Memorandum

Florida Department of Environmental Protection

TO: Michael G. Cooke, Division of Air Resources Management

THRU: Trina Vielhauer, Bureau of Air Regulation
Al Linero, New Source Review Section

FROM: Jeff Koerner, New Source Review Section

DATE: December 8, 2003

SUBJECT: Air Permit No. 0410004-007-AC
Florida Gas Transmission Company
Station 24, Gilchrist County
Replacement of Engine 2401

The Final Permit for this project is attached for your approval and signature. The permit authorizes replacement of existing Engine 2401 with a smaller 13,000 bhp (ISO) gas turbine. The air construction permit also consolidates all previous regulatory requirements for the remaining emissions units under a single air construction permit. The new equipment will be installed at existing Compressor Station 24, which is located near the city of Trenton in Gilchrist County, Florida.

The proposed project is part of Florida Gas Transmission Company's overall Phase VI project intended to increase the natural gas supply capacity to service domestic, commercial, and industrial customers in Florida. The project results in a minor source air construction permit and is not subject to PSD preconstruction review. The Bureau of Air Regulation agreed to process all Phase VI projects for Florida Gas Transmission Company to provide statewide consistency during construction.

An "Intent to Issue Permit" package was distributed on November 18, 2003. The applicant published the "Public Notice of Intent to Issue" in the Gainesville Sun on November 20, 2003. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed. Day #90 is February 24, 2004. I recommend your approval of the attached Final Permit for this project.

Attachments

FINAL DETERMINATION

PERMITTEE

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

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

Air Permit No. 0410004-007-AC
Replacement of Engine 2401

This permit authorizes the replacement of existing Engine 2401 with a smaller 13,000 bhp (ISO) gas turbine. The air construction permit also consolidates all previous regulatory requirements for the remaining emissions units under a single air construction permit. The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida.

NOTICE AND PUBLICATION

An "Intent to Issue Permit" package was distributed on November 18, 2003. The applicant published the "Public Notice of Intent to Issue" in the Gainesville Sun on November 20, 2003. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed.

COMMENTS

No comments on the Draft Permit were received from the public, the Department's Northeast District Office, or the applicant.

CONCLUSION

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

Air Permit No. 0410004-007-AC
Compressor Station 24
Project: Replacement of Engine 2401
Gilchrist County, Florida

Authorized Representative:
Mr. Rick Craig, V.P. of Southeastern Operations

Enclosed is Final Air Permit No. 0410004-007-AC, which authorizes the replacement of existing Engine 2401 with a smaller 13,000 bhp (ISO) gas turbine. The air construction permit also consolidates all previous regulatory requirements for the remaining emissions units under a single air construction permit. The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. As noted in the attached Final Determination, only minor changes and clarifications were made. 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.

Trina L Vielhauer

Trina Vielhauer, 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 12/18/03 to the persons listed:

Mr. Rick Craig, FGTC*
Mr. Jacob Krautsch, FGTC
Mr. David Holmes Parham, FGTC

Mr. V. Duane Pierce, AQMcs
Mr. Chris Kirts, NED

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.

Victoria Gibson (Clerk) 12/18/03 (Date)

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 Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

Authorized Representative:
Mr. Rick Craig, V.P. of Southeastern Operations

Air Permit No. 0410004-007-AC
Facility ID No. 0410004
Compressor Station 24
Project: Replacement of Engine 2401
Gilchrist County, Florida
Permit Expires: November 30, 2004

PROJECT AND LOCATION

This permit authorizes the replacement of existing Engine 2401 with a smaller 13,000 bhp (ISO) gas turbine. The air construction permit also consolidates all previous regulatory requirements for the remaining emissions units under a single air construction permit. The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. The UTM coordinates are Zone 17, 321.3 km East, and 3282.8 km North.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.); 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 60 of the Code of Federal Regulations. 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. This air construction permit supersedes all previous air construction permits for the emissions units at this facility.

CONTENTS

Michael G. Cooke, Director
Division of Air Resources Management

12/17/03
(Date)

FACILITY AND PROJECT DESCRIPTION

Florida Gas Transmission Company (FGTC) operates existing Compressor Station 24 in Gilchrist County for their natural gas pipeline. The station currently consists of a 15,000 bhp gas turbine (Engine 2401), a 7222 bhp gas turbine (Engine 2402), and miscellaneous support activities. The permittee proposes to replace Engine 2401 with a smaller 13,000 bhp gas turbine. Upon completing the replacement, the station will consist of the following emissions units.

ID No.	Emission Unit Description
001	Engine 2401: Solar Model Mars 90-T13000S gas turbine rated at 13,000 bhp (ISO)
002	Miscellaneous support activities
003	Engine 2402: Cooper-Rolls Model No. 501-KC7-DLE gas turbine rated at 7222 bhp (ISO)

The project is part of FGTC's overall Phase VI project intended to increase the natural gas supply capacity and reliability to service domestic, commercial, and industrial customers in Florida. The permit consolidates the regulatory requirements for the emissions units at this facility.

REGULATORY CLASSIFICATION

Title III: The facility is not a major source of hazardous air pollutants (HAP).

Title IV: The facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is not a Title V major source of air pollution pursuant to Chapter 62-213, F.A.C.

PSD: The facility is not a PSD major source of air pollution pursuant to Rule 62-212.400, F.A.C.

NSPS: New gas turbines are subject to the New Source Performance Standards of Subpart GG in 40 CFR 60.

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 No. 0410004-001-AC: Initial authorization to construct the new station (Engine 2401).
- Permit No. 0410004-002-AO: Initial air operation permit (Engine 2401).
- Permit No. 0410004-003-AC: Modification to increase heat input rate for Engine 2401.
- Permit No. 0410004-004-AC: Modification to increase heat input rate for Engine 2401.
- Permit No. 0410004-005-AO: Revision of the air operation permit (Engine 2401).
- Permit No. 0410004-006-AC: Authorization to construct of Engine 2402.
- Project No. 041004-007-AC: Application to replace Engine 2401 (also consolidates all emissions units).

1. Permitting Authority: All documents related to applications for permits to operate an emissions unit shall be submitted to the Department's Air Resource Section of the Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/807-3300.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Air Resource Section of the Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/807-3300.

3. Appendices: The following Appendices are attached as part of this permit.

   Appendix A. Citation Format

   Appendix B. Common State Regulatory Requirements

   Appendix C. NSPS Subpart GG Requirements for Gas Turbines

   Appendix D. Custom Fuel Monitoring Schedule

   Appendix E. Summary of Potential Emissions

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the emissions units 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.; Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.; and Title 40, Part 60 of the Code of Federal Regulations, adopted by reference in Rule 62-204.800, F.A.C. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

5. 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.]

6. 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.]

7. Air Operation Permit: This permit authorizes the proposed work and initial operation of the units to determine compliance with Department rules. An air operation permit is required for regular operation of the permitted emissions unit. At least sixty (60) days prior to the expiration of this air construction permit, the permittee shall submit an application for an air operation permit with the required compliance test report. [Rules 62-210.300, F.A.C.]

This section of the permit addresses the following emissions units.

EU ID	Emissions Unit Description
001	Compressor Engine 2401 consists of a Solar Model No. Mars 90-T13000S gas turbine. *Fuel*: The gas turbine fires pipeline natural gas (SCC No. 2-02-002-01) at a maximum firing rate of approximately 108,100 cubic feet per hour based on a heating value (HHV) for natural gas of 1040 Btu/scf. *Capacity*: At a maximum heat input rate of 113 MMBtu per hour, the gas turbine produces approximately 13,000 bhp (ISO). The gas turbine is intended to operate at or near capacity. *Controls*: The efficient lean premix combustor design minimizes emissions of CO, NOx, and VOC. The exclusive combustion of natural gas minimizes emissions of PM and SO2. *Stack Parameters*: When operating at capacity, exhaust gases exit a rectangular stack (7.5 feet by 8 feet) that is 58 feet tall with a flow rate of approximately 179,100 acfm and a temperature of approximately 873° F.
002	Miscellaneous support equipment at this station includes of a 443 bhp gas-fired emergency generator ("GEN03"), an oily water tank, a diesel oil tank, a pipeline condensate storage tank, and miscellaneous fugitive emissions from pipeline equipment such as pumps, valves, flanges, connectors, etc. *{Permitting Note: The emergency generator is expected to operate much less than 500 hours per year.}*
003	Compressor Engine 2402 consists of a Cooper-Rolls Royce Model No. 501-KC7-DLE gas turbine. *Fuel*: The gas turbine fires pipeline natural gas (SCC No. 2-02-002-01) at a maximum firing rate of approximately 60,700 cubic feet per hour based on a heating value (HHV) of 1040 Btu per scf of gas. *Capacity*: At a maximum of 63 MMBtu per hour of heat input, the gas turbine produces approximately 7222 bhp (ISO). The gas turbine is intended to operate at or near capacity. *Controls*: The efficient lean premix combustor design minimizes emissions of CO, NOx, and VOC. The exclusive combustion of natural gas minimizes emissions of PM and SO2. *Stack Parameters*: When operating at capacity, exhaust gases exit a rectangular stack (7.33 feet by 5.50 feet) that is 61 feet tall with a flow rate of approximately 98,000 acfm and a temperature of approximately 960° F.

