

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the Matter of an Application for Permit by:

Mr. William Reichel, General Manager
FPL Fort Myers Plant
Post Office Box 430
Fort Myers, Florida 33905

DEP File No. 0710002-009-AC
340 MW Simple Cycle Project
Lee County

Enclosed is the Final Permit Number 0710002 -009AC to construct two (2) 170 megawatt General Electric MS7241FA gas-fired combustion turbine-generators with an 80-foot stack. The project also includes two natural gas heaters with 30-foot stacks. These units are located at the FPL Fort Myers Plant near Tice, Lee County. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



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

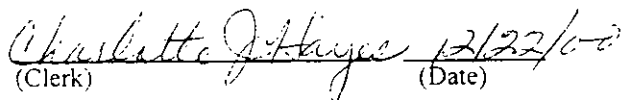
CERTIFICATE OF SERVICE

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 12/22/00 to the person(s) listed:

Mr. William Reichel, FPL*
Mr. Richard Piper, FPL
Ms. Peggy Highsmith, SD
Mr. Doug Neeley, EPA
Mr. John Bunyak, NPS
Mr. Ken Kosky, P.E., Golder Associates

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) (Date)

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

7099 3400 0000 1453 3136

Article Sent To:		
Mr. William Reichel		
Postage	\$.	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	
<small>Name (Please Print Clearly) (to be completed by mailer)</small> Mr. William Reichel <small>Street, Apt. No., or PO Box No.</small> PO Box 430 <small>City, State, ZIP+4</small> Fort Myers, FL 33905 <small>PS Form 3800, July 1999</small> <small>See Reverse for Instructions</small>		

<p>SENDER: COMPLETE THIS SECTION</p> <ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. <p>1. Article Addressed to: Mr. William Reichel General Manager FPL Fort Myers Plant PO Box 430 Fort Myers, FL 33905</p> <p>2. Article Number (Copy from service label) 7099 3400 0000 1453 3136</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Received by (Please Print Clearly) MARY K. RUSSELL B. Date of Delivery 12-28-00</p> <p>C. Signature <i>Mary K. Russell</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
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FINAL DETERMINATION
Florida Power & Light Company
Fort Myers Power Plant
340 Megawatt Simple Cycle Project
DEP File No. 1270009-004 (PSD-FL-298)

The Department distributed a public notice package on October 26, 2000 for the project to construct/install two simple cycle units to provide additional power at the Florida Power & Light (FPL) Fort Myers Plant near Tice, Lee County. The Public Notice of Intent to Issue was published in Fort Myers News-Press on November 3, 2000.

No comments were received by the Department from the public or FPL. Comments were received from EPA by letter dated December 1, 2000. EPA commented only on the BACT and the Technical Evaluation and Preliminary Determination (TEPD).

The FPL and Department's responses are included following each comment:

1. *EPA Comment: We suggest you verify the independence of this simple cycle combustion turbine project from the previous combined cycle combustion turbine project already permitted, but not yet under construction, at the FPL - Fort Myers Plant. As part of the verification, please assess whether hazardous air pollutant emissions from the combined cycle and simple cycle combustion turbines should be added together to evaluate the potential applicability of 112(g) case-by-case maximum achievable control technology requirements.*

FPL Response: Golder Associates previously addressed this matter on behalf of FPL by letter dated September 25, 2000. The letter states that "the simple cycle turbines were not considered in the initial plan of the 1998 projects. The Repowering Project and the proposed simple cycle are for two different purposes and identified separately. The need for the Fort Myers Repowering Project was identified in 1998 to provide the most efficient baseload electric power for the FPL system. In contrast, the need for new simple cycle units was identified in 1999 based on the increase in peak demand of electric power".

FPL has identified the facility as a major source of hazardous air pollutants (HAP). However an evaluation of the HAP emissions from this project indicates that emissions are less than 25 TPY for all HAPs and less than 10 TPY for a single HAP. Therefore, the requirements of 40 CFR 63.43 for maximum achievable control technology are not applicable to this project.

FDEP Response: Since the time that the repowering project was approved, the Public Service Commission increased the reserve power requirements from 10 percent to 20 percent for regulated power companies in Florida. This provides independent corroboration of FPL's explanation. Therefore the Department will not aggregate the HAP emissions from the projects to determine if a case-by-case MACT determination is required.

Recent tests were conducted for volatile organic compounds (VOC) and carbon monoxide (CO) at an identical unit installed at the TECO Polk Power Project. Emissions of VOC were between 0.1 and 0.5 ppm at various loads between 50 and 100 percent of full load. CO ranged from 0.3 to 1.7 ppm.

These values are much less than VOC and CO measurements taken concurrently (on units with lower flame temperature) when the various HAP emission factors were developed. They provide additional assurance to the Department that HAP emissions from the project will not exceed applicable HAP thresholds. The results further suggest that the repowering project and the simple cycle project will not exceed the HAP thresholds.

