Compliance with the opacity limit shall be determined by EPA Method 9.
 - e. Compliance with the particulate matter emissions shall be determined by EPA Method 5 based on a 3-hour test average.
 - f. Compliance with the fuel specifications shall be demonstrated by keeping the required fuel records. Limits on fuel sulfur effectively limit potential SAM/SO₂ emissions. No testing is required.
 - g. Compliance with the VOC limits shall be determined by EPA Method 25A. Optionally, EPA Method 18 may be conducted concurrently to deduct emissions of ethane and methane.
13. Emissions Standards – Duct Burner Alone: NO_x emissions (expressed as NO₂) shall not exceed 1.6 pounds per megawatt-hour gross energy output based on a 30-day rolling average, as determined by the requirements of the New Source Performance Standards in Subpart Da of 40 CFR 60 and summarized in Appendix Da of this permit. Based on the allowable maximum heat input, compliance with the particulate matter and sulfur dioxide emissions standards in Condition No. 12 shall demonstrate compliance with the NSPS Subpart Da standards of 0.03 and 0.20 lb/mmBTU, respectively. [40 CFR 60.43a and 40 CFR 60.44a]

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 any compliance demonstration based on continuous monitoring data. [Rule 62-210.700(4), F.A.C.]
15. Excess Emissions - Defined: The following permit conditions allow excess emissions or the exclusion of monitoring data for specifically defined periods of startup, shutdown, and malfunction of the combined cycle gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of excess emissions during such episodes.
- a. *Visible Emissions*: For startups and shutdowns in a calendar day, visible emissions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods, which shall not exceed 20% opacity.
 - b. *CO and NO_x CEMS Data Exclusion*: No more than two hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations due to warm startups, shutdowns, or unavoidable malfunctions. No more than four hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations due to cold startups. No more than a total of four hourly average emission rate values in a calendar day shall be excluded from the continuous compliance demonstrations for all such episodes. A “warm startup” is defined as startup after the gas turbine has been shutdown for less than 48 hours. A “cold startup” is defined as startup after the gas turbine has been shutdown for 48 hours or more. An “unavoidable malfunction” is a malfunction beyond the control of the operator, which is documented within 24 hours of occurrence by contacting each Compliance Authority by telephone or facsimile transmittal.

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A. Combined Cycle Gas Turbine

[Design; Rules 62-4.070(3), 62-4.130, 62-210.700, and 62-212.400 (BACT), F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

16. **CEMS:** The permittee shall install, calibrate, operate and maintain continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_x from the combined cycle gas turbine in a manner sufficient to demonstrate continuous compliance with the emission standards of this section. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests and shall be used to demonstrate continuous compliance with the corresponding CO and NO_x emissions standards specified in this section. [Rule 62-212.400 (BACT), F.A.C.]
- a. *CO Monitors.* The CO monitoring system shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4. 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 required CO monitor RATA tests shall be performed using EPA Method 10 in Appendix A of 40 CFR 60. The EPA Method 10 analysis shall be based on a continuous sampling train, and 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. The CO monitor shall have a dual range capability with maximum spans of 10 and 30 ppmvd corrected to 15% oxygen. Compliance with the CEMS emission standards for CO shall be based on a 24-hour block average starting at midnight of each operating day. The 24-hour block average shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block.
 - b. *NO_x Monitors.* Each NO_x monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of Subparts B and C in 40 CFR Part 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR Part 75. The required NO_x monitor RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR 60. The NO_x monitor shall have a dual range capability with maximum spans of 10 and 30 ppmvd corrected to 15% oxygen. Compliance with the CEMS emissions standards shall be based on a rolling 3-hour average. For purposes of determining compliance with the CEMS emission standards, missing or excluded 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 rolling average.
 - c. *O₂ or CO₂ Monitors.* The oxygen (O₂) content or carbon dioxide (CO₂) content of the flue gas shall also be monitored at the location where CO and NO_x are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ monitor is installed, the oxygen content of the flue gas shall be calculated by the CEMS using F-factors that are appropriate for each fuel fired. Each O₂ and CO₂ monitor shall be certified pursuant to Performance Specification No. 3 in Appendix B of 40 CFR 60. Quality assurance procedures shall conform to the requirements in Appendix F of 40 CFR 60. The required "Data Assessment Report of Section 7" of Appendix F shall be made each calendar quarter and reported quarterly to each Compliance Authority. The required O₂ or CO₂ monitor RATA tests shall be performed using EPA Method 3B in Appendix A of 40 CFR 60.
 - d. *Data Collection.* 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

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hourly averages. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an 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 owner or operator 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. The CEMS shall be used to demonstrate compliance with the CEM emission standards for CO and NO_x as specified in this permit. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332.

- e. *Data Exclusion.* All required emissions data shall be recorded by the CEMS during episodes of startup, shutdown and malfunction. CO and NO_x emissions data recorded during such episodes may be excluded from the corresponding compliance averaging period subject to the conditions specified in Condition No. 15 of this section. All periods of data excluded for any startup, shutdown or malfunction episode shall be consecutive for each episode. 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.
- f. *Data Exclusion and Excess Emissions Reports.* A summary report of the duration of data excluded from each compliance 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 to include 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 include 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 periods in which no data is excluded or no instances of missing data occur.
- g. *Notification:* If a CEMS reports CO or NO_x emissions in excess of an emissions standard, the permittee shall notify each Compliance Authority within one 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.
- h. *Availability.* Monitor availability for CO and NO_x CEMS shall be 95% or greater in any calendar quarter. The report required in Appendix XS of this permit 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. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

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{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.]

17. Ammonia Monitoring Requirements: In accordance with the manufacturer's specifications, the permittee shall install, calibrate, maintain and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The permittee shall document the general range of ammonia flow rates required to permitted emissions levels over the range of load conditions allowed by this permit by comparing NOx emissions recorded by the CEMS with ammonia flow rates recorded using the ammonia flow meter. During NOx monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate that is consistent with the documented flow rate for the combustion turbine load. [Rules 62-4.070(3) and 62-212.400 (BACT), F.A.C.]

EMISSIONS PERFORMANCE TESTING

{Permitting Note: See Appendix SC for standard conditions regarding emissions testing.}

18. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
CTM-027	Procedure for Collection and Analysis of Ammonia in Stationary Source {Notes: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.}
5	Determination of Particulate Matter Emissions from Stationary Sources {Note: For gas firing, the minimum sampling time shall be two hours per run and the minimum sampling volume shall be 60 dscf per run.}
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 {Notes: 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 {Note: EPA Method 18 may be used (optional) 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

Except for Method CTM-027, the above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. Method CTM-027 is published on EPA's Technology Transfer Network Web Site at "<http://www.epa.gov/ttn/emc/ctm.html>". No other methods may be used for compliance testing 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]

19. Initial Compliance Tests: The combined cycle gas turbine shall be tested to demonstrate compliance with the emission standards for CO, NOx, PM, visible emissions and ammonia slip. The tests shall be conducted within 60 days after achieving at least 90% of the maximum permitted capacity, but not later

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than 180 days after initial operation of the combined cycle gas turbine. The certified CEMS data may be used to demonstrate initial compliance with the CO and NO_x standards. Emissions shall be reported in units of the standards (lb/hour and ppmvd corrected to 15% oxygen, where applicable). Mass emissions may be determined with measured flow rates or by using appropriate F-factors for each fuel. In addition, NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run in terms of "ppmvd corrected to 15% oxygen". [Rule 62-297.310(7)(a)1, F.A.C.]