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS Requirements: Each gas turbine shall comply with the New Source Performance Standards (NSPS) of Subpart GG in 40 CFR 60. The applicable NSPS requirements are provided in Appendix C of this permit. An approved Custom Fuel Monitoring Schedule is specified in Appendix D of this permit. The Department believes that the conditions in this section are at least as stringent as, or more stringent than, the NSPS requirements of Subpart GG. [Rule 62-210.800, F.A.C.; 40 CFR 60, Subpart GG]

2. Other Permits: This permit supersedes all previous air construction permits for the emissions units identified at this facility. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

3. Compressor Engine 2401: The permittee is authorized to replace existing Engine 2401 with a 13,000 bhp (ISO) Solar Model No. Mars 90-T13000S gas turbine with lean premix combustor design. Ancillary equipment includes the automated gas turbine control system, an inlet air filtration system, and a rectangular stack. The permittee shall tune, operate and maintain the gas turbine's lean premix combustion system to reduce emissions of nitrogen oxides to achieve the permitted standards. The existing 15,000 bhp Solar Mars 100-T15000S gas turbine shall be permanently removed from this site. [Applicant Request; Design]

4. Compressor Engine 2402: The permittee is authorized to install one 7222 bhp (ISO) gas turbine compressor engine consisting of a Cooper-Rolls Royce Model No. 501-KC7-DLE. Ancillary equipment includes the automated gas turbine control system, an inlet air filtration system, and a rectangular stack. The permittee shall tune, operate and maintain the gas turbine's lean premix combustion system to reduce emissions of nitrogen oxides to achieve the permitted standards. [Applicant Request; Design]

PERFORMANCE RESTRICTIONS

5. Permitted Capacities

a. *Engine 2401*: The maximum heat input rate to the gas turbine is 113 MMBtu per hour while producing approximately 13,000 bhp (ISO) based on a turbine inlet air temperature of 59° F, 100% load, and a heating value (HHV) of 1040 Btu/scf of natural gas.

b. *Engine 2402*: The maximum heat input rate to the gas turbine is 63 MMBtu per hour while producing approximately 7222 bhp (ISO) based on a turbine inlet air temperature of 59° F, 100% load, and a heating value (HHV) of 1040 Btu per scf of natural gas.

Heat input rates will vary depending upon gas turbine characteristics, load, and ambient conditions. 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 testing. Performance data shall 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.] *{Permitting Note: The maximum heat input rates are based on the manufacturer's equipment specifications for each gas turbine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit's rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

6. Authorized Fuel: Each gas turbine shall fire only natural gas with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

7. Restricted Operation: The hours of operation for each gas turbine are not restricted (8760 hours per year). Except for startup and shutdown, operation below 50% base load is prohibited. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

8. Emissions Standards: Each gas turbine shall not exceed the following standards for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

Pollutant	Standards Engines 2401 and 2402	Equivalent Maximum Emissions [f]				Rule Basis [g]
		Engine 2401		Engine 2402		
		lb/hour	TPY	lb/hour	TPY	
CO [a]	50.0 ppmvd @ 15% O_2	12.3	54	7.0	31	Rule 62-4.070(3), F.A.C.
NOx [b]	25.0 ppmvd @ 15% O_2	10.1	44	5.7	25	Rule 62-4.070(3), F.A.C. 40 CFR 60.332
SO_2 [c]	10 grains of sulfur/100 scf	3.1	14	1.7	8	Rule 62-4.070(3), F.A.C. 40 CFR 60.333
Opacity [d]	10% opacity, 6-minute average	Not Applicable				Rule 62-4.070(3), F.A.C.
PM [e]	Lean premix combustion design	0.7	3	0.4	2	Rule 62-4.070(3), F.A.C.
VOC [e]	Lean premix combustion design	0.4	2	1.5	7	Rule 62-4.070(3), F.A.C.

a. The CO standards are based on the average of three test runs as determined by EPA Method 10.

b. The NOx standards are based on the average of three test runs as determined EPA Method 20.

c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO_2 emissions. Expected fuel sulfur levels are less than 1 grain per 100 scf of natural gas from the pipeline.

d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.

e. PM and VOC emissions are minimized by the equipment specification of "lean premix combustion design" for each gas turbine. The equivalent maximum emissions are provided for informational purposes only. PM emissions are based on an AP-42 emission factor of 0.0066 lb/MMBtu (Table 3.1-2a). VOC emissions are based on available vendor data and exclude emissions of methane and ethane, which are assumed to be 90% of the factor for total unburned hydrocarbons. No testing or other compliance demonstration is required for emissions of PM or VOC.

f. Equivalent maximum emissions for each gas turbine are based on: permitted capacity, a turbine inlet air temperature of 59° F, full operation (8760 hours per year), and the permit standards (CO, NOx, and SO_2) or the maximum expected emissions (PM and VOC). For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the turbine inlet temperatures. Each test report shall include measured mass emission rates for CO, NOx and SO_2. Mass emission rates for SO_2 shall be calculated based on actual fuel sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on turbine inlet temperatures.

g. The emissions standards of this permit ensure that the facility remains a minor source of air pollution with respect to both the PSD preconstruction review permit program and the Title V operating permit program.

Appendix E of this permit summarizes the potential emissions estimates for Station 24.

EMISSIONS PERFORMANCE TESTING

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

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources *{Permitting Note: The method shall be based on a continuous sampling train.}*
19	Determination of SO_2 Removal Efficiency and Emission Rates for PM, SO_2, and NOx *{Permitting Note: Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.}*
20	Determination of NOx, SO_2, and Diluent Emissions from Gas Turbines

The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing without prior written approval from the Department. Tests shall also be conducted in accordance with the requirements specified in Appendix B of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

10. Initial Tests: Each gas turbine shall be tested to demonstrate initial compliance with the emission standards for CO, NOx, and visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup of the gas turbine. The initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load. Each of the three low-load NOx performance tests shall consist of three, 20-minute test runs. The peak load NOx performance test shall consist of three, 1-hour test runs. The CO performance tests shall be conducted concurrently with the NOx performance tests at peak load. SO_2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. *{Permitting Note: The permittee may have previously satisfied the requirement for the initial testing of Engine 2402.}* [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]

11. Annual Tests: During each federal fiscal year (October 1 - September 30), each gas turbine shall be tested to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. CO and NOx emissions shall

be tested concurrently at permitted capacity. SO2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a), F.A.C.]

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

RECORDS AND REPORTS

13. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix B of this permit. For each required NOx test, emissions shall be corrected to equivalent terms and compared to the NSPS Subpart GG standard identified in Appendix C of this permit. For each test run, the report shall also indicate the natural gas firing rate (cubic feet per hour), heat input rate (MMBtu per hour), the power output (bhp), percent of base load, and the turbine inlet temperature. [Rule 62-297.310(8), F.A.C.; 40 CFR 60.334]

14. Operational Data: Using the automated gas turbine control system, the permittee shall monitor and record heat input (MMBtu), power output (bhp), and hours of operation for each gas turbine. Operational information shall be summarized and reported with the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

15. Component Replacements: Each gas turbine system consists of the following general components: gas generator, accessory drive system, air inlet and filtration system, fuel delivery system, cooling system, lubrication system, power turbine, power shaft, control system, starting system, and exhaust system with stack. These light-industrial aero-derivative gas turbines are designed with modular components to facilitate quick repairs. Common "wear items" include stator blades, turbine nozzles, turbine buckets, fuel nozzles, combustion chambers, seals, and shaft packings. The modular design extends to complete replacement of the gas generator and power turbine. Replacements are authorized provided the following requirements are met.

    a. Components shall be replaced with functionally equivalent "like-kind" equipment. Replacement components may consist of upgraded equipment, but shall not increase the maximum heat input rate to, or emissions from, the gas turbine. Replacement components shall be designed to achieve, and shall achieve, the emissions standards specified in this permit or better.

    b. The permittee shall keep the Compliance Authority informed of any scheduled gas generator replacements. Within ten days of first fire on a replacement gas generator, the permittee shall provide the following: date of first fire; certification from the vendor that the replacement gas generator is a functionally equivalent "like-kind" component designed to achieve the emissions standards specified in this permit; specifications including vendor, model number, serial number, maximum heat input rate (MMBtu/hour), power output (bhp), and maximum emission rates; and a preliminary schedule for conducting performance testing. A copy of the vendor certification shall be kept on site with the air permit. Replacement gas generators are subject to the standards of this permit. Within 60 days of replacing a gas generator, the permittee shall conduct emissions stack tests to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. The permittee shall comply with the requirements for notification, test methods, test procedures, and reporting specified in this permit.

    c. To up-rate a gas turbine or increase the maximum heat input rate, the permittee shall apply for prior approval through the air construction permit process.

    d. After investigation and for good cause (such as complaints, increased visible emissions or questionable maintenance of control equipment), the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.