- 2. EPA Comment: The "Direct Annual Costs" section of the catalytic oxidation cost analysis lists an "Inventory Cost" (capital recovery for 1/3 catalyst) of \$28,548/year. This figure is included in the economic analysis in addition to the "Catalyst Cost" of \$224,667/year, which is already included in the "Direct Annual Costs" section of the economic analysis. Additionally, The Annualized Total Direct Capital figure of \$176,070/year includes the capital recovery of the initial catalyst cost (\$780,000) which is listed in the Direct Capital Costs section. Information should be provided in order to evaluate the need for both costs and verify that catalyst costs and capital recovery of the catalyst are not being double-counted.*

DEP Response: No response was received from FPL regarding this matter. However, the Department concurs with EPA. It appears that the Annualized Total Direct Capital figure of \$176,070/year already includes the capital recovery of the initial catalyst cost (\$780,000) and the "Inventory Cost" of \$28,548 (capital recovery for 1/3 of the catalyst) is double-counted. Although the Department does not adopt the consultant's cost estimates, it still considers the levelized costs of the oxidation catalyst for VOC to be unjustifiable for this project.

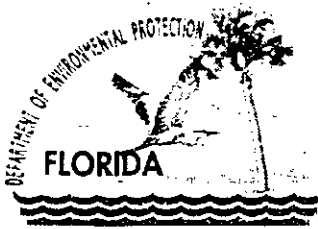
As mentioned above, actual VOC (and CO) emissions will likely be much less than permitted. Although this does not affect the cost calculations based on accepted estimating techniques, it does corroborate that, on a real basis, actual VOC control is not cost-effective.

- 3. Additional DEP Action: The following condition has been added to Section II of the permit as Condition No. 9. The Department believes that this new condition will clarify and differentiate the expiration date of the permit and the physical construction expiration date of the proposed project.*

Completion of Construction: The permit expiration date is April 30, 2003. Physical construction shall be complete by August 1, 2002. The additional time provides for testing, submittal of results, and submittal of the Title V permit to the Department.

CONCLUSION

The Final action of the Department is to issue the permit with the changes described above and to correct minor typographical errors.



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

PERMITTEE:

Florida Power & Light Company
Fort Myers Power Plant
Post Office Box 430
Fort Myers, Florida 33905

Permit No.	0710002-009AC and PSD-FL-298
Project:	340 MW Simple Cycle Project
SIC No.	4911
Expires:	April 30, 2003

Authorized Representative:

William Reichel
Plant General Manager

PROJECT AND LOCATION:

Permit to install two dual fuel simple cycle units to generate additional power. Each unit is a 170-megawatt General Electric MS7241FA gas-fired combustion turbine-generator with an 80-foot stack. The project also includes two natural gas heaters with 30-foot stacks.

This facility is located at 10650 State Road 80 near Tice, Lee County. UTM coordinates are: Zone 17; 422.3 km E and 2,952.9 km N.

STATEMENT OF BASIS:

This 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.). The above named permittee is authorized to modify the facility 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 of Environmental Protection (Department).

ATTACHED APPENDICES MADE A PART OF THIS PERMIT:

Appendix GC	Construction Permit General Conditions
Appendix BD	BACT Determination

Howard L. Rhodes, Director
Division of Air Resources
Management

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

Currently, this facility generates electric power from two residual fuel oil-fired steam units with a combined generating capacity of 593 megawatts (MW) and 12 distillate fuel oil-fired simple cycle combustion turbines with a combined generating capacity of 708 MW. A permit was issued in 1998 to install six combined cycle units and ancillary equipment to replace the above mentioned existing residual oil-fired steam generating units (nominal 1500 MW Repowering Project).

The proposed new project is to install two simple cycle units with 80-foot stacks. Each unit is a 170-megawatt General Electric PG7241FA gas-fired combustion turbine-generator to be operated on a continuous basis (8760 hours per year). The project also includes two heaters with 30-foot stacks to heat the natural gas. Inherently clean fuels and good combustion practices will be employed to control all pollutants.

This project is subject to the requirements of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) only for volatile organic compounds (VOC) as discussed in the Technical Evaluation and Preliminary Determination dated October 26, 2000.

EMISSION UNITS

This permit addresses the following emission units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
027 - 028	Power Generation	Two Simple Cycle Combustion Turbine-Generators
029 - 030	Fuel Heating	Two Natural Gas Heaters

REGULATORY CLASSIFICATION

This facility, FPL Fort Myers Power Plant, is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD).

This facility is a major source of hazardous air pollutants (HAPs) and is also subject to the provisions of Title IV, Acid Rain, Clean Air Act as amended in 1990.

PERMIT SCHEDULE

- 11/03/00 Notice of Intent published in the Fort Myers News-Press
- 10/26/00 Distributed Intent to Issue Permit
- 09/26/00 Application completed
- 08/10/00 Received Application

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION I. FACILITY INFORMATION

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on August 10, 2000
- Department's letter dated August 24, 2000
- Department's Intent to Issue and Public Notice Package dated October 26, 2000.
- EPA comments dated December 1, 2000.