20. Continuous Compliance – Gas Turbine: The required CEMS shall be used to continuously demonstrate compliance with the CO and NO_x emissions standards. For PM and VOC emissions, compliance with the opacity and CO standards shall serve as indicators of good combustion. Record keeping shall be used to demonstrate compliance with the fuel sulfur specifications. [Rule 62-212.400 (BACT), F.A.C.]
21. Continuous Compliance – Duct Burner: The NO_x CEMS system shall also be used to determine NO_x emissions expressed as pounds of NO₂ per megawatt-hour gross energy output based on 30-day rolling average to demonstrate continuous compliance with the duct burner emissions standard of 40 CFR 60.44a. See Appendix Da of this permit. [40 CFR 60.44a]
22. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the combined cycle gas turbine shall be tested to demonstrate compliance with the emission standards for ammonia slip and visible emissions. CO and NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run in terms of "ppmvd corrected to 15% oxygen". The annual test report shall also indicate the date the required CO and NO_x RATA tests were performed and summarize the results. If no more than 400 hours of distillate oil firing occurs during the federal fiscal year, compliance tests for ammonia slip and visible emissions when firing distillate oil are not required. Pursuant to Rule 62-297.310(7)(b), F.A.C., the Department may require additional testing if it believes that a standard is being exceeded. {Permitting Note: Continuous compliance with the CO and NO_x standards is demonstrated with certified CEMS system data.} [Rules 62-212.400 (BACT) and 62-297.310(7)(a)4, F.A.C.]
23. Alternate Sampling Requirements: Due to the unique site conditions of this project, the following requirements are specified for sampling locations and exhaust flow measurements. The four required test ports shall be located at least 5 feet below the stack outlet with each pair in a line offset 45 degrees from the axis of the internal rain gutter. The CEMS probe(s) shall also be located at least 5 feet below the stack outlet and positioned so that the probe inlet(s) are not located over the gutter or other obstruction associated with the weather damper. Stack exhaust flows shall be determined by fuel flow and appropriate F-factors for each fuel rather than direct gas flow measurement. [Rules 62-4.070(3) and 62-210.400 (BACT), F.A.C.]

RECORDS

24. Fuel Sulfur Records: Compliance with the fuel sulfur specification for natural gas shall be demonstrated by maintaining records of the sulfur content of the natural gas being supplied based on the vendor's analysis for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 (or more recent versions) in conjunction with the provisions of 40 CFR 75 Appendix D. Compliance with the distillate oil sulfur limit shall be demonstrated by taking an initial sample, analyzing the sample for fuel sulfur, and reporting the results with the initial emissions compliance test report. 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

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the vendor. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content. [Rules 62-4.070(3) and 62-210.400 (BACT), F.A.C.]

25. Monitoring of Operations: To demonstrate compliance with the fuel consumption limits, the permittee shall monitor and record the rates of fuel consumption for the gas turbine and duct burner in accordance with the provisions of 40 CFR 75 Appendix D. To demonstrate compliance with the turbine capacity requirements, the permittee shall monitor and record the operating rate of the 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.]
26. Monthly Operations Summary: By the fifth calendar day of each month, the permittee shall record the following information: hours of gas turbine operation on each fuel; the hours of operation between 50% and 75% of base load when firing natural gas; the total heat input to the gas turbine for each fuel (mmBTU); the gallons of distillate oil fired; and the total heat input to the duct burner (mmBTU). The information shall be recorded in a written (or electronic log) and shall summarize these operating parameters for the previous month as well as the previous 12 months. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. [Rule 62-4.070(3), F.A.C.]

REPORTS

27. 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 CEMS systems 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]

OTHER REQUIREMENTS

28. Applicable Requirements: Section 4 of the permit includes the following additional applicable requirements for the combined cycle unit: Appendix Da – NSPS Subpart Da Requirements for Duct Burners; Appendix GC - General Conditions; Appendix GG - NSPS Subpart GG Requirements for Gas Turbines; Appendix SC - Standard Conditions; and Appendix XS - Continuous Monitor Systems Quarterly Report. [40 CFR 60 Subparts Da and GG; Chapters 62-4, 62-2120, 62-296, and 62-297]

SECTION 4. APPENDICES

Contents

- Appendix BD. Final BACT Determinations and Emissions Standards
- Appendix CF. Citation Format
- Appendix Da. NSPS Subpart Da Requirements for Duct Burners
- Appendix GC. General Conditions
- Appendix GG. NSPS Subpart GG Requirements for Gas Turbines
- Appendix SC. Standard Conditions
- Appendix XS. Continuous Monitor Systems Quarterly Report

SECTION 4. APPENDIX BD

Final BACT Determinations and Emissions Standards

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 BD-1. EU-001, Combined Cycle Gas Turbine No. CC-1 Firing Natural Gas

Parameter	Controls and Emissions Standards	Compliance Method
Fuel	<i>Specification:</i> Natural gas with a maximum of 2.0 grains of sulfur per 100 SCF	Monthly vendor analysis (ASTM Methods D4084-82 or D3246-81)
Ammonia	<i>Ammonia Slip:</i> 5 ppmvd @ 15% oxygen	Initial and annual tests by EPA Method CTM-027
CO	<i>BACT Control:</i> Catalytic oxidation system	Continuous compliance demonstration
	<i>BACT Standards</i> ≥ 75% Load: 3.5 ppmvd @ 15% oxygen based on 24-hour CEMS avg. 50-75% Load: 10.0 ppmvd @ 15% oxygen based on 24-hour CEMS avg.	Certified CEM system data Certified CEM system data
NOx	<i>BACT Control:</i> Selective catalytic reduction with dry low-NOx combustion design	Continuous compliance demonstration
	<i>BACT Standard:</i> 3.5 ppmvd @ 15% O ₂ , 3-hour CEMS avg.	Certified CEM system data
PM/PM10	<i>BACT Control:</i> Efficient combustion of clean fuels with good operating practices	Compliance with fuel specifications, opacity standard, and CO standards
	<i>BACT Standard:</i> 17.0 lb/hour	Initial test; EPA Method 5 (front-half catch only)
	<i>BACT Standard:</i> Visible emissions ≤ 10% opacity, 6-minute avg.	Initial and annual tests; EPA Method 9
SAM/SO ₂	<i>BACT Control:</i> Fuel sulfur specifications	Vendor analysis
	<i>BACT Standard:</i> Potential SAM/SO ₂ emissions are effectively limited by the fuel specifications.	Monthly records
VOC	<i>BACT Control:</i> Catalytic oxidation system	Initial tests; compliance with fuel specifications and CO standards
	<i>BACT Standards</i> ≥ 75% Load: 2.2 ppmvd @ 15% oxygen based on a 3-hour test avg. 50-75% Load: 16.0 ppmvd @ 15% oxygen based on a 3-hour test avg.	Initial test; EPA Methods 18 and 25A Initial test; EPA Methods 18 and 25A

Note: The BACT limits apply to the exhaust from both the gas turbine and heat recovery steam generator, after control, with and without duct firing. Except for startup and shutdown, operation below 50% load when firing natural gas is prohibited. Operation between 50% and 75% of base load is restricted to 2000 hours per year.