    [Rule 62-4.070(3), F.A.C.]

Contents

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 CRF 60.7]

Means: Title 40, Part 60, Section 7

{Permitting Note: Unless otherwise specified by permit, the following conditions apply to all emissions units and activities at this facility.}

GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions. [Rule 62-4.160(1), F.A.C.]

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. [Rule 62-4.160(2), F.A.C.]

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. [Rule 62-4.160(3), F.A.C.]

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. [Rule 62-4.160(4), F.A.C.]

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. [Rule 62-4.160(5), F.A.C.]

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. [Rule 62-4.160(6), F.A.C.]

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. [Rule 62-4.160(7), F.A.C.]

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. [Rule 62-4.160(8), F.A.C.]

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. [Rule 62-4.160(9), F.A.C.]

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. [Rule 62-4.160(10), F.A.C.]

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. [Rule 62-4.160(11), F.A.C.]

12. This permit or a copy thereof shall be kept at the work site of the permitted activity. [Rule 62-4.160(12), F.A.C.]

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (not applicable);
    b. Determination of Prevention of Significant Deterioration (not applicable); and
    c. Compliance with New Source Performance Standards (Subpart GG is applicable to the gas turbines).

    [Rule 62-4.160(13), F.A.C.]

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.

    [Rule 62-4.160(14), F.A.C.]

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. [Rule 62-4.160(15), F.A.C.]

EMISSIONS AND CONTROLS

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

17. 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.]

18. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

19. 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.]

20. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

21. 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.]

22. 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.]

23. 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.]

24. 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

25. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

26. 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.]

27. 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.]

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

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

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

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

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

29. 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.]

30. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.

31. Test Notification: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]

32. 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.]

33. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

a. The type, location, and designation of the emissions unit tested.
b. The facility at which the emissions unit is located.
c. The owner or operator of the emissions unit.
d. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
f. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating

parameters during each test run.

g. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.

h. The date, starting time and duration of each sampling run.

i. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

j. The number of points sampled and configuration and location of the sampling plane.

k. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

l. The type, manufacturer and configuration of the sampling equipment used.

m. Data related to the required calibration of the test equipment.

n. Data on the identification, processing and weights of all filters used.

o. Data on the types and amounts of any chemical solutions used.

p. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

q. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

r. All measured and calculated data required to be determined by each applicable test procedure for each run.

s. The detailed calculations for one run that relate the collected data to the calculated emission rate.

t. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

u. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

RECORDS AND REPORTS

34. 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.]

35. 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.]

The following emissions unit is 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.

EU ID	Emission Unit Description
001	Engine 2401: Solar Model Mars 90-T13000S gas turbine rated at 13,000 bhp (ISO)
003	Engine 2402: Cooper-Rolls Model No. 501-KC7-DLE gas turbine rated at 7222 bhp (ISO)

NSPS General Provisions

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.

40 CFR 60, Subpart GG
Standards of Performance for Stationary Gas Turbines

{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. 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 italics 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 60.330 - Applicability and Designation of Affected Facility

(a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour), based on the lower heating value of the fuel fired.

40 CFR 60.331 - Definitions

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

(i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.

(j) Base load means the load level at which a gas turbine is normally operated.

40 CFR 60.332 - Standard for Nitrogen Oxides

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

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

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

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.

{Permitting Note: The "Y" value provided by the manufacturer is approximately 11.57 for natural gas. The equivalent emission standard is 187 ppmvd corrected to 15% oxygen. The emissions standards specified in this permit are much more stringent than this requirement.}

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 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)(2) 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 Section 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.

{Permitting Note: The gas turbines will exclusively fire natural gas, which contains less than 0.03% sulfur by weight assuming a density of 0.0455 lb/scf of natural gas.}

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 pipeline quality natural gas fired is waived because natural gas is the exclusive fuel and contains negligible amounts of nitrogen. For purposes of complying with the sulfur content monitoring requirements of this rule, the permittee shall comply with the Custom Fuel Monitoring Schedule in Appendix D of this permit.

{Permitting Note: This is consistent with guidance from EPA Region 4 on custom fuel monitoring.}

(c) For the purpose of reports required under Section 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 Section 60.332 by the performance test required in Section 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 Section 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 Section 60.335(a).

{Permitting Note: The excess NOx emissions reporting requirements do not apply. The gas turbine uses dry low-NOx combustion technology and not wet injection to control NOx emissions. Also, NOx emissions due to fuel bound nitrogen are considered negligible because natural gas is the exclusive fuel and contains little nitrogen.}

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

Department Requirement: In accordance with the Custom Fuel Monitoring Schedule specified in Appendix D of this permit, any period between two consecutive fuel sulfur analyses shall be reported as excess emissions if the results of the second analysis indicates failure to comply with the fuel sulfur limit of the permit.

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 Section 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 Section 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 Sections 60.332 and 60.333(a) as follows:

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

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

where:

NOx = emission rate of NOx at 15 percent O2 and ISO standard ambient conditions, volume percent.
NOxo = observed NOx concentration, ppm by volume.
Pr = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.
Po = observed combustor inlet absolute pressure at test, mm Hg.
Ho = observed humidity of ambient air, g H2O/g air.
e = transcendental constant, 2.718.
Ta = ambient temperature, °K.

Department Requirement: The permittee is required to correct NOx emissions to ISO ambient atmospheric conditions for each required emissions performance test and compare to the NOx standard specified in 40 CFR 60.332.

(2) The monitoring device of Section 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with Section 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 initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load.

{Permitting Note: Although the dry low-NOx combustion controls are only effective above a minimum load of approximately 50%, the proposed gas turbines are able to quickly ramp up above this level. Gas turbines used as compressor engines typically operate at permitted capacity. Excluding startup and shutdown, the permit requires operation above 50% load. The minimum normal operating load will be identified during initial testing.}

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

Department Requirement: The span value shall be no greater than 75 ppm of nitrogen oxides due to the low NOx emission levels of the specified gas turbine.

(d) The owner or operator shall determine compliance with the sulfur content standard in Section 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 Section 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 Custom Fuel Monitoring Schedule in Appendix D specifies the requirements for sampling and analyzing the pipeline natural gas.

(e) To meet the requirements of Section 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.

Department Requirement: The Custom Fuel Monitoring Schedule in Appendix D specifies the requirements for sampling and analyzing the pipeline natural gas.

Custom Fuel Monitoring Schedule

Custom Fuel Monitoring Schedule: The Department approves the following Custom Fuel Monitoring Schedule in lieu of the NSPS fuel monitoring requirements in 40 CFR 60.334 of Subpart GG for the gas turbine affected by this project.