AIR CONSTRUCTION PERMIT PSD-FL-298 and 0710002-009-AC

SECTION II. COMMON CONDITIONS

GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the *Permitting Authority*: Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP), at 2600 Blirstone Road, Tallahassee, Florida 32399-2400 and phone number (850)488-0114. All documents related to reports, tests, and notifications should be submitted to the *Compliance Authority*: DEP South District office, 2295 Victoria Avenue, Suite 364, Ft. Myers, Florida 33902-3381 and phone number 941/332-6975.
2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Forms and Application Procedures: 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. [Rule 62-210.900, F.A.C.]
5. Modifications: The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]
6. New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., 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. Permit Expiration Date Extension: This permit expires on. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.080, F.A.C.]
8. PSD Approval to Construct 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)]
9. Completion of Construction: The permit expiration date is April 30, 2003. Physical construction shall be complete by August 1, 2002. The additional time provides for testing, submittal of results, and submittal of the Title V permit to the Department.
10. BACT Determination: In accordance with Rule 62-212.400(6)(b), F.A.C. (and 40 CFR 51.166(j)(4)), the Best Available Control Technology (BACT) determination shall be reviewed and modified as appropriate in the event of a plant conversion. This paragraph states: "For phased construction project, the determination of best available control technology shall be reviewed and modified as appropriate at

AIR CONSTRUCTION PERMIT PSD-FL-298 and 0710002-009-AC

SECTION II. COMMON CONDITIONS

the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source." This reassessment will also be conducted for this project if there are any increases in heat input limits, hours of operation, oil firing, low or baseload operation (e.g. conversion to combined-cycle operation) short-term or annual emission limits, annual fuel heat input limits or similar changes. [40 CFR 51.166(j)(4) and Rule 62-212.400(6)(b), F.A.C.]

11. Application for Title IV Permit: At least 24 months before the date on which the new unit begins serving an electrical generator greater than 25 MW, the permittee shall submit an application for a Title IV Acid Rain Permit to the Region 4 office of the U.S. Environmental Protection Agency in Atlanta, Georgia and a copy to the Department's Bureau of Air Regulation in Tallahassee. [40 CFR 72]
12. Title V Permit: This permit authorizes construction of the permitted emissions unit and initial operation to determine compliance with Department rules. A Title V operation permit is required for routine operation of the permitted emissions units. The permittee shall apply for and obtain a Title V operation permit in accordance with Rule 62-213.420, F.A.C. 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 a copy to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

EMISSIONS AND CONTROLS

13. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]
14. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
15. Excess Emissions Allowed and Prohibited: Refer to Section III, Specific Conditions 22-24. [Rule 62-210.700(4), F.A.C.]
16. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify the 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.]
17. Operating Procedures: All operators and supervisors shall be properly trained to operate and maintain the combustion turbine and pollution control system in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as method of minimizing excess emissions. [Rule 62-4.070(3) F.A.C.]

AIR CONSTRUCTION PERMIT PSD-FL-298 and 0710002-009-AC
SECTION II. COMMON CONDITIONS

TESTING REQUIREMENTS

18. 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]
19. 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.]
20. Applicable Test Procedures
 - (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 sixty (60) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur. [Rule 62-297.310(4)(a)1. and 2., F.A.C.]
 - (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. [Rule 62-297.310(4)(b), F.A.C.]
 - (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)(d), F.A.C.]
21. Determination of Process Variables
 - (a) *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. [Rule 62-297.310(5)(a), F.A.C.]
 - (b) *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5)(b), F.A.C.]
22. 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.]
23. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.

AIR CONSTRUCTION PERMIT PSD-FL-298 and 0710002-009-AC
SECTION II. COMMON CONDITIONS

RECORDS

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

REPORTS

25. Emissions Performance Test Results Reports: A report indicating the results of any required emissions performance test shall be submitted to the *Compliance Authority* no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. [Rule 62-297.310(8), F.A.C.].
26. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the *Compliance Authority*: DEP's South District office by March 1st of each year. [Rule 62-210.370(2), F.A.C.]
27. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) and 60.334 (2000 version), shall be submitted to the *Compliance Authority*: DEP's South District office.

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

APPLICABLE STANDARDS AND REGULATIONS:

1. Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297; and the applicable provisions of the Code of Federal Regulations Section 40, Parts 60, 72, 73, and 75.
2. Applicable Requirements: Issuance of a permit does not relieve the owner or operator of an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law, notwithstanding that these applicable requirements are not explicitly stated in this permit. In cases where there is an ambiguity or conflict in the specific conditions of this permit with any of the above-mentioned regulations, the more stringent state, federal or local requirement applies. [Rules 62-204.800; 62-4.070(3), and Rule 62-210.300, F.A.C.]
3. NSPS Requirement - Subpart A: These emission units shall comply with all applicable provisions of 40CFR60, Subpart A, General Provisions including:
 - 40CFR60.7, Notification and Recordkeeping
 - 40CFR60.8, Performance Tests
 - 40CFR60.11, Compliance with Standards and Maintenance Requirements
 - 40CFR60.12, Circumvention
 - 40CFR60.13, Monitoring Requirements
 - 40CFR60.19, General Notification and Reporting requirements
4. NSPS Requirement - Subpart GG : ARMS Emission Units 027 and 028, Power Generation, consisting of two (nominal) 170 MW combustion turbines (340 MW in Simple cycle operation), shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not required to demonstrate compliance with non-NSPS permit standard(s).
5. Applicable Requirements for ARMS Emission Unit 029 and 030: Natural Gas Heater (s), shall comply with applicable specific conditions as stated below.