SECTION 4. APPENDIX BD

Final BACT Determinations and Emissions Standards

Table BD-2. EU-001, Combined Cycle Gas Turbine No. CC-1 Firing Distillate Oil

Parameter	Controls and Emissions Standards	Compliance Method
Fuel	<i>Specification:</i> Distillate oil with a maximum of 0.05% sulfur by weight.	Monthly vendor analysis using ASTM D4057-88 and ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90.
Ammonia	<i>Ammonia Slip:</i> 5 ppmvd @ 15% oxygen	Initial and annual tests by EPA Method CTM-027
CO	<i>BACT Control:</i> Catalytic oxidation system	Continuous compliance demonstration
	<i>BACT Standard:</i> 8.0 ppmvd @ 15% oxygen based on a 24-hour CEMS avg.	Certified CEM system data
NOx	<i>BACT Control:</i> Selective catalytic reduction with wet injection	Continuous compliance demonstration
	<i>BACT Standard:</i> 10.0 ppmvd @ 15% O ₂ , 3-hour CEMS avg.	Certified CEM system data
PM/PM ₁₀	<i>BACT Control:</i> Efficient combustion of clean fuels with good operating practices	Compliance with fuel specifications, opacity standard, and CO standards
	<i>BACT Standard:</i> 42.5 lb/hour	Initial test; EPA Method 5 (front-half catch only)
	<i>BACT Standard:</i> Visible emissions ≤ 10% opacity, 6-minute avg.	Initial and annual tests; EPA Method 9
SAM/SO ₂	<i>BACT Control:</i> Fuel sulfur specifications	Vendor analysis
	<i>BACT Standard:</i> Potential SAM/SO ₂ emissions are effectively limited by the fuel specifications.	Monthly records
VOC	<i>BACT Control:</i> Catalytic oxidation system	Initial tests; compliance with fuel specifications and CO standards
	<i>BACT Standard:</i> 10.0 ppmvd @ 15% oxygen based on a 3-hour test avg.	Initial test; EPA Methods 18 and 25A

Notes: The BACT limits apply to the exhaust from both the gas turbine and heat recovery steam generator, after control, with and without duct firing. Oil-firing operation is restricted to the equivalent of approximately 1000 hours per year. Except for startup and shutdown, operation below 75% load when firing distillate oil is prohibited. If distillate is fired for no more than 400 hours during the federal fiscal year, compliance tests for ammonia slip and visible emissions are not required.

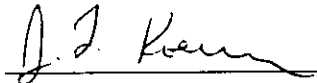
SECTION 4. APPENDIX BD

Final BACT Determinations and Emissions Standards

FINAL BACT DETERMINATIONS

As summarized in the previous tables, the Department determines that the standards specified in this permit represent the Best Available Control Technology (BACT) for emissions of carbon monoxide, particulate matter, nitrogen oxides, sulfuric acid mist, sulfur dioxide, and volatile organic compounds from the combined cycle gas turbine. The Department's technical review and rationale for the BACT determinations are presented in Technical Evaluation and Preliminary Determination, which was issued concurrently with the draft permit.

Determination By:



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

8-13-01

(Date)

Recommended By:



C. H. Fancy, Chief
Bureau of Air Regulation

8-13-01

(Date)

Approved By:



Howard L. Rhodes, Director
Division of Air Resources Management

8/14/01

(Date)

SECTION 4. APPENDIX CF

Citation Format

The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.

REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

Example: Permit No. AC50-123456 or Air Permit No. 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 number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: “099” represents the specific county ID number in which the project is located
“2222” represents the specific facility ID number
“001” identifies the specific permit project
“AC” identifies the permit as an air construction permit
“AF” identifies the permit as a minor federally enforceable state operation permit
“AO” identifies the permit as a minor source air operation permit
“AV” identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the Prevention of Significant Deterioration of Air Quality
“FL” means that the permit was issued by the State of Florida
“317” identifies the specific permit project

RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

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

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

SECTION 4. APPENDIX Da

NSPS Subpart Da Requirements for Duct Burners

The following emissions unit is subject to the applicable requirements of Subpart A (General Provisions) and Subpart Da (Duct Burner) established as New Source Performance Standards in 40 CFR 60 and adopted by reference in Rule 62-204.800(7)(b), F.A.C.

ID	Emission Unit Description
001	Combined Cycle Unit No. CC-1 consists of Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set (180 MW), a fired heat recovery steam generator, a selective catalytic reduction system, a catalytic oxidation system, inlet air cooling, and other associated equipment.

NSPS GENERAL PROVISIONS

{Permitting Note: The emissions units are subject to the applicable General Provisions of the New Source Performance Standards 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). The General Provisions are not included in this permit, but can be obtained from the Department upon request.}

§ 60.40a Applicability and Designation of Affected Facility.

- (a) The affected facility to which this subpart applies is each electric utility steam generating unit:
 - (1) That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel (either alone or in combination with any other fuel); and
 - (2) For which construction or modification is commenced after September 18, 1978.

§ 60.41a Definitions.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

§ 60.42a Standard for Particulate Matter.

- (a) On and after the date on which the performance test required to be conducted under § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of:
 - (1) 13 ng/J (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;
 - (2) 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel; and
 - (3) 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel.
- (b) On and after the date the particulate matter performance test required to be conducted under § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

§ 60.44a Standard for Sulfur Dioxide.

- (b) On and after the date on which the initial performance test required to be conducted under § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility which combusts liquid or gaseous fuels (except for liquid or gaseous fuels derived from solid fuels and as provided under paragraphs (e) or (h) of this section), any gases which contain sulfur dioxide in excess of:

SECTION 4. APPENDIX Da

NSPS Subpart Da Requirements for Duct Burners

- (2) 100 percent of the potential combustion concentration (zero percent reduction) when emissions are less than 86 ng/J (0.20 lb/million Btu) heat input.

§ 60.44a Standard for Nitrogen Oxides.