1. Because natural gas is the exclusive fuel for the gas turbine and contains negligible amounts of nitrogen, no monitoring of the fuel nitrogen content is required.
2. Fuel sulfur monitoring shall be performed in accordance with the following requirements:
   a. The natural gas shall be sampled and analyzed for the sulfur content as determined by ASTM methods D4084-82, D3246-81 or more recent versions.
   b. After first fire in the gas turbine, fuel sulfur monitoring shall be conducted at least twice each month. If this monitoring indicates little variability and compliance with the fuel sulfur limit of this permit for a period of six months, monitoring shall be reduced to once each calendar quarter. If this monitoring indicates little variability and compliance with the fuel sulfur limit of this permit for six calendar quarters, monitoring shall be reduced to twice each year (once each during the first and third calendar quarters).
   c. The permittee shall provide written notification to the Compliance Authority prior to reducing the frequency of monitoring in accordance with the above custom schedule. The notification shall include the results of the previous fuel sulfur analyses, the current frequency of monitoring, and the future frequency of monitoring.
3. This custom fuel-monitoring plan shall be reevaluated if there is a change in the fuel supply, a substantial change in the fuel quality, or any required monitoring indicates failure to comply with the fuel sulfur limit of this permit. For such cases, fuel sulfur monitoring shall resume on a weekly basis while the Department reevaluates the monitoring schedule.

[Rule 62-4.070(3); 40 CFR 60.334]

SECTION 4. APPENDIX D

Summary of Potential Emissions

For informational purposes only, the following table summarizes the potential emissions from Station 24.

EU No.	Description	Hourly Emissions, lb/hour						Annual Emissions, ton/year					
		CO	NOx	PM	SO_2	VOC	HAPs	CO	NOx	PM	SO_2	VOC	HAPs
001	Engine 2401, 13,000 bhp Gas Turbine	12.3	10.1	0.7	3.1	0.4	0.12	53.9	44.2	3.3	13.5	1.5	0.5
002	Miscellaneous Support Activities	---	---	---	---	---	---	0.6	2.2	0.2	0.2	0.6	0.6
	GEN03, 443 bhp Emergency Generator	2.4	8.8	0.7	0.8	0.02	Neg.	0.6	2.2	0.2	0.2	Neg.	Neg.
	Fugitive VOC Leaks	---	---	---	---	---	---	---	---	---	---	0.6	0.6
	Oily Water Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
	Diesel Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
	Condensate Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
003	Engine 2402, 7222 bhp gas turbine	7.0	5.7	0.4	1.7	1.5	0.3	30.5	25.0	1.8	7.6	6.5	0.3
Total for Station 24								85.0	71.4	5.3	21.3	8.6	1.4

Notes:

1. All VOC emissions from fugitive leaks were assumed to be HAPs.
2. Hourly emissions are based on manufacturer's equipment specifications.
3. Annual emissions are based on information in the application and permit conditions.

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Rick Craig
Vice President of Southeastern Operations
Florida Gas Transmission Company
Post Office Box 1188
Houston, TX 77251

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)*: E.O. Rice
B. Date of Delivery: 12/22/03

C. Signature: x E.O. Rice
☒ Agent
☐ Addressee

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If YES, enter delivery address below: ☐ No

3. Service Type
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☐ Registered ☐ Return Receipt for Merchandise
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Rick Craig
Street, Apt. No.; or PO Box No.
PO Box 1188
City, State, ZIP+ 4
Houston, TX 77251

PS Form 3800, May 2000 **See Reverse for Instructions**

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- 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.
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B. Date of Delivery: 12/22/03

C. Signature
X E.O. Rice
☑ Agent
☐ Addressee

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

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

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

2. Article Number *(Copy from service label)*
7000 2870 0000 7028 3628

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

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

7000 2870 0000 7028 3628

O F F I C I A L U S E

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	**$**

Postmark Here

Sent To
Rick Craig
Street, Apt. No.; or PO Box No.
PO Box 1188
City, State, ZIP+ 4
Houston, TX 77251

PS Form 3800, May 2000 **See Reverse for Instructions**

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Mr. Rick Craig
Vice President of Southeastern Operations
Florida Gas Transmission Company
Post Office Box 1188
Houston, TX 77251

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)*: E.O. Rice
B. Date of Delivery: 11/24/03

C. Signature: x E.O. Rice ☑ Agent ☐ Addressee

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

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

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

2. Article Number *(Copy from service label)*
7000 2870 0000 7028 3499

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

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

7000 2870 0000 7028 3499

O F F I C I A L U S E

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

Postmark Here

Sent To
Rick Craig
Street, Apt. No.; or PO Box No.
PO Box 1188
City, State, ZIP+ 4
Houston, TX 77251

PS Form 3800, May 2000 See Reverse for Instructions

Florida Gas Transmission Company

1967 Commonwealth Lane, Tallahassee, FL 32303, (850) 350-5000, Fax Downstairs (850) 350-5001

October 30, 2003 UPS Overnight – 1Z F62 059 22 1004 075 2

Ms. Trina Vielhauer
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Bldg.
2600 Blairstone
Tallahassee, FL 32399-2400

Reference: Facility Number: 0410004
Permit No. 0410004-006-AC
Compressor Station No. 24, Gilchrist County

Dear Ms. Vielhauer:

Subject: Application for Air Construction Permit

Florida Gas Transmission Company (FGT) is proposing to make an additional modification as part of the Phase VI Expansion Project at the above referenced facility. The modification consists of the replacement of an existing compressor turbine rated at 15,000 bhp with a smaller one rated at 13,000 bhp. This existing facility is a minor source under Title V and New Source Review regulations and the proposed modification will involve a decrease in emissions. FGT requests that this modification be added to the existing Phase VI construction permit, Permit No. 0410004-006-AC.

Turbines that need major repairs need to be sent offsite to be repaired. Since the compression capability at the compressor station must be maintained in order to maintain the supply of natural gas to Florida, a replacement turbine must to be installed immediately. In order to expedite this replacement, FGT respectfully requests that the following revision be included in the air permit for this non-Title V facility. This language is similar to Condition III. 5.0 of Permit No. 099-0333-003-AO which governs the operation of Compressor Station No. 21.

Proposed Provision:

Gas Turbine Replacement Procedure

The gas turbines may be periodically removed and replaced with an equivalent model. The permittee shall:

(a) As soon as possible, notify the DEP Northeast District Office of any turbine failures and of any scheduled replacements.

(b) Prior to initial operation of a replaced turbine, provide the DEP Northeast District Office with documentation indicating the manufacturer, model number, serial number, brake-horsepower rating, heat input (mmBtu/hr), pollutant emission rates and certification by a Professional Engineer registered in Florida that the replacement unit is a like-kind replacement or equivalent unit.

(c) Within one working day, notify the DEP Northeast District Office when the replacement is complete, when the replacement unit commenced operation, and the scheduled date of the emissions compliance tests.

(d) Conduct emissions compliance tests within 60 days of commencing operation of the replacement unit.

(e) Within 45 days of conducting the tests, submit test results indicating compliance with the emission standards.

*Appendix * lists the current and previous equivalent gas turbine models. The DEP Northeast District Office will revise only Appendix * for each subsequent replacement.*

Since Permit No. 0410004-006-AC expires on December 31, 2003, FGT also requests an extension to this permit to incorporate this modification.

Enclosed is an Application for an Air Construction Permit for the proposed modification. A check for $300.00 is attached for the application fee of $250.00 and the extension request fee of $50.00.

If you have any questions or need additional information, please call me at (850) 350-5042.

Sincerely,

Jacob Krautsch
Environmental Specialist
Florida Gas Transmission Company Phase V Project

ATTACHMENTS

CC: James Alexander, Phase VI w/o attachments
Rick Craig, w/o attachments
David Parham, P.E.
V. Duane Pierce, AQMcs

ENRON

Florida Gas Transmission Company
P. O. Box 1188
Houston, Texas 77251-1188

VENDOR No. 62:20 / 311

CHECK NO. 1500000472

CHECK DATE 10/21/03

PAY EXACTLY THREE HUNDRED DOLLARS &00/100 DOLLARS

$*300.00**

THIS CHECK IS VOID UNLESS PRINTED ON BLUE BACKGROUND

NOT VALID AFTER 90 DAYS

PAY TO THE ORDER OF
Florida Dept. of Environmental Protection
2600 Bairstone (Twin Towers Office Building)
Tallahassee FL 32399-2400

Citibank Delaware
A SUBSIDIARY OF CITICORP
ONE PENN'S WAY
NEW CASTLE, DE 19720

NOT VALID OVER $5000.00 UNLESS COUNTERSIGNED

FIELD DISBURSEMENT ACCOUNT

[redacted]

Florida Gas Transmission Company

Phase VI Expansion Project

Compressor Station No. 24

Trenton, Florida

APPLICATION
For
AIR CONSTRUCTION
PERMIT

RECEIVED
OCT 31 2003
BUREAU OF AIR REGULATION

October 2003

Prepared by AQMcs, LLC

Table of Contents

List of Tables

1.0 INTRODUCTION

Florida Gas Transmission Company (FGT), is proposing to derate a turbine at its existing natural gas pipeline facility near Trenton in Gilchrist County, Florida (Compressor Station No. 24). Compressor Station No. 24 is located in Gilchrist County, Florida, approximately 4 miles north of Trenton on U. S. Highway 129. Figure 1-1 shows the location of the compressor station.