GENERAL OPERATION REQUIREMENTS AND CONTROL TECHNOLOGY

6. Fuels: Only pipeline natural gas (sulfur content of 2 grain per 100 standard cubic foot) and No. 2 Fuel oil (0.05% S content) or superior grade fuel oil shall be fired in these units. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
7. Turbine Capacity: The maximum heat input rates, based on the lower heating value (LHV) of the fuel to *each* combustion turbine at compressor inlet conditions of 59°F, 60% relative humidity and 14.7 psia shall not exceed: 1,600 (gas-baseload), 1,680 [(gas-high power mode (HPM))], 1,811 (oil-baseload) million Btu per hour (mmBtu/hr).

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

This maximum heat input rate will vary depending upon turbine inlet conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other compressor inlet conditions shall be provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing.

[Design, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

8. Gas-Fired Heaters. The maximum heat input rate, based on the lower heating value (LHV) of the fuel to the gas-fired heaters at ambient conditions of 59°F, 60% relative humidity, 100% load, and 14.7 psia shall not exceed 100 mmBtu per hour.
9. Simple Cycle Mode Operation Only: Each combustion turbine shall operate only in simple cycle mode. Any request to convert these units to combined cycle operation or increase the allowable hours of operation in any other mode of operation shall be approved by the Department through a permit modification in accordance with Chapters 62-210 and 62-212, F.A.C.
[Applicant Request; Rules 62-210.300 and 62-212.400, F.A.C.]
10. Alternate Gas Firing Methods of Operation: High Power Mode (HPM)
 - a. Power Augmentation Mode: In accordance with the manufacturer's recommendations, steam may be injected into each combustion turbine when firing natural gas to provide additional peaking power during periods of high electrical power demand. Each unit shall not exceed 440 hours of power augmentation during any consecutive 12 months. To qualify as "power augmentation mode", the combustion turbine must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the power augmentation mode, the operator shall log the date, time, and new mode of operation. Power augmentation when firing distillate oil is prohibited.
 - b. High Temperature Peaking Mode: In accordance with the manufacturer's recommendations, each combustion turbine may be operated in a high temperature peaking mode when firing natural gas to provide additional power during periods of peak electrical power demands. Peaking is achieved through the automated gas turbine control system by allowing slightly higher exhaust temperatures, calculating a new combustion reference temperature for the peak load, and adjusting the fuel distribution between the fuel nozzles to maintain lean pre-mix firing. During the transfer from base load to peak load and during peak load operation, each unit will remain in the pre-mix steady state mode. Each unit shall not exceed 60 hours of peaking during any consecutive 12 months. To qualify as "peaking mode", the combustion turbine must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the peaking mode, the operator shall log the date, time, and new mode of operation. Peaking when firing distillate oil is prohibited.
11. Hours of Operation: Each unit is allowed to operate continuously or 8760 hours per year. However each unit is limited to 500 hours per year operation on 0.05 % S (by weight) fuel oil or superior grade oil and 500 hours on high power mode (HPM). [Design, Rules 62-4.070(3) and 62-210.200, F.A.C. (Definitions - Potential Emissions)]
12. Control Technology Dry Low NO_x: Dry Low NO_x (DLN) combustors shall be installed on each stationary combustion turbine to control nitrogen oxides (NO_x) emissions.

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

13. Emissions Performance Diagrams: The permittee shall provide manufacturer's emissions performance versus load diagrams for the DLN systems prior to their installation. DLN systems shall each be tuned upon initial operation to optimize emissions reductions consistent with normal operation and maintenance practices and shall be maintained to minimize NO_x and CO emissions, consistent with normal operation and maintenance practices. Operation of the DLN systems in the diffusion-firing mode shall be minimized when firing natural gas. [Rule 62-4.070, and 62-210.650 F.A.C.]
14. Control Technology Wet Injection: A wet injection system shall be installed for use when firing No. 2 or superior grade distillate fuel oil for control of NO_x emissions. [Design, Rules 62-4.070 F.A.C.]

EMISSIONS LIMITS AND STANDARDS

15. Following are the emission limits determined for this project assuming full load. Values for NO_x are corrected to 15% O₂ on a dry basis. These limits or their equivalents in terms of pounds per hour, as well as the applicable averaging times, are followed by the applicable specific conditions. [Applicant Requests, Rules 62-204.800(7)(b) (Subparts GG), 62-210.200 (Definitions-Potential Emissions), F.A.C.].