- (d) (1) On and after the date on which the initial performance test required to be conducted under § 60.8 is completed, no new source owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility for which construction commenced after July 9, 1997 any gases which contain nitrogen oxides (expressed as NO₂) in excess of 1.6 pounds per megawatt-hour gross energy output, based on a 30-day rolling average, except as provided under § 60.46a(k)(1).

§ 60.45a Commercial Demonstration Permit. (Not Applicable)

§ 60.46a Compliance Provisions.

- (i) *Compliance provisions for sources subject to § 60.44a(d)(1).* The owner or operator of an affected facility subject to § 60.44a(d)(1) (new source constructed after July 7, 1997) shall calculate NO_x emissions by multiplying the average hourly NO_x output concentration, measured according to the provisions of § 60.47a(c), by the average hourly flow rate, measured according to the provisions of § 60.47a(l), and divided by the average hourly gross energy output, measured according to the provisions of § 60.47a(k).
- (k) *Compliance provisions for duct burners subject to § 60.44a(d)(1).* To determine compliance with the emissions limits for NO_x required by § 60.44a(d)(1) for duct burners used in combined cycle systems, either of the procedures described in paragraphs (k)(1) and (2) of this section may be used:
- (2) The owner or operator of an affected duct burner used in a combined cycle system may elect to determine compliance with the NO_x standard in § 60.44a(d)(1) on a 30-day rolling average basis as indicated in paragraphs (k)(2)(i) through (iv) of this section.

- (i) The emission rate (E) of NO_x shall be computed using Equation 2 of this section:

$$E = (C_{sg} Q_{sd}) / Occ \quad (\text{Eq. 2})$$

Where:

E = emission rate of NO_x from the duct burner, ng/J (lb/Mwh) gross output

C_{sg} = average hourly concentration of NO_x exiting the steam generating unit, ng/dscm (lb/dscf)

Q_{sg} = average hourly volumetric flow rate of exhaust gas from steam generating unit, dscm/hr (dscf/hr)

Occ = average hourly gross energy output from entire combined cycle unit, J (Mwh)

- (ii) The continuous emissions monitoring system specified under § 60.47a for measuring NO_x and oxygen shall be used to determine the average hourly NO_x concentrations (C_{sg}). The continuous flow monitoring system specified in § 60.47a(l) shall be used to determine the volumetric flow rate (Q_{sg}) of the exhaust gas. The sampling site shall be located at the outlet from the steam generating unit. Data from a continuous flow monitoring system certified (or recertified) following procedures specified in 40 CFR 75.20, meeting the quality assurance and quality control requirements of 40 CFR 75.21, and validated according to 40 CFR 75.23 may be used.
- (iii) The continuous monitoring system specified under § 60.47a(k) for measuring and determining gross energy output shall be used to determine the average hourly gross energy output from the entire combined cycle unit (Occ), which is the combined output from the combustion turbine and the steam generating unit.
- (iv) The owner or operator may, in lieu of installing, operating, and recording data from the continuous flow monitoring system specified in § 60.47a(l), determine the mass rate (lb/hr) of NO_x emissions by installing, operating, and maintaining continuous fuel flow meters following the appropriate measurements procedures specified in appendix D of 40 CFR part 75. If this compliance option is selected, the emission rate (E) of NO_x shall be computed using Equation 3 of this section:

SECTION 4. APPENDIX Da

NSPS Subpart Da Requirements for Duct Burners

$$E = (\text{Ersg Hcc}) / \text{Occ} \quad (\text{Eq. 3})$$

Where:

E = emission rate of NO_x from the duct burner, ng/J (lb/Mwh) gross output

Ersg = average hourly emission rate of NO_x exiting the steam generating unit heat input calculated using appropriate F-factor as described in Method 19, ng/J (lb/million Btu)

Hcc = average hourly heat input rate of entire combined cycle unit, J/hr (million Btu/hr)

Occ = average hourly gross energy output from entire combined cycle unit, J (Mwh)

§ 60.47a Emission Monitoring.

- (k) The procedures specified in paragraphs (k)(1) through (3) of this section shall be used to determine gross output for sources demonstrating compliance with the output-based standard under § 60.44a(d)(1).
- (1) The owner or operator of an affected facility with electricity generation shall install, calibrate, maintain, and operate a wattmeter; measure gross electrical output in megawatt-hour on a continuous basis; and record the output of the monitor.
 - (2) The owner or operator of an affected facility with process steam generation shall install, calibrate, maintain, and operate meters for steam flow, temperature, and pressure; measure gross process steam output in joules per hour (or Btu per hour) on a continuous basis; and record the output of the monitor.
 - (3) For affected facilities generating process steam in combination with electrical generation, the gross energy output is determined from the gross electrical output measured in accordance with paragraph (k)(1) of this section plus 50 percent of the gross thermal output of the process steam measured in accordance with paragraph (k)(2) of this section.
- (n) Gas-fired and oil-fired units. The owner or operator of an affected unit that qualifies as a gas-fired or oil-fired unit, as defined in 40 CFR 72.2, may use, as an alternative to the requirements specified in either paragraph (l) or (m) of this section, a fuel flow monitoring system certified and operated according to the requirements of appendix D of 40 CFR part 75.

§ 60.48a Compliance Determination Procedures and Methods.

These requirements are applicable to all Subpart Da units. Please refer to the CFR.

§ 60.49a Reporting Requirements.

These requirements are applicable to all Subpart Da units. Please refer to the CFR.

SECTION 4. APPENDIX GC

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

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, 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, and,
 - 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

SECTION 4. APPENDIX GC

General Conditions

- 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.

SECTION 4. APPENDIX GG

NSPS Subpart GG Requirements for Gas Turbines

The following emissions units are subject to the applicable requirements of Subpart A (General Provisions) and Subpart GG (Stationary Gas Turbines) established as New Source Performance Standards in 40 CFR 60 and adopted by reference in Rule 62-204.800(7)(b), F.A.C.

ID	Emission Unit Description
001	Combined Cycle Unit No. CC-1 consists of Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set (180 MW), a fired heat recovery steam generator, a selective catalytic reduction system, a catalytic oxidation system, inlet air cooling, and other associated equipment.

NSPS GENERAL PROVISIONS

{Permitting Note: The emissions units are subject to the applicable General Provisions of the New Source Performance Standards 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). The General Provisions are not included in this permit, but can be obtained from the Department upon request.}

NSPS SUBPART GG REQUIREMENTS

{Permitting Note: Each gas turbine shall comply with all applicable requirements of 40 CFR 60, Subpart GG 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.}

§ 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:

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

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 defined 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: When firing natural gas, the "F" value shall be assumed to be 0.

SECTION 4. APPENDIX GG

NSPS Subpart GG Requirements for Gas Turbines

{Note: This is required by EPA's March 12, 1993 determination regarding the use of NO_x CEMS. The "Y" values provided by the manufacturer are approximately 10.0/10.6 for natural gas/distillate oil. The equivalent emission standards are approximately 108/102 ppmvd corrected to 15% oxygen. The emissions standards in Section 3 of this permit are 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.