The proposed modification involves the replacement of a 15,000 bhp turbine with a smaller 13,000 bhp (ISO) turbine. The existing engine is a Solar Mars 100-T15000S equipped with dry low NO_X (oxides of nitrogen) combustion. The new engine is a Solar Mars 90-T13000S also equipped with dry low NO_X (oxides of nitrogen) combustion. There will be a decrease in emissions as a result of this replacement.

Engineering designs for this project include selection of an engine incorporating dry low NO_X combustion technology. Dry low NO_X technology for control of NO_X emissions would represent Best Available Control Technology (BACT) for the proposed turbine engine under PSD requirements.

This application contains two additional sections. Descriptions of the existing operation at FGT's Compressor Station No. 24 and the proposed turbine replacement are presented in Section 2.0. The air quality review requirements and applicability of state and federal regulations are discussed in Section 3.0.

FDEP permit application forms are provided in Attachment A. Attachment B contains vendor information and Attachment C contains emission calculations.

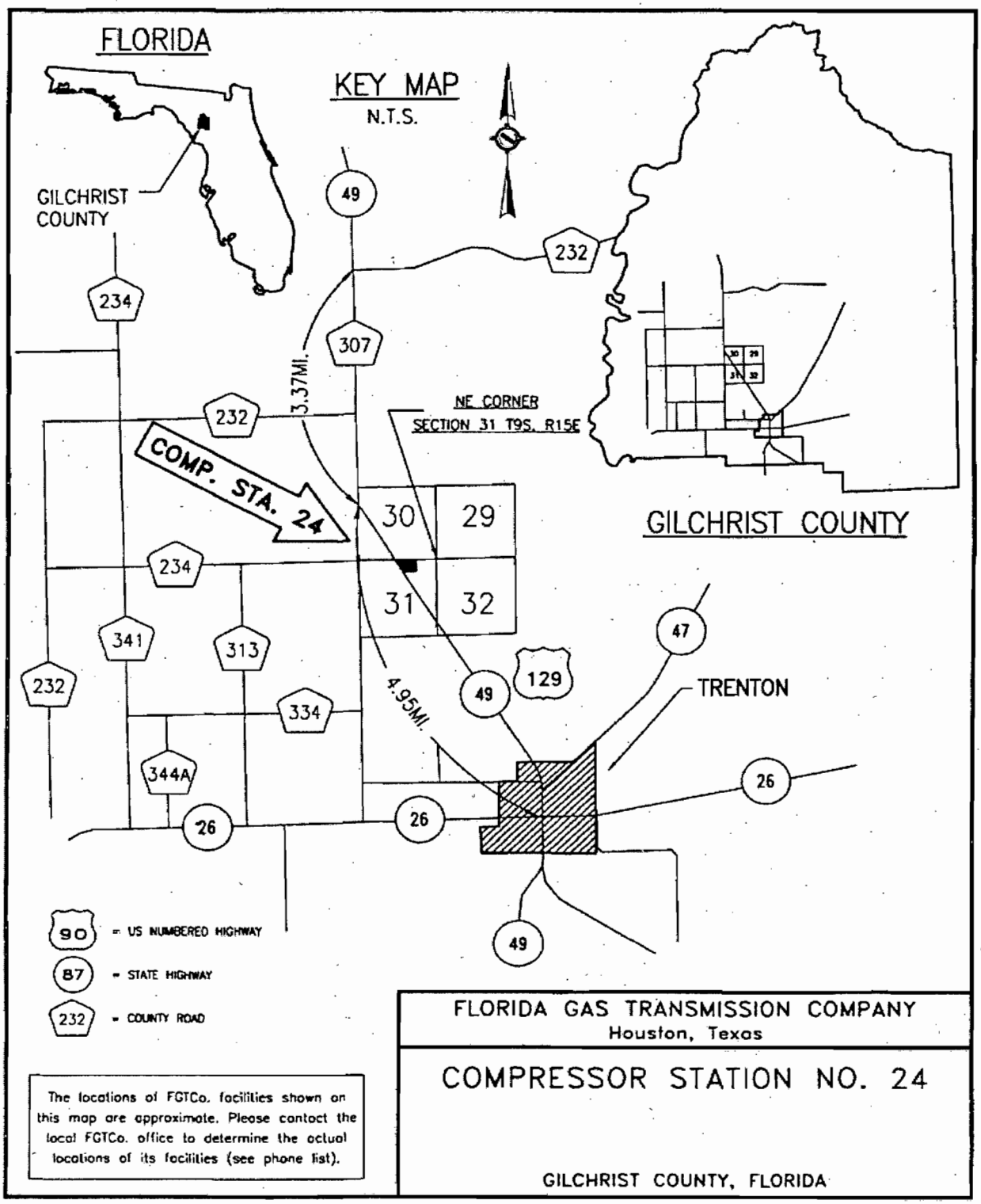

FLORIDA
KEY MAP
N.T.S.
GILCHRIST COUNTY
49
232
234
307
3.37MI.
NE CORNER
SECTION 31 T9S, R15E
COMP. STA. 24
30
29
31
32
GILCHRIST COUNTY
234
341
313
232
334
344A
26
4.95MI.
49
129
47
TRENTON
26
49
90 = US NUMBERED HIGHWAY
87 = STATE HIGHWAY
232 = COUNTY ROAD
The locations of FGTCo. facilities shown on this map are approximate. Please contact the local FGTCo. office to determine the actual locations of its facilities (see phone list).
FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas
COMPRESSOR STATION NO. 24
GILCHRIST COUNTY, FLORIDA

Figure 1-1

2.0 PROJECT DESCRIPTION

A plot plan of FGT's Compressor Station No. 24, showing the location of the plant boundaries and the location of the proposed modified engine is presented in Attachment B. The following sections provide a description of the operations at this location.

2.1 Existing Operations

FGT's existing Compressor Station No. 24 consists of one 15,000 bhp (ISO) gas-fired turbine engine. Compressor Station No. 24 was built as a part of the Phase IV Expansion Project and was constructed in 2000-2001. The existing turbine (Compressor Engine 2401) was up rated in 2002 as part of the Phase V Expansion Project. FGT added one new gas-fired 7,222 bhp turbine (Compressor Engine 2402) as part of the Phase VI Expansion Project.

The existing facility also has supporting equipment including pipeline condensate and oily water storage tanks and an emergency generator.

2.2 Proposed Compressor Station Modification

FGT proposes to decrease the horsepower capacity of Compressor Station No. 24 at this time. This is being done to meet requirements from the Federal energy Regulatory Commission (FERC). The project will involve replacing the existing Solar Mars 100 T-15000S turbine compressor unit rated at 15,000 bhp ISO (Engine 2401, EU 001) with a Solar Mars 90 T-13000S turbine compressor unit rated at 13,000 bhp ISO).

Specifications and stack parameters for the existing Solar Mars 100 T-15000S turbine compressor unit are presented in Table 2-1 and hourly and annual emissions of regulated pollutants from the engine under normal operating conditions are presented in Table 2-2. Specifications and stack parameters for the proposed replacement Solar Mars 90 T-13000S turbine compressor unit are presented in Table 2-3 and hourly and annual emissions of regulated pollutants from the engine under normal operating conditions are presented in Table 2-4.

Typically, turbine vendors do not provide information on particulate matter or SO_2 emissions; therefore, particulate matter emissions are based upon USEPA publication AP-42 Table 3.1-2a (USEPA, 2000) and emissions of SO_2 are based on FGT's Federal Energy Regulatory Commission (FERC) certificate limit of 10 grains sulfur per 100 cubic feet of natural gas. Hazardous air pollutant (HAP) emissions are based upon the Gas Research Institute's (GRI) HapCalc software that uses USEPA emission factors, emission factors found in research literature and emission factors based on GRI research data.