POLLUTANT	CONTROL TECHNOLOGY	EMISSION LIMIT
NO _x	Dry Low NO _x for Natural Gas Wet Injection and limited Fuel Oil usage	10.5 ppmvd (Gas, Base) 15 ppmvd (Gas, HPM) 42 ppmvd (Fuel Oil)
PM/PM ₁₀ , VE	Pipeline Natural Gas, Low Sulfur Fuel Oil	10/17 lb/hr (Gas/Fuel Oil) 10 percent Opacity (Gas/Fuel Oil)
VOC (BACT)	As Above	1.5 ppmvd (Gas) 3.5 ppmvw (Fuel Oil)
CO	As Above	9 ppmvd (Gas, Base) 15 ppmvd (Gas, HPM) 20 ppmvd (Fuel Oil)
SO ₂ and Acid Mist	As Above	2 gr S/100 ft ³ (in Gas) 0.05% S (in Fuel Oil)

HPM: High Power Modes – (High Temperature Peaking or Steam Power Augmentation)

16. Nitrogen Oxides (NO_x) Emissions:
- a. *Gas Firing Base Case*: The concentration of NO_x concentrations in the exhaust gas of each combustion turbine (CT) shall not exceed 10.5 ppmvd at 15%O₂ on a 30-day rolling average basis as measured by the CEMS (maintained in accordance with 40 CFR 75). In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall exceed neither 10.5 ppmvd @15% O₂ nor 69 lb/hr to be demonstrated by stack test as required in Specific Conditions 25 to 30.
 - b. *Gas Firing High Power Modes (HPM)*: The concentration of NO_x concentrations in the exhaust gas of each CT shall not exceed 15 ppmvd at 15%O₂ on a 24-hour rolling average basis as measured by the CEMS (maintained in accordance with 40 CFR 75). In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall exceed neither 15 ppmvd @15% O₂ nor 102 lb/hr to be demonstrated by stack test conducted as required in Specific Condition 25 to30.

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

- c. *Fuel Oil Firing Operation*: The concentration of NO_x concentrations in the exhaust gas of each CT shall not exceed 42 ppmvd at 15%O₂ on a 24-hour rolling average basis as measured by the CEMS (maintained in accordance with 40 CFR 75). In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall exceed neither 42 ppmvd @15% O₂ nor 320 lb/hr to be demonstrated by stack test conducted as required in Specific Condition 25 to 30.
- d. *Gas Fired Heaters*: NO_x emission limit from each gas heater shall not exceed 0.10 lb/mmBtu to be demonstrated by stack test as required in Specific Condition 25 to 30.
17. Visible Emissions (VE): VE emissions from each turbine shall not exceed 10 percent opacity while operating in gas or fuel oil. Visible emissions from the gas heaters shall not exceed 10 percent opacity. Stack test shall be conducted as required in Specific Condition 25 to 30.
18. Particulate Matter (PM/PM₁₀): PM/PM₁₀ emissions shall not exceed 10 lb/hr when operating on natural gas and shall not exceed 17 lb/hr when operating on fuel oil. [Rule 62-4.070 (3) F.A.C]. Stack test shall be conducted as required in Specific Condition 25 to 30.
19. Carbon Monoxide (CO) emissions :
- a. *Gas Firing Base Case*: The concentration of CO concentrations in the exhaust gas of each CT shall not exceed 9 ppmvd. In addition, CO emissions (at ISO conditions) shall exceed neither 9 ppmvd nor 29 lb/hr to be demonstrated by stack test conducted as required in Specific Condition 25 to 29.
- b. *Gas Firing High Power Mode (HPM) Operation*: The concentration of CO concentrations in the exhaust gas of each CT shall not exceed 15 ppmvd. In addition, CO emissions (at ISO conditions) shall exceed neither 15 ppmvd nor 48 lb/hr to be demonstrated by stack test conducted as required in Specific Condition 25 to 30.
- c. *Fuel Oil Firing*: The concentration of CO concentrations in the exhaust gas of each CT shall not exceed 20 ppmvd. In addition, CO emissions (at ISO conditions) shall exceed neither 20 ppmvd nor 65 lb/hr to be demonstrated by stack test conducted as required in Specific Condition 25 to 30.
- d. *Gas Fired Heaters*: CO emission limit from each gas heater shall not exceed 0.075 lb/mmBtu to be demonstrated by stack test as required in Specific Condition 25 to 30.
20. Volatile Organic Compounds (VOC) Emissions: The concentration of VOC in the exhaust gas shall not exceed 1.5 ppmvd (gas) 3.5 ppmvw (oil) as determined by EPA Methods 18, 25 or 25 A. VOC emissions (at ISO conditions) shall not exceed 2.8 (gas), 7.3 (oil) lb/hr per CT to be demonstrated by stack test conducted as required in Specific Condition 25 to 30.
21. Sulfur Dioxide (SO₂) and Sulfuric Acid Mist (SAM) Emissions: SO₂ and SAM emissions shall be limited by firing pipeline natural gas (sulfur content less than 2 grain per 100 standard cubic foot) or by firing No. 2 or superior grade distillate fuel oil with a maximum 0.05 percent sulfur. [40CFR60 Subpart GG and Rules 62-4.070, and 62-204.800(7), F.A.C.]