§ 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.

§ 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:

- (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 each fuel is waived. A NO_x CEMS shall be used to demonstrate compliance with the NO_x limits of this permit. For purposes of complying with the sulfur content monitoring requirements of this rule, the permittee shall obtain a monthly vendor analysis indicating the sulfur content of the natural gas being supplied from the pipeline for each month of operation and a vendor analysis for each shipment of low sulfur distillate oil.

{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 continuous compliance demonstration by NO_x CEM system data shall substitute for the requirements of paragraph (c)(1). NO_x CEM system data shall be used to determine "excess emissions" for purposes of 40 CFR 60.7 subject to the conditions of the permit.

{Note: As required by EPA's March 12, 1993 determination, the NO_x 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 NO_x 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 CEM systems specified by the specific conditions of this permit satisfy these requirements.}

SECTION 4. APPENDIX GG

NSPS Subpart GG Requirements for Gas Turbines

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

§ 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 provided 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 (NO_x) shall be computed for each run using the following equation:

$$\text{NO}_x = (\text{NO}_{x0}) (\text{Pr}/\text{Po})^{0.5} e^{19(\text{Ho}-0.00633)} (288^\circ\text{K}/\text{Ta})^{1.53}$$

where:

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

NO_{x0} = observed NO_x 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 NO_x monitor continuously correct NO_x 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 the permit requires demonstration of continuous compliance with the NO_x BACT standards.

{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 NO_x 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 NO_x emissions using certified CEM system data, provided that compliance is 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 NO_x monitor. The span value specified in the permit shall be used instead of that specified in paragraph (c)(3) above.

SECTION 4. APPENDIX GG

NSPS Subpart GG Requirements for Gas Turbines

{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 permittee to follow the requirements of 40 CFR 75 Appendix D to determine the sulfur content.

{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 4. APPENDIX SC

Standard Conditions

{Permitting Note: The following conditions apply to all emissions units and activities at this facility.}

EMISSIONS AND CONTROLS

1. 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.]
2. 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.]
3. 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.]
4. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
5. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]
6. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. [Rule 62-296.320(4)(b)1, F.A.C.]
7. 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.]

TESTING REQUIREMENTS

8. 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.]
9. 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.]
10. 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.

SECTION 4. APPENDIX SC

Standard Conditions

- 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.]

11. 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.

- 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), F.A.C.]

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

13. 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. and 40 CFR 60.7, 60.8]

14. 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

15. 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.]

16. 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.]

17. 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.]

SECTION 4. APPENDIX XS

Continuous Monitor Systems Quarterly Report

{Note: This form is referenced in 40 CFR 60.7, Subpart A, General Provisions.}

Pollutant (*Circle One*): Nitrogen Oxides (NOx) Carbon Monoxide (CO)

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. $\frac{[\text{Total Duration of Excess Emissions}]}{[\text{Total Source Operating Time}]} \times (100\%)$ ^b		3. $\frac{[\text{Total CMS Downtime}]}{[\text{Total source operating time}]} \times (100\%)$	

^a For opacity, record all times in minutes. 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 to CMS, process or controls during last 6 months.

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

Name

Title

Signature

Date

Florida Department of
Environmental Protection

Memorandum

TO: Howard Rhodes
THRU: ~~Clair Fancy~~ *AK* 8/13
Al Linero
FROM: Jeff Koerner *AK*
DATE: August 10, 2001
SUBJECT: Final Air Permit No. PSD-FL-320
Project No. 1110102-001-AC
Enron's Fort Pierce Re-Powering Project, LLC
New 180 MW Combined Cycle Gas Turbine

The Final Permit for this project is attached for your approval and signature. This permit authorizes the construction of a new electrical generating plant to be located adjacent to the existing H.D. King Electric Generating Plant at 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. The new plant will be called the "Fort Pierce Re-Powering Project" and is affiliated with Enron North America Corporation. The new plant will consist of one 180 MW combined cycle gas turbine and associated equipment. It will provide electricity for sale to the power grid and sell steam to the H.D. King Plant to re-power existing steam turbine-electrical generators. The Fort Pierce Utilities Authority owns and operates the existing H.D. King Plant and has no ownership in, or control over, the proposed new plant. BACT determinations were made for significant emissions increases of carbon monoxide, nitrogen oxides, particulate matter, sulfuric acid mist, sulfur dioxide, and volatile organic compounds.

We distributed an "Intent to Issue Permit" package on June 20, 2001. The applicant published the "Public Notice of Intent to Issue" in The Tribune (St. Lucie County) on June 27, 2001. We received written comments from the EPA Region 4 Office and the applicant. The Department's responses and minor corrections to the final permit provided in the attached Final Determination.

Day 90 of the permitting time clock is September 15, 2001. I recommend your approval and signature.

Attachments

CHF/AAL/jfk



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 27 2001

RECEIVED

AUG 01 2001

4 APT-ARB

BUREAU OF AIR REGULATION

Mr. A. A. Linero, P.E.
FL Department of Environmental Protection
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Thank you for sending the prevention of significant deterioration preliminary determination and draft permit for the combined cycle combustion turbine facility proposed by Fort Pierce Re-Powering Project, LLC (Air Permit No. PSD-FL-320). We have no additional comments on this project beyond those previously discussed with Mr. Jeff Koerner of the Florida Department of Environmental Protection. If you need anything else from us regarding the project, please call Mr. Jim Little of the at EPA Region 4 staff at 404-562-9118.

Sincerely,

A handwritten signature in cursive script that reads "Douglas Neeley".

R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: J. Koerner
C. Holdaway



Enron North America Corp.

P.O. Box 1188

Houston, TX 77251-1188

Via Certified Mail Number 7000 0520 0017 0789 3719

July 20, 2001

Mr. Jeffery Koerner
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
MS #5505
Tallahassee, FL 32399-2400

RECEIVED

JUL 25 2001

BUREAU OF AIR REGULATION

Re: Comments to FDEP Draft Permit Documents
Project No. 1110102-001-AC (PSD-FL-320)
Fort Pierce Re-Powering Project, LLC

Dear Mr. Koerner:

In response to the draft permit that you issued for the Fort Pierce Repowering Project LLC ("FPRP") project in Fort Pierce, Florida, please consider the following comments for inclusion into the final permit for this facility.

1. **Throughout Permit Documents: Use of the term "combined cycle"**

The permit makes reference throughout the document that the facility is a "combined cycle unit." Steam is generated by FPRP for use by Fort Pierce Utility Authority. However, the use of the steam for power generation is beyond the scope of this permit and beyond the control of FPRP. Therefore, the use of the term "combined cycle" is misleading as the FPRP facility lacks the Rankin Cycle component of steam-driven, electrical generation normally associated with a combined cycle facility. FPRP requests that FDEP either eliminate or clarify the use of this term in the final permit.