Table 2-1 Existing Turbine (2401) Specifications and Stack Parameters

Parameter	Design
Compressor Engine	2401
Type	Gas Turbine
Manufacturer	Solar
Model	Mars 100 T-15000S
Unit Size	14,922 bhp (15,000 ISO)
Heat Input	7,595 Btu/hp-hr
Maximum Fuel Consumption [a]	0.11987 MMscf/hr
Speed	8,956 rpm
Stack Parameters	
Stack Height	58 ft
Stack Diameter	7.5 ft x 8 ft (rectangular)
Exhaust Gas Flow	193,613 acfm
Exhaust Temperature	903 °F
Exhaust Gas Velocity	53.8 ft/sec

NOTE:

acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/hp-hr	=	British thermal units per brake horsepower per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
MMscf/hr	=	million standard cubic feet per hour.
rpm	=	revolutions per minute.

[a]Based on vendor heat rate value plus 10% and higher heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).

Table 2-2 Existing Turbine (2401) Emissions

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	11.28 lb/hr	Manufacturer Data	11.28	49.4
Carbon Monoxide	13.73 lb/hr	Manufacturer Data	13.73	60.1
Volatile Organic Compounds	0.39 lb/hr	Manufacturer Data	0.39	1.7
Particulate Matter*	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.82	3.6
Sulfur Dioxide*	10 grains/100 scf	FERC Limit	3.42	15.0
HAPs**	Various see Attachment C	AP-42, Table 3.1-3	0.13	0.56

* Emissions based on vendor provided heat rate plus 10 per cent

** HAP Emissions were originally based on GRI HapCalc 3.0 emission factors, they are converted here for comparison purposes to the newer proposed draft 40 CFR 63 Subpart YYYY emission factor

Table 2-3 New (Replacement) Turbine (2401) Specifications and Stack Parameters

Parameter	Design [a]
Compressor Engine	2401
Type	Gas Turbine
Manufacturer	Solar
Model	Mars 90 T-13000S
Unit Size [b]	12,384 bhp (13,000 ISO)
Heat Input [c]	9,080 Btu/hp-hr
Maximum Fuel Consumption [c]	0.1081 MMscf/hr
Speed	8,356 rpm
Stack Parameters	
Stack Height	58 ft
Stack Diameter	7.5 ft x 8 ft (rectangular)
Exhaust Gas Flow	179,109 acfm
Exhaust Temperature	873 °F
Exhaust Gas Velocity	49.75 ft/sec

NOTE:

acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/hp-hr	=	British thermal units per brake horsepower per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
MMscf/hr	=	million standard cubic feet per hour.
rpm	=	revolutions per minute.

[a] All values based on ISO conditions

[b] Less elevation, inlet and exhaust losses

[c] Based on vendor lower heating value of 939.2 Btu/scf and a heat rate of 8200 Btu/hp-hr adjusted to a higher heating value for natural gas of 1040 Btu/scf.

Table 2-4 New (Replacement) Turbine (2401) Emissions

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	10.10 b/hr	Manufacturer Data	10.10	44.2
Carbon Monoxide	12.30 lb/hr	Manufacturer Data	12.30	53.9
Volatile Organic Compounds*	0.35 lb/hr	Manufacturer Data	0.35	1.5
Particulate Matter**	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.74	3.3
Sulfur Dioxide**	10 grains/100 scf	FERC Limit	3.09	13.5
HAPs**	Various see Attachment C	AP-42, Table 3.1-3	0.12	0.51

* Assumes VOCs are 10% of unburned hydrocarbons
** Emissions based on vendor provided heat rate adjusted to HHV

2.2.1 Emissions Summary

The total new emissions resulting from the project are listed on Table 2-5. As can be seen from the table, the emissions will decreases. The calculations used to estimate these emissions are presented in Attachment C.

Table 2-5 Potential Annual Emissions (tpy) Summary

SOURCE ID	DESCRIPTION	NO_x	CO	VOC[a]	SO_2	PM
	EXISTING FACILITY					
2401	**15,000 bhp Turbine Engine**	49.5	60.0	1.8	14.9	3.5
2402	7,222 bhp Turbine Engine	25.0	30.5	6.5	7.6	1.8
GEN03	443 bhp Recip. Engine	2.2	0.6	0.01	0.2	0.2
FUGITIVE	Fugitive Leaks			0.59		
TANK 01	Oily Water Tank			<0.001		
TANK 02	Diesel Tank			<0.001		
TANK 03	Condensate Tank			<0.001		
	EXISTING ANNUAL POTENTIALTOTALS:	**76.7**	**91.1**	**8.903**	**22.7**	**5.5**
	PROPOSED MODIFIED FACILITY					
2401	**13,000 bhp Turbine Engine (New)**	44.2	53.9	1.5	13.5	3.3
2402	7,222 bhp Turbine Engine	25.0	30.5	6.5	7.6	1.8
GEN03	443 bhp Recip. Engine	2.2	0.6	0.01	0.2	0.2
FUGITIVE	Fugitive Leaks			0.59		
TANK 01	Oily Water Tank			<0.001		
TANK 02	Diesel Tank			<0.001		
TANK 03	Condensate Tank			<0.001		
	NEW ANNUAL POTENTIAL TOTALS:	**71.4**	**85**	**8.603**	**21.3**	**5.3**
	NET CHANGES IN POTENTIAL EMISSIONS:	**-5.3**	**-6.1**	**-0.3**	**-1.4**	**-0.2**

3.0 REGULATORY ANALYSIS

This section presents a review of federal and Florida State air quality regulations, which govern the operations and proposed modifications to be conducted at Compressor Station No. 24.

3.1 Federal Regulations Review

The federal regulatory programs administered by the USEPA have been developed under the authority of the Clean Air Act. The following subsections review the essential elements of the federal regulatory program and the impact they have on the proposed operations at Compressor Station No. 24.

3.1.1 Applicability of New Source Performance Standards (NSPS)

The regulation of new sources through the development of standards applicable to a specific category of sources was a significant step taken by the 1970 CAA Amendments. The Administrator was directed to publish a proposed regulation establishing a Standard of Performance for any category of new sources that cause or contribute significantly to air pollution and which may reasonably be anticipated to endanger public health. All Standards apply to all sources within a given category, regardless of geographic location or ambient air quality at the location.

Performance standards are published in 40 CFR 60. The new turbine installed at Compressor Station No. 24 is subject to Subpart GG, Standards of Performance for Stationary Gas Turbines, because it will have a maximum heat input at peak load of >10.7 gigajoules/hour (10 MMBtu/hr) based on the lower heating value of the natural gas fuel. This regulation establishes emission limits for NO_X and SO_2 and requires performance testing and daily monitoring of fuel nitrogen and sulfur. The applicable emission standards are provided in Table 3-4.

The NO_x emission limit for Subpart GG is calculated as follows:

$$STD = 0.0150\ (14.4/Y) + F$$

STD = Allowable NO_x emissions

Y = Heat rate at peak load not to exceed 14.4 *KjJwatt-hour*

F = NO_x emission allowance

The fuel bound nitrogen in natural gas is less than 0.015% by weight. Therefore, the value of F as defined in 40 CFR 60.332(3) is equal to zero.

Y = Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= *8,200 Btu/bhp-hr x* 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= *11.57*

STD = 0.0150 (14.4/11.57) + 0

= *0.0150%*

= 150 ppm_v

Table 3-3 summarizes the NSPS applicability for the proposed gas engine.

The turbine at this facility will meet the NSPS for NO_X of 150 ppmv (i.e., manufacturer's estimation of 25 ppmv), and for SO_2 of 150 ppmv (estimated for this turbine to be about 10 ppmv).

3.1.2 Applicability of National Emission Standards for Hazardous Air Pollutants (NESHAPS)

Currently the only NESHAPS potentially applicable to this compressor station is 40 CFR 63 Subpart HHH. Compressor Station No. 24 has no affected sources as defined by 40 CFR 63 Subpart HHH and is, therefore, not subject to this subpart.

40 CFR 63 Subpart YYYY has been proposed for turbines, but these regulations have not been promulgated at this time.

Table 3-1 Applicability of New Source Performance Standards

NSPS Subpart	NSPS Regulations	Equipment	Fuel	Pollutant	Heat Input Applicability	Equipment Design Maximum*	NSPS Emission Limits	Equipment Emissions
GG	60.332	Engine No. 2401 Gas Turbine	Gas	NO_2	>10 MM Btu/hr	101.5 MMBtu/hr	150 ppm_v	25 ppm_v
Design maximum based on vendor data of 12,384 hp and heat input of 8,200 Btu/hp-hr (LHV).								