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

EXCESS EMISSIONS

22. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period for other reasons unless specifically authorized by DEP for longer duration. Operation below 50% output shall be limited to two hours in any 24-hour period, regardless of unit cycles (breaker closed to breaker open) [Rules 62-210.700, 62-4.130 F.A.C.].
23. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, power augmentation, high temperature peaking or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C. All such emissions shall be included in the 30-day rolling average (gas-base case) or the 24-hr average (oil or HPM) to demonstrate compliance with the continuous NO_x standard. [Rules 62-210.700 (4) F.A.C.].
24. Excess Emissions Report: If excess emissions occur for more than two hours due to malfunction, the owner or operator shall notify DEP's South District office within (i) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, all excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. Following this format, 40 CFR 60.7, periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards listed in Specific Condition No. 15 and 16. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7 (2000 version)].

COMPLIANCE DETERMINATION

25. Test Compliance Schedule: Compliance tests with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days following initial operation of the unit, and annually thereafter as indicated in this permit or as required by the *Compliance Authority*. [40CFR 60.8 and Rule 62-4.070(3) F.A.C.]
26. Initial Performance and Annual Compliance Tests: Initial (I) performance tests (for both fuels) for each unit shall be conducted as indicated in Specific Conditions 29 and 30. Annual (A) compliance tests for each unit shall be conducted during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on each CT as indicated in Specific Conditions 29 and 30. Where *initial test only* are indicated, these tests shall be repeated prior to renewal of each operation permit.
27. Test After Substantial Modifications: Initial tests for each unit shall also be conducted after any substantial modifications and appropriate shake down period of air pollution control equipment such as change or tuning of combustors. Shakedown periods shall not to exceed 100 days after re-starting the combustion turbine. This does not apply to routine maintenance. [Rules 62-297.310(7)(a)4 and 62-4.070(3), F.A.C.]
28. Tests Prior to Permit Renewal: Prior to renewing air operation permits, performance tests shall be conducted for each combustion turbine to demonstrate compliance with the CO, NO_x, PM, VOC and visible emissions standards for normal gas firing, gas firing with power augmentation, gas firing with high temperature peaking, and backup oil firing. Tests for CO, NO_x, and VOC emissions shall be

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

conducted concurrently. Tests for PM and visible emissions shall be conducted concurrently. All tests shall be conducted within the 12 months prior to renewing the air operation permit.
[Rule 62-297.310(7)(a)3., F.A.C.]

29. Test Methods: The following reference methods as described in 40 CFR 60, Appendix A (2000 version), and adopted by reference in Chapter 62-204.800, F.A.C., shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing pursuant to Rule 62-297.310 (6), F.A.C.
- EPA Reference Method 5 or 17. "Determination of Particulate Emissions from Stationary Sources" (I)
 - Method 7E, "Determination of Nitrogen Oxides Emissions from Stationary Sources" or RATA test data may be used to demonstrate compliance for annual (A) test requirements.
 - EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (I, A).
 - EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (I, A).
 - EPA Reference Method 20, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines." Initial test only for compliance with 40CFR60 Subpart GG.
 - EPA Reference Method 18, 25 or 25A, "Determination of Volatile Organic Concentrations." Initial test only.
 - EPA Reference Method 19. "Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates". Method 19 shall be used only for the calculation of lb/mmBtu and 40CFR75 shall be used to calculate mmBtu/hr and lb/hr emissions rates from stack tests. Initial test only.
30. Combustion Turbine Testing Capacity Procedures:
- a. *Initial performance tests* shall be conducted in accordance with 40CFR 60.8 and 40 CFR60.335 for pollutants subject to New Source Performance Standards (NSPS) in Subpart GG for gas turbines.
 - b. *Other required performance tests* for compliance with standards specified in this permit shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit, corrected for the average compressor inlet temperature during the test (with 100 percent represented by a curve depicting heat input vs. compressor inlet temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the entire heat input vs. compressor inlet temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for compressor inlet temperature) and 110 percent of the value reached during the test 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 purposes of additional compliance testing to regain the permitted capacity. Test procedures shall meet all applicable requirements (i.e., testing time frequency, minimum compliance duration, etc.) of Chapter 62-204 and 62-297 F.A.C.

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

- c. *For higher operating mode performance tests* conducted when gas firing under the power augmentation mode and under the high temperature peaking mode, the permittee shall document that the combustion turbine was operating under “peak load” for the given ambient conditions. For power augmentation, the steam injection rate shall be no less than 100,000 pounds of steam per hour.

[Rule 62-297.310(2), F.A.C.: 40 CFR 60.335]