Basis of Revision: Clarification of facility description

2. **Project Location, Signature Page: Facility Address**

FPRP requests that the facility address be changed as follows:

This permit authorizes the construction of a new nominal 180 MW electrical generating plant, the Fort Pierce Re-Powering Project, to be located adjacent to the existing H.D. King Electric Generating Plant at ~~434~~ 311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida.

Basis of Revision: Correction of facility address. Note that page 1 of the facility permit application inadvertently listed the facility address as 1311 North Indian River Drive rather than the correct 311 North Indian Drive. A corrected Page 1 of the permit application is included.

3. **Facility Description, Page 3A-1: HRSG Heat Input Reference**

FPRP requests the addition of the term "higher heating value, [HHV]" to the HRSG description to the first sentence as follows:

The combined cycle unit consists of a Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set with a nominal capacity of 180 MW, a fired heat recovery steam generator (384 mmBTU per hour, higher heater value [HHV]), a selective catalytic reduction system, and a

catalytic oxidation system. Ancillary equipment includes an automated gas turbine control system, an inlet air filtration system, monitoring systems, and an inlet air-cooling system.

Basis of Revision: Clarification of duct burner capacity.

4. Facility Description, Page 3A-1: Gas Turbine Heat Input Capacity

FPRP requests the correction of the gas turbine heat input capacity during oil firing operations as follows:

Capacity: At a compressor inlet air temperature of 32° F, the combined cycle gas turbine produces approximately 185 MW when firing approximately 1998 mmBTU (HHV) per hour of natural gas. At a compressor inlet air temperature of 32° F, the combined cycle gas turbine produces approximately 166 MW when firing approximately 1821 mmBTU (HHV) per hour of ~~natural gas~~ distillate oil.

Basis of Revision: Clarification of gas turbine heat input capacity.

5. Facility Description, Page 3A-1: Exhaust Flow

FPRP requests the correction of exhaust flow rates as follows:

Stack Parameters: When firing natural gas at 100% load with a compressor inlet temperature of 59° F, exhaust gases exit a 20.0 feet diameter stack that is 142 feet tall with a flow rate of approximately ~~2,465,000~~ 1,158,000 acfm at 287° F.

Basis for Revision: Correction of CTG exhaust flow rate. Note that Page 16 of the FDEP permit application form inadvertently reversed the exhaust flow rates for simple and steam sales mode; a corrected Page 16 is attached.

6. Condition 3, Page 3A-1: HRSG Heat Input Reference

FPRP requests the addition of the term "higher heating value, [HHV]" to the HRSG description as follows:

Combined Cycle Gas Turbine: The permittee is authorized to install, tune, maintain and operate a new combined cycle unit consisting of: a Mitsubishi Heavy Industries Model 501F gas turbine-electrical generator set; an automated gas turbine control system; filtration and cooling systems for the compressor inlet air; a fired (384 mmBTU per hour, higher heater value [HHV]) heat recovery steam generator (HRSG); a selective catalytic reduction system; a catalytic oxidation system; emissions monitoring systems; a stack that is 20.0 feet in diameter and 142 feet tall; and other miscellaneous support equipment.

Basis of Revision: Clarification of duct burner capacity.

7. Condition 4, Page 3A-2: DLN Combustion Technology Description

FPRP requests the word "minimize" be changed to "control" as follows:

DLN Combustion Technology and Wet Injection: The permittee shall tune and maintain the Mitsubishi dry low-NOx combustion system to ~~minimize~~ control NOx emissions from the gas turbine when firing natural gas. The permittee shall tune, operate and maintain a wet injection system to ~~minimize~~ control NOx emissions from the gas turbine when firing distillate oil. Prior to the initial emissions performance tests for each gas turbine, each control system shall be tuned along with the automated gas turbine control system to ~~minimize~~ control NOx emissions.

Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations. [Design; Rule 62-212.400 (BACT), F.A.C.]

Basis for Revision: The use of "minimize" could result in differing interpretations of applicable emission standards. The Ft. Pierce Repowering Project MHI 501F will be tuned, operated, and maintained to meet all applicable NO_x BACT emission limits specified in the FDEP's PSD permit.

8. Condition 5, Page 3A-2: SCR System

FPRP requests the modification of this section as follows:

SCR System: The permittee shall install, tune, maintain and operate a selective catalytic reduction (SCR) system to control NO_x emissions from the combined cycle gas unit when firing either fuel. The SCR system consists of an ammonia injection grid, catalyst bed, ~~aqueous~~ urea to ammonia storage system, monitoring and control system, electrical, piping and other auxiliary equipment. The SCR system shall be designed to reduce NO_x emissions below permitted levels while ~~minimizing~~ controlling ammonia slip. [Rule 62-212.400 (BACT), F.A.C.]

Basis for Revision: The design for the SCR system will utilize a urea to ammonia system and no aqueous ammonia storage will be required. Additionally, the use of the word "minimize" in this section could result in differing interpretations of applicable ammonia slip requirements.

9. Condition 7, Page 3A-2: Permitted Capacity, Air Inlet Cooling

FPRP requests the modification of the description of the air inlet cooling system as follows:

Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 1998 mmBTU per hour while producing approximately 185 MW based on a compressor inlet air temperature of 32° F, the higher heating value (HHV) of natural gas, and 100% load. The maximum heat input rate to the gas turbine shall not exceed 1827 mmBTU per hour while producing approximately 166 MW based on a compressor inlet air temperature of 32° F, the higher heating value (HHV) of distillate oil, and 100% load. Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and ~~evaporative cooling~~ air inlet chilling. The permittee shall provide 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. [Rule 62-210.200(PTE), F.A.C.]

Basis for Revision: The design of this facility utilizes air inlet chilling and not evaporative cooling.

10. Condition 9, Page 3A-2: Restricted Operations

FPRP requests this section be changed to add qualifier to control system operation and correct oil-firing CTG inlet air temperature as follows:

Restricted Operation: The gas turbine shall operate only in the combined cycle mode with full emissions control by the SCR and catalytic oxidation systems, excluding startups, shutdowns, and malfunctions. The gas turbine shall fire no more than 13,122,000 gallons of distillate oil during any consecutive 12 months (equivalent to 1000 hours per year of full load operation at a gas turbine inlet air temperature of 54 45° F). When firing natural gas, operation below 50% load is prohibited, excluding startups and shutdowns. When firing natural gas and operating between 50% and 75% of base load, the gas turbine shall not operate more than 2000 hours during any consecutive 12 months. When firing distillate oil, operation below 75% load is prohibited, excluding startups and shutdowns. [Rules 62-210.200(PTE) and 62-212.400 (BACT), F.A.C.]

Basis for Revision: Control systems do not become effective until minimum HRSG temperatures are reached. Correction of CTG inlet air temperature for oil-firing.