3.2 Florida State Air Quality Regulations

Compressor Station No. 24 is currently operating under Permit No. 0390029-001-AV and is subject to the provisions of that permit. Rule 62, F.A.C., contains the air quality rules and regulations for the State of Florida. The primary federal regulations that affect Compressor Station No. 24 have been incorporated into or are referenced by these rules. The significant state regulations that are applicable to the new emission units are briefly listed below.

3.2.1 Rule 62-210.300 Permits Required

FGT is required to obtain a construction permit prior to construction of new emission units. This requirement is being met by the submittal of this application.

3.2.2 Rule 62-204.240 Ambient Air Quality Standards

FGT must not violate any of the ambient air quality standards listed under this rule.

3.2.3 Rule 62-296.320(2) Objectionable Odors

This rule prohibits the discharge of pollutants that will cause or contribute to an objectionable odor.

3.2.4 Rule 62-296.320(4)(b)1 General Particulate Emission Limiting Standards.

FGT is prohibited from allowing the new compressor engine to discharge into the atmosphere the emissions of air pollutants, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

Attachment A

DEP Forms

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - NON-TITLE V SOURCE

See Instructions for Form No. 62-210.900(3)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Florida Gas Transmission Company	
2. Site Name: Compressor Station No. 24	
3. Facility Identification Number: 0410004 [ ] Unknown	
4. Facility Location: Street Address or Other Locator: Intersection of U.S. Highway 129 and SW 50th Street City: Trenton County: Gilchrist Zip Code: 32693	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: Jacob Krautsch, Division Environmental Specialist
2. Application Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 1967 Commonwealth Lane City: Tallahassee State: FL Zip Code: 32303
3. Application Contact Telephone Numbers: Telephone: (850) 350-5042 Fax: (850) 350-5001

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	10/31/03
2. Permit Number:	0410004-007-AC

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number:_____

[ ] Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Initial non-Title V air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Non-Title V air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[X] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Rick Craig, Vice President, Southeastern Operations
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: P.O. Box 1188
   City: Houston State: TX Zip Code: 77251
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (713) 646-7227 - Fax: (713) 646-6128
4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

   Richard Craig — Signature

   10/27/03 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: David Holmes Parham
   Registration Number: 50834
2. Professional Engineer Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: 601 S. Lake Destiny Dr. Suite 450
   City: Maitland State: FL Zip Code: 32751
3. Professional Engineer Telephone Numbers:
   Telephone: (407)838-7119 Fax: (407)838-7101

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

10/28/03
Date

DAVID PARHAM, P.E.
P.E. NUMBER 50834
601 SOUTH LAKE DESTINY DRIVE, SUITE 450
MAITLAND, FLORIDA 32794-5100

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	Solar Mars 100 T-13000S Turbine rated at 13,000 bhp, Engine 2401	AC1C	$250.00

Application Processing Fee

Check one: [X] Attached - Amount: $__250.00_____ [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Replacement of a 15,000 hp gas fired Solar Mars 100 T-15002S compressor turbine with a 13,000 hp gas fired Solar Mars 90 T-13002S compressor turbine .

2. Projected or Actual Date of Commencement of Construction: 11/15/03

3. Projected Date of Completion of Construction: 12/15/03

Application Comment

This facility is part of FGT's Phase VI expansion project, aimed at increasing the supply capacity of FGT's network servicing domestic, commercial, and industrial customers in Florida.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17	East (km): 321.323	North (km): 3282.787	
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 29/39/51	Longitude (DD/MM/SS): 82/50/46		
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4922
7. Facility Comment (limit to 500 characters): Compressor Station No. 24 is a natural gas pipeline compressor station with two compressor engines. It is classified as a minor source under New Source Review and Title V definitions.			

Facility Contact

1. Name and Title of Facility Contact: Abe Kattawar, Team Environmental Leader			
2. Facility Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 5030 N. U.S. 129 Hwy. 239 City: Trenton	State: FL	Zip Code: 32693	
3. Facility Contact Telephone Numbers: Telephone: (850) 544-6961	Fax: (352)-463-0097		

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [ ] Synthetic Non-Title V Source?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Synthetic Minor Source of HAPs?	
5. [X] One or More Emissions Units Subject to NSPS?	
6. [ ] One or More Emission Units Subject to NESHAP Recordkeeping or Reporting?	
7. Facility Regulatory Classifications Comment (limit to 200 characters):	
Facility is a minor source for PSD and Title V purposes. Modified turbine is subject to NSPS Subpart GG.	

Rule Applicability Analysis

FDEP Title V Core List

62-296.320(4)(b)1 General Visible Emissions Standards

40 CFR 60, Subpart GG Standards of Performance for Stationary Gas-fired Turbines

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
NO_X	B				
CO	B				
VOC	B				
SO_2	B				
PM	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location:
   [ ] Attached, Document ID: *Narr. Fig. 1-1* Not Applicable [ ] Waiver Requested

2. Facility Plot Plan:
   [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested

3. Process Flow Diagram(s):
   [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Supplemental Information for Construction Permit Application:
   [X] Attached, Document ID: *Att. B* [ ] Not Applicable

6. Supplemental Requirements Comment:

Area map is provided as Figure 1-1 in the narrative. The plot plan and other supplemental information were submitted with the original construction permit application for this facility.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

13,000 bhp ISO natural gas fired turbine compressor unit

3. Emissions Unit Identification Number:
ID: 001

[ ] No ID
[ ] ID Unknown

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	12/15/03	49

7. Emissions Unit Comment: (Limit to 500 Characters)

The turbine engine is a Solar Mars 90 T-13000S engine compressor unit rated at 13,000 bhp ISO replacing an existing Solar Mars 100 T-15000S engine compressor unit currently rated at 15,000 bhp ISO. Fuel is exclusively natural gas from the FGT's gas pipeline. The engine incorporates dry, low NO_X combustion technology.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (limit to 200 characters per device or method):

The proposed engine will incorporate dry, low NOX combustion technology.

2. Control Device or Method Code(s): NA

Emissions Unit Details

1. Package Unit:
   Manufacturer: Solar
   Model Number: Mars 90 T-13000S
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: 112.45 mmBtu/hr
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate:
4. Maximum Production Rate:
5. Requested Maximum Operating Schedule:

24	hours/day	7	days/week
52	weeks/year	8760	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr based on a LHV of 939.2 Btu/scf and adjusted to a HHV of 1040 Btu/scf.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? 2401	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: V	6. Stack Height: 58 feet	7. Exit Diameter: 8.74 feet
8. Exit Temperature: 873 °F	9. Actual Volumetric Flow Rate: 179,109 acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 321.323 North (km): 3282.787		
14. Emission Point Comment (limit to 200 characters): Stack is rectangular in cross section at 7.5 ft. x 8 ft. Diameter given above is equivalent diameter (De) of stack.		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __1___ of __1___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired turbine engine driving a natural gas compressor, operating full time.		
2. Source Classification Code (SCC): 2-02-002-01	3. SCC Units: million cubic feet burned	
4. Maximum Hourly Rate: 0.1081	5. Maximum Annual Rate: 947.15	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1040
10. Segment Comment (limit to 200 characters): Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf Percent sulfur is base on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.		

Segment Description and Rate: Segment _NA__ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: NOX	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code: 099	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 10.10 lb/hour 44.2 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10.10 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

(10.10 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 44.24 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Vendor's data based on ISO conditions and site elevation.

Allowable Emissions Allowable Emissions __1___ of __1___

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 25 ppmv	4. Equivalent Allowable Emissions: 10.10 lb/hour 44.2 tons/year

5. Method of Compliance (limit to 60 characters):

Initial and annual performance tests.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

Emissions at ISO conditions.
40 CFR 60.332(a)(2) NOX emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: CO		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 12.30 lb/hour 53.9 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 12.30 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (12.30 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 53.87 tpy		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Vendor's data based on ISO conditions and site elevation.		

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 12.30 lb/hour 53.9 tons/year
5. Method of Compliance (limit to 60 characters): Initial and annual performance tests.	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.352 lb/hour 1.54 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.352 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

Vendor factor for unburned hydrocarbons (UHC) = 3.52 lb/hr
Assume 10% is VOC.
(0.352 lb/hr)(8760 hr/1 yr)(1 ton/2000 lb) = 1.54 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Vendor's data based on ISO conditions and site elevation.

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year

5. Method of Compliance (limit to 60 characters):

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2		2. Pollutant Regulatory Code: EL
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 3.09 lb/hour 13.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: FERC Fuel Limit		9. Emissions Method Code: 2

10. Calculation of Emissions (limit to 600 characters):

(10 gr S/100 scf)(10,8100 scf/hr)(1 lb/7000 gr) = 1.54 lb S/hr
(1.54 lb S/hr)(2 lb SO2/lb S) = 3.09 lb SO2/hr
(3.09 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 13.53 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's fuel use value plus 10% based on compliance test results.