31. Compliance with the SO₂ and PM/PM₁₀ emission limits: Notwithstanding the requirements of Rule 62-297.340, F.A.C., the use of pipeline natural gas as the primary fuel and restricted use of No.2 distillate oil (or superior grade) is the method for determining continuous compliance for SO₂ and PM/PM₁₀. Initial PM and upon permit renewal tests are required. VE shall serve as a surrogate for PM/PM₁₀ annual compliance test. Test for PM and visible emissions shall be conducted concurrently.
32. Test Methods for Natural Gas and Fuel Oil Sulfur Content: For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard, ASTM D 2880-71 (or equivalent) for sulfur content of liquid fuel and ASTM methods D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel and shall be utilized in accordance with the EPA-approved custom fuel monitoring schedules. Natural gas supplier data or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be submitted when demonstrating compliance for this fuel. However, the applicant is responsible for ensuring that the procedures in 40 CFR 60.335 or 40 CFR 75 are used when determination of fuel sulfur content is made. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e) (2000 version)
33. Compliance with Visible Emissions (VE) limits: Initial and annual tests are required for visible emissions. Test for PM and visible emissions shall be conducted concurrently.
34. Compliance with CO emission limits: An initial test for CO, shall be conducted concurrently with the initial VOC and NO_x tests while operating at permitted capacity. These initial VOC, NO_x and CO test results shall be the average of three runs. Annual compliance testing for CO may be conducted at less than capacity when compliance testing is conducted concurrent with the annual NO_x RATA testing which is performed pursuant to 40 CFR 75.
35. Compliance with the VOC emission limits: Initial and permit renewal compliance stack tests are required to demonstrate compliance with the VOC emission limits. CO emission limits and periodic tuning data will be employed as a surrogate and no annual testing is required.
36. Compliance with the NO_x limits: Compliance with the NO_x emissions limits shall be determined by stack tests and a CEMS as specified in specific conditions No. 29, 44, and 45.

NOTIFICATION, REPORTING, AND RECORDKEEPING

37. Notifications: All notifications and reports required by any applicable requirements of 40 CFR Subpart A and GG shall be submitted to the DEP's South District office.
38. Reports and Records: These units facility shall also comply with all the record and report requirements specified in Section II, Specific Conditions No 24 through 27.

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

39. Monthly Operations Record Summary: By the fifth calendar day of each month, the permittee shall record the hours of each mode of operation and the fuel consumption for each combustion turbine. The information shall be recorded in a written or electronic log and shall summarize the previous month of operation and the previous 12 months of operation. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request from the DEP South District Office. [Rule 62-4.160(15), F.A.C.]
40. Fuel Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.
- a The permittee shall obtain data sheets from the vendor indicating the average sulfur content of the natural gas being supplied by the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 or equivalent methods as specified in Specific Condition 32.
 - b The permittee shall obtain data sheets from the vendor indicating the quantity and sulfur content of the distillate oil for each shipment delivered. Methods for determining the sulfur content of distillate oil shall be ASTM D 2880-71 or equivalent methods as specified in Specific Condition 32.

MONITORING REQUIREMENTS

41. Continuous Monitoring System Procedures: The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the NO_x emissions from each CT. Each device shall properly function prior to the initial performance tests and comply with the applicable monitoring system requirements of 40 CFR 75.62. Upon request from DEP, the CEMS emission rates for NO_x on each CT shall be corrected to ISO conditions to demonstrate compliance with the NO_x standard established in 40 CFR 60.332.
[Rules 62-4.070 F.A.C., 62-210.700, F.A.C., 62-4.130, F.A.C and 40CFR75]
42. Continuous Monitoring Certification and Quality Assurance Requirements: The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40CFR75. The monitoring plan, consisting of data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location shall be provided to the DEP Emissions Monitoring Section Administrator and EPA for review no later than 45 days prior to the first scheduled certification test pursuant to 40 CFR 75.62
43. Continuous Monitoring System Operation: The continuous monitoring systems (CEMS) for NO_x shall be in continuous operation except for breakdowns, repairs, calibration checks, and zero and span adjustments. Emissions shall be monitored and recorded at all times including startup, operation, shutdown, and malfunction. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data average. These CEMS shall meet minimum frequency of operation requirements: one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. Valid hourly emission rates shall not include periods of startup, shutdown, or malfunction unless prohibited by 62-210.700 F.A.C. These excess emissions periods shall be reported as require in Specific Conditions 24 and 46.
[Rules 62-4.130, 62-4.160(8), 62-204.800, 62-210.700, 62-4.070 (3), and 62-297.520, F.A.C.; 40 CFR 60.7; 40 CFR 60.13, 40 CFR 75]