11. Condition 10, Page 3A-2: Alternate Method of Operation

FPRP requests the addition of the term “higher heating value, [HHV]” to the HRSG description to the first sentence as follows:

Alternate Method of Operation: The combined cycle unit may operate with duct firing in the heat recovery steam generator. Only pipeline quality natural gas shall be fired in the duct burner. The maximum heat input rate to the duct burner shall not exceed 384 mmBTU per hour, higher heating value (HHV). [Design; Applicant Request; Rule 62-212.400 (BACT), F.A.C.]

Basis for Revision: Clarification of duct burner capacity.

12. Condition 11, Page 3A-3: Operating Procedures

FPRP requests the word “minimize” be changed to “control” as follows:

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

Basis for Revision: The use of “minimize” could result in differing interpretations of applicable emission standards. The Ft. Pierce Repowering Project MHI 501F will be tuned, operated, and maintained to meet all applicable emission limits specified in the Department’s PSD permit.

13. Condition 12, Page 3A-3: Emission Standards

FPRP requests the word “boiler” be changed to “gas turbine/fired heat recovery steam generator unit” as follows:

Emission Standards – Gas Turbine and Fired HRSG: Emissions from the ~~boiler~~ gas turbine/fired heat recovery steam generator unit shall not exceed the following limits for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfuric acid mist (SAM), sulfur dioxide (SO2), and volatile organic compounds (VOC). The limits apply to the exhaust from the heat recovery steam generator with and without duct firing. Mass emission limits are based a gas turbine compressor inlet air temperature of 32° F. These limits are specified as representing the Best Available Control Technology in accordance with Rule 62-212.400 (BACT), F.A.C.

Basis for Revision: Clarify emission source description.

14. Condition 12., Page 3A-3: Emission Standards

FPRP requests the correction of VOC emission rates as follows:

VOC ^b	Gas	≥ 75%	4.4 <u>6.0</u>	≤ 2.2 ppmvd corrected to 15% oxygen based on 3-hour test average
		50-75%	17.2	≤ 16.0 ppmvd corrected to 15% oxygen based on 3-hour test average
	Oil	≥ 75%	22.2	≤ 10.0 ppmvd corrected to 15% oxygen based on 3-hour test average

Basis for Revision: Requested emission rate cover all operating scenarios, including duct burner firing.

15. Condition 13, Page 3A-4: Emission Standards-Duct Burner Alone

FPRP requests the addition of SO2 emission rates as follows:

Emissions Standards – Duct Burner Alone: NOx emissions (expressed as NO2) shall not exceed 1.6 pounds per megawatt-hour gross energy output based on a 30-day rolling average, as determined by the requirements of the New Source Performance Standards in Subpart Da of 40 CFR 60 and summarized in Appendix Da of this permit. Based on the allowable maximum heat inputs, compliance with the particulate and sulfur dioxide emissions standards in Condition No. 12 shall demonstrate compliance with the NSPS Subpart Da standards of 0.03 and 0.20 lb/mmBtu, respectively. [40 CFR 60.44a]

Basis for Revision: SO₂ and PM BACT limits are more stringent than those imposed by Subpart Db.

16. Condition 15.b., Page 3A-4.

Condition 15.b. limits excluded CEMS data to four (4) hourly average values for all startups, shutdowns, and malfunctions in any calendar day. Deletion of this condition is requested by FPRP as follows:

CO and NOx CEMS Data Exclusion: No more than two hourly average emission rate values shall be excluded from the continuous compliance demonstrations due to warm startups, shutdowns, or unavoidable malfunctions. No more than four hourly average emission rate values shall be excluded from the continuous compliance demonstrations due to cold startups. ~~No more than a total of four hourly average emission rate values shall be excluded from the continuous compliance demonstrations for all such episodes in any calendar day.~~ A “warm startup” is defined as startup after the gas turbine has been shutdown for less than 48 hours. A “cold startup” is defined as startup after the gas turbine has been shutdown for 48 hours or more. An “unavoidable malfunction” is a malfunction beyond the control of the operator, which is documented within 24 hours of occurrence by contacting each Compliance Authority by telephone or facsimile transmittal.

Basis for Revision: Since excess emissions during a cold startup may last for four hours, this condition would preclude any other startups or shutdowns from occurring on a calendar day that also included a cold startup. The separate limits on CEMS data exclusions for startups, shutdowns, and malfunctions are considered sufficient to address this issue.

17. Section 4., Appendix BD, Table B-2, Oil-Firing

FPRP requests the correction of the distillate oil fuel specification as follows:

Fuel	<i>Specification: Distillate oil with a maximum sulfur content of 0.05 weight percent of 2.0 grains of sulfur per 100 SCF</i>
Fuel	<i>Compliance Method: Monthly vendor analysis (ASTM Methods D4057-88, ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-9 D4084-82 or D3246-81)</i>

Basis for Revision: Corrects fuel oil specification and compliance method for sulfur content.

18. Section 4, Appendix Da, Page Da-3

FPRP requests that the following section be included as §60.47a(o):

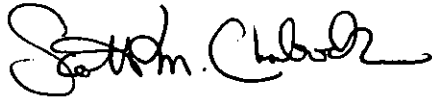
- (o) The owner or operator of a duct burner, as described in § 60.41a, which is subject to the NOX standards of § 60.44a(a)(1) or (d)(1) is not required to install or operate a continuous emissions monitoring system to measure NOX emissions; a wattmeter to measure gross electrical output; meters to

measure steam flow, temperature, and pressure; and a continuous flow monitoring system to measure the flow of exhaust gases discharged to the atmosphere.

Basis for Revision: Included in 40 CFR, Subpart Da, as revised effective June 11, 2001.

FPRP thanks you for your attention to this matter and for your consideration of our proposed changes to the draft permit. Should you wish to discuss any of these issues, please feel free to contact me at 713/345-4623.

Respectfully submitted,



Scott M. Churbock

Environmental Manager

Attachments

cc: Tom Davis, ECT, Inc.

C. Holladay
J. Goldman, SED
G. Hooley, EPA
D. Benyak, NPS



Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Fort Pierce Repowering Project, L.L.C.	
2. Site Name: H. D. King Electric Generating Plant	
3. Facility Identification Number: [<input checked="" type="checkbox"/>] Unknown	
4. Facility Location: Street Address or Other Locator: 1311 311 North Indian River Drive City: Fort Pierce County: St. Lucie Zip Code: 34950-4425	
5. Relocatable Facility? [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No	6. Existing Permitted Facility? [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No

Application Contact

1. Name and Title of Application Contact: Scott Churbock Environmental Manager	
2. Application Contact Mailing Address: Organization/Firm: Enron North America Corporation Street Address: 1400 Smith Street City: Houston State: TX Zip Code: 77002-7361	
3. Application Contact Telephone Numbers: Telephone: (713) 345-4623 Fax: (713) 646-3037	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? CTG-1		1. Emission Point Type Code: 1	
2. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): N/A			
3. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
4. Discharge Type Code: V	6. Stack Height: 125 feet (SC mode) 142 feet (SS mode)	7. Exit Diameter: 20.0 feet	
8. Exit Temperature: 1,124 °F (SC mode) 287 °F (SS mode)	9. Actual Volumetric Flow Rate: 2,464,963 acfm (SS SC mode) 1,158,059 acfm (SC SS mode)	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters): Stack temperature and flow rate are at 100 percent load, 59°F, and natural gas-firing operating conditions. Stack temperature and flow rate will vary with load, fuel type, and ambient temperature.			