AIR CONSTRUCTION PERMIT PSD-FL-298 (0710002-009-AC)
SECTION III. SPECIFIC CONDITIONS

44. Continuous Compliance with the NO_x Emission Limits – Base Case Operation: Continuous compliance with the NO_x emission limits shall be demonstrated with the CEM system based on a 30-day rolling average. Based on CEMS data, a separate compliance determination is conducted at the end of each operating day and a new 30 day average emission rate is calculated from the arithmetic average of all valid hourly emission rates during the previous 30 operating days. A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at least 15 minutes apart. [Rules 62-4.130, 62-4.160(8), 62-204.800, 62-210.700, 62-4.070 (3), and 62-297.520, F.A.C.; 40 CFR 60.7; 40 CFR 75]
45. Continuous Compliance with the NO_x Emission Limits - Alternate Methods of Operation: Each 1-hour monitoring average consisting of any data collected during an alternate method of operation (*oil firing, power augmentation, or peaking*) shall be attributed entirely to the alternate method of operation. For each 24-hour average consisting of more than one method of operation, compliance shall be determined by prorating each emission standard based on the number of 1-hour averages represented. In event of a CEMS malfunction or occurrence of excess emissions while operating in the power augmentation or peaking modes, the permittee shall immediately cease power augmentation or peaking and revert to normal gas firing or shut down the combustion turbine. A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at least 15 minutes apart. [Rules 62-4.130, 62-4.160(8), 62-204.800, 62-210.700, 62-4.070 (3), and 62-297.520, F.A.C.; 40 CFR 60.7; 40 CFR 75]
46. CEMS for Reporting Excess Emissions: The NO_x CEMS may be used in lieu of the requirement for reporting excess emissions in 40 CFR 60.334(c)(1), Subpart GG (2000 version). Excess Emissions and Monitoring System Performance Reports shall be submitted as specified in 40 CFR 60.7(c). CEM monitor downtime shall be calculated and reported according to the requirements of 40 CFR 60.7(c)(3) and 40 CFR 60.7(d)(2). Periods when NO_x emissions (ppmvd @ 15 % oxygen) are above the permit limits listed in Specific Conditions 15 and 16, shall be reported to the DEP South District office as required in Specific Condition 24.
47. CEMS in lieu of Water to Fuel Ratio: The NO_x CEMS shall be used in lieu of the water/fuel monitoring system for reporting excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG (2000 version). The calibration of the water/fuel monitoring device required in 40 CFR 60.335 (c)(2) (2000 version) will be replaced by the 40 CFR 75 certification tests of the NO_x CEMS.
48. Natural Gas Monitoring Schedule: The following custom monitoring schedule for natural gas is approved in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2):
- The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
 - The permittee shall submit a monitoring plan, certified by signature of the Designated Representative (DR), that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11(d)(2)).
 - Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.
49. Fuel Oil Monitoring Schedule: The following monitoring schedule for No. 2 or superior grade fuel oil shall be followed: For all bulk shipments of No. 2 fuel oil received at this facility an analysis which reports the sulfur content and nitrogen content of the fuel shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

FPL Ft Myers 340 MW Simple Cycle Project PSD-FL-298 and 0710002-009-AC Lee County, Florida

BACKGROUND

Florida Power & Light Company (FPL) proposes to install two nominal 170-megawatt combustion turbine-generators. The units will be permitted to operate continuously while firing natural gas. The units will operate in power augmentation or peaking modes (high power modes -- HPM) for 500 hours per year and will burn fuel oil during 500 hours per year.

The project will result in a significant increase of volatile organic compounds (VOC) per Table 62-212.400-2, F.A.C. Therefore a determination of Best Available Control Technology is required for this pollutant.

DATE OF RECEIPT OF A BACT APPLICATION:

The application was received on August 10, 2000 and included a proposed BACT- VOC analysis prepared by the applicant's consultant, Golder Associates Inc.

REVIEW GROUP MEMBERS:

A. A. Linero, P.E., and Teresa Heron, Permit Engineer

BACT DETERMINATION REQUESTED BY THE APPLICANT:

The applicant has proposed good combustion practices to control VOC to 1.5 ppmvd while firing natural gas and 3.5 ppmvw when firing distillate oil.

According to the application, total annual emissions of VOC are expected to be approximately 62 TPY from the project.

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

BACT DETERMINATION BY THE DEPARTMENT


Volatile organic compound (VOC) emissions, like CO emissions, are formed due to incomplete combustion of fuel. The combustion turbine, particularly with the very high firing temperatures characteristic of the F-Class technology, is very efficient at destroying VOC.

The applicant has proposed good combustion practices to control VOC to 1.5 ppmvd while firing natural gas and 3.5 ppmvw when firing distillate oil. The limit for gas firing is equal to the lowest BACT-based VOC limit known to the Department. Further reduction by installation of oxidation catalyst was not determined to be cost-effective based on the applicant's estimate of \$60,000 per ton of VOC removed (assuming a 90% percent control efficiency).

The limit for the limited oil firing case is consistent with levels established as BACT. According to GE, even lower VOC emissions were achieved during recent tests of the DLN-2.6 technology when firing natural gas.¹ This was recently confirmed by tests during which values between 0.1 and 0.5 ppmvd were measured at operating loads between and including 50 and 100 percent.² The Department accepts FPL's VOC proposal as BACT for this project.


DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:


Teresa Heron, Project Review Engineer, New Source Review Section
A. A. Linero, P.E. Administrator, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

 12/18/00

Recommended By:

Approved By:


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


Howard L. Rhodes, Director
Division of Air Resources Management

12/20/00
Date:

12/21/2000
Date:

References

- ¹ Telecom. Vandervort, C., GE, and Linero, A. A., DEP. VOC Emissions From FA Gas Turbines with DLN-2.6 Combustors.
- ² Report. Cubix Corp. Emissions from a GE PG7241 Natural Gas-fired Simple Cycle Combustion Turbine at TECO Polk Power Station. September 2000.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.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.
- G.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.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- a) Determination of Best Available Control Technology for VOC only;
 - b) Determination of Prevention of Significant Deterioration non-applicability for other pollutants; and
 - c) Compliance with New Source Performance Standards.
- G.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.
- G.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.