The Department reviewed the air quality impact analysis conducted for emissions of CO, NO2, PM10 and SO2. Emissions of these pollutants from the project will not significantly contribute to, or cause a violation of, any state or federal ambient air quality standards. No PSD Class I impact analysis is required because the project is located 190 km north of the closest Class I area (Everglades National Park). No PSD Class II increment consumption analysis is required for CO because no PSD increments have been established for this pollutant. No PSD Class II increment consumption analysis is required for NO2 or PM10 because the maximum predicted impacts are insignificant. Because SO2 impacts were greater than the significant impact levels, multi-source modeling was conducted to evaluate the SO2 impacts from the project combined with all other major sources in the vicinity. As shown in the following table, the maximum predicted SO2 impacts are less than the allowable PSD Class II increments.

Pollutant	PSD Class II Increment Consumed (ug/m3)	Allowable Increment (ug/m3)	Increment Consumed, %
SO2, 24-hour	30	91	33%
SO2, 3-hour	81	512	16%

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 for 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.

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:

<p>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</p>	<p>Florida Department of Environmental Protection Southeast District Office Air Resources Section (400 North Congress Avenue) PO BOX 15425 West Palm Beach, Florida 33416-5425 Telephone: 561/681-6600 Fax: 561/681-6790</p>
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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. For additional information, interested persons may contact the Department's reviewing engineer for this project at the Bureau of Air Regulation at the address and phone number listed above.

Publish: June 27, 2001

2178878



THE TRIBUNE
ST. LUCIE COUNTY, FLORIDA
 P.O. Box 69, Fort Pierce, FL 34954-0069

RECEIVED

JUL 10 2001

AFFIDAVIT OF PUBLICATION

BUREAU OF AIR REGISTRATION

STATE OF FLORIDA

COUNTY OF ST. LUCIE

Before the undersigned authority personally appeared, Lynn Ferraro, General Manager; Kathy LeClair, Business Manager or Dorothy Dicks, Advertising Manager of The Tribune, a daily newspaper published at

Fort Pierce in St. Lucie County, Florida; that the attached copy of advertisement was published in The Tribune in the following issues below. Affiant further says that the said Tribune is a newspaper published at Fort Pierce in said St. Lucie County, Florida and that the said newspaper has heretofore been continuously published in said St. Lucie County, Florida daily and distributed in St. Lucie County, Florida, for a period of one year next preceding the first publication of attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper. The Tribune has been entered as second class matter at the Post Office in Fort Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

<u>Ad #</u>	<u>Name</u>	<u>Date</u>	<u>Price Per Day</u>	<u>PO #</u>
2178876	ENVIRON. CONSULT &	06/27/2001		
	ENVIRON. CONSULT &	06/27/2001	\$528.00	
Total			\$528.00	

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT
 STATE OF FLORIDA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 Project No. 1110102-001-AC
 Draft Permit PSD-FL-320
 Fort Pierce Re-Powering Project, LLC
 180 MW Gas Turbine Project
 Emissions Unit 001

Subscribed and sworn to me before this date:

06/27/2001

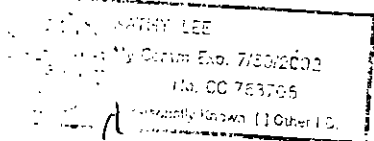
[Handwritten signature]

[Handwritten signature: Kathy Lee]
 Notary Public

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Fort Pierce Re-Powering Project, LLC (an affiliate of Enron North America) to construct a nominal 180 MW gas turbine project. The new plant will be located adjacent to the existing H. D. King Electric Generating Plant at 1311 North Indian River Drive in Fort Pierce, St. Lucie County, Florida. The applicant proposes to install one new gas turbine-electrical generator set, a gas-fired heat recovery steam generator, a selective catalytic reduction system, a catalytic oxidation system, inlet air cooling, and other associated equipment. The project will produce a nominal 180 MW of electricity for sale to the power grid and sell steam to the H.D. King Plant to re-power existing steam turbine-electrical generators. The applicant's authorized representative is Mr. Ben Jacoby, Attorney-In-Fact for the Fort Pierce Re-Powering Project, LLC. The applicant's mailing address is 1400 Smith Street, Houston, TX 77002-7361.

Determinations of the Best Control Technology (BACT) were required for emissions of carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM10), sulfuric acid mist (SAM), sulfur dioxide (SO2), and volatile organic compounds (VOC) in accordance with Rule 62-212.400 F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. The gas turbine will be fired primarily with pipeline-quality natural gas and up to an equivalent of 1000 hours per year of low sulfur distillate oil as a backup fuel. The duct burners in the heat recovery steam generator will be fired exclusively with natural gas. Emissions of CO, PM/PM10, SAM, SO2, and VOC will be minimized by the efficient combustion of low sulfur fuels. A catalytic oxidation system will further reduce CO and VOC emissions. A selective catalytic reduction system combined with dry low-NOx combustion technology (gas firing) and wet injection (oil firing) will reduce NOx emissions. The following table summarizes potential annual emissions after control from this project.

Pollutant	Emissions (Tons Per Year)
CO	76
NOx	122
PM/PM10	87
SAM	16
SO2	95
VOC	46





Environmental Consulting & Technology, Inc.

3701 NW 98th Street
Gainesville, Florida 32606
352/332-0444
FAX 352/332-6722

RECEIVED

JUL 10 2001

LETTER OF TRANSMITTAL

BUREAU OF AIR REGULATION

TO FDEP
111 South Magnolia Street
Tallahassee, FL 32301
(850) 921-9536

DATE July 9, 2001
ATTENTION Jeff Koerner, P.E.
RE: Ft. Pierce Repowering Project

PROJECT NO. 000955-0100

We are sending you Attached Under Separate Cover via _____

Copies	Description
1	Public Notice Affidavit

These are transmitted as checked below:

- For Approval
- For review and comment
- Returned for Corrections
- For your information
- Review and Correct
- Prints Returned after loan to
- As requested
- Review and File
- _____

Remarks:

Copy to Scott Churbock

Signed: T.W. Davis
T.W. Davis

cc: G. Kolman
C. Halladay
D. Goldman, SEID
D. Wulver, EPA
G. Sampah: NPS