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 grains/100 scf	4. Equivalent Allowable Emissions: 3.09 lb/hour 13.5 tons/year

5. Method of Compliance (limit to 60 characters):

Initial and annual performance test.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

40 CFR 60.333(a) limits SO2 emissions to 150 ppmv.

Based on fuel use at ISO conditions.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.74 lb/hour 3.3 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0066 lb/MM Btu Reference: Table 3.1-2a, AP-42 4/00, Supplement E		9. Emissions Method Code: 4

10. Calculation of Emissions (limit to 600 characters):

(0.0066 lb/MMBtu)(112.45 MMBtu/hr) = 0.74 lb/hr
(0.74 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 3.25 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year

5. Method of Compliance (limit to 60 characters):

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: HAPS		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.12 lb/hour 0.5 tons/year		7. Synthetically Limited? [ ]
6. Emission Factor: 0.00103 lb/MM Btu Reference: AP-42 Table 3.1-3, 4/00		7. Emissions Method Code: 5
10. Calculation of Emissions (limit to 600 characters): (0.00103 lb/MM Btu)(112.45 MM Btu/hr) = 0.116 lb/hr (0.116 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.51 ton/yr		
11. Pollutant Potential Emissions Comment (limit to 200 characters): Detailed calculations provided in Attachment C. Included in VOC emissions. Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf		

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation __1____ of __1____

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: 10% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: Annual 40 CFR 60 Appendix A Method 9	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor __NA__ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:___ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information was provided in the construction permit application for the original facility.

Attachment B

Vendor Information

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 3.24
JOB ID:

DATE RUN: 25-Sep-03
RUN BY: John D Wilson

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 2

Fuel: SD NATURAL GAS
Water Injection: NO
Number of Engines Tested: 0
Model: MARS 90-13002S CS/MD 122F MATCH GAS
Emissions Data: REV. 0.0

Customer:
Inquiry Number: NO2271

The following predicted emissions performance is based on the following specific single point: (see attached)

Hp= 12384, %Full Load= 100.0, Elev= 100 ft, %RH= 60.0, Temperature= 60.0 F

NOX		CO		UHC		
NOM	MAX	NOM	MAX	NOM	MAX	
19.48	25.00	0.00	50.00	0.00	25.00	PPMvd at 15% O2
34.46	44.23	0.00	53.86	0.00	15.42	ton/yr
0.077	0.099	0.000	0.121	0.000	0.035	lbm/MMBtu (Fuel LHV)
0.85	1.09	0.00	1.33	0.00	0.38	lbm/(MW-hr) (gas turbine shaft pwr)
7.87	10.10	0.00	12.30	0.00	3.52	lbm/hr

IMPORTANT NOTES

1. For short-term emission limits such as lbs/hr., Solar recommends using "worst case" anticipated operating conditions specific to the application and the site conditions. Worst case for one pollutant is not necessarily the same for another. The emission values on this form are only predicted emissions at the specific operating conditions listed.
2. Solar's typical SoLoNOx warranty is for greater than 0 deg F, and between 50% and 100% load for gas fuel, and between 80% and 100% load for liquid fuel. An emission warranty for non-SoLoNOx equipment is for greater than 0 deg F and between 80% and 100% load.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If needed, Solar can provide generic documents to address turbine operation outside typical warranty ranges, as well as non-warranted emissions of SO2, PM10/2.5, VOC, and formaldehyde.
5. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 3.24
JOB ID:

DATE RUN: 25-Sep-03
RUN BY: John D Wilson

MARS 90-13002S
CS/MD
122F MATCH
GAS
TME-2S REV. 2.1

DATA FOR MINIMUM PERFORMANCE

Fuel Type		SD NATURAL GAS			
Elevation	feet	100			
Inlet Loss	in H20	3.0			
Exhaust Loss	in H20	4.0			
Engine Inlet Temp.	deg F	80.0	60.0	100.0	50.0
Relative Humidity	%	60.0	60.0	60.0	60.0
Elevation Loss	HP	43	48	39	49
Inlet Loss	HP	156	169	143	173
Exhaust Loss	HP	91	95	86	96
Driven Equipment Speed	RPM	8245	8356	8086	8424
Optimum Equipment Speed	RPM	8245	8356	8086	8424
Gas Generator Speed	RPM	11167	11168	11162	11168
Specified Load	HP	FULL	FULL	FULL	FULL
Net Output Power	HP	11265	12384	10065	12841
Fuel Flow	mmBtu/hr	95.00	101.55	87.97	104.45
Heat Rate	Btu/HP-hr	8433	8200	8740	8134
Therm Eff	%	30.18	31.04	29.12	31.29
Inlet Air Flow	lbm/hr	295431	314636	273655	322676
Engine Exhaust Flow	lbm/hr	299065	318524	277019	326678
PCD	psiG	211.2	225.1	195.3	231.0
Compensated PTIT	deg F	1275	1273	1275	1271
Exhaust Temperature	deg F	894	873	919	865

FUEL GAS COMPOSITION (VOLUME PERCENT)
LHV (Btu/Scf) = 939.2 SG = 0.5970 W.I. @60F (Btu/Scf) = 1215.6

A =	0.0000	CH4 =	92.7899	C2H4 =	0.0000	C2H6 =	4.1600
C3H6 =	0.0000	C3H8 =	0.8400	C4 =	0.1800	C5 =	0.0400
C6 =	0.0400	C7 =	0.0000	C8 =	0.0000	CO =	0.0000
CO2 =	0.4400	H2 =	0.0000	H2O =	0.0000	H2S =	0.0001
N2 =	1.5100	O2 =	0.0000	SO2 =	0.0000	He =	0.0000

Attachment C

Emissions Calculations

Engine No. 2401

NOx Emissions: (Based on Vendor Data)

lb NOx/hr = 10.10

tons NOx/yr = (lb NOx/hr)(hr/yr)(1 ton/2000 lb)
= (10.10 lb NOx/hr)(8760 hr/yr)(1 ton/2000 lb)
= 44.24

CO Emissions: (Based on Vendor Data)

lb CO/hr = 12.30

tons CO/yr = (lb CO/hr)(hr/yr)(1 ton/2000 lb)
= (12.30 lb CO/hr)(8760 hr/yr)(1 ton/2000 lb)
= 53.87

VOC Emissions: (Based on Vendor Data)

lb VOC/hr = 0.35

tons VOC/yr = (lb VOC/hr)(hr/yr)(1 ton/2000 lb)
= (0.352 lb VOC/hr)(8760 hr/yr)(1 ton/2000 lb)
= 1.54

SO2 Emissions: (Based on FERC Limits)

lb S/hr = (gr S/100 scf)(scf/hr)(1 lb/7000 gr)
= (10 gr S/100 scf)(108,100 MMscf/hr)(1 lb/7000 gr)
= 1.54

lb SO2/hr = (lb S/hr)(2 lb SO2/lb S)
= (1.54 lb S/hr)(2 lb SO2/lb S)
= 3.09

tons SO2/yr = (lb SO2/hr)(hr/yr)(1 ton/2000 lb)
= (3.09 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb)
= 13.53

PM 10/2.5 Emissions: (Based on AP-42 Table 3.1-2a, 4/00)

lb PM/hr = (lb PM/MMscf)(MMBtu/hr)
= (0.0066 lb/Btu)(112.45 MMBtu/hr)
= 0.74

tons PM/yr = (lb PM/hr)(hr/yr)(1 ton/2000 lb)
= (0.74 lb PM/hr)(8760 hr/yr)(1 ton/2000 lb)
= 3.25

HAPs Emissions: (Based on AP-42 Table 3.1-3, 4/00)

lb HAP/hr = (lb HAP/MMBtu)(MMBtu/hr)
= (0.001027 lb/MMBtu)(112.45 MMBtu/hr)
= 0.116

tons HAP/yr = (lb HAP/hr)(hr/yr)(1 ton/2000 lb)
= (0.116 lb HAP/hr)(8760 hr/yr)(1 ton/2000 lb)
= 0.51

Existing Engine No. 2401 Revised HAP Calculation

HAPs Emissions: (Based on AP-42 Table 3.1-3, 4/00)

lb HAP/hr = (lb HAP/MMBtu)(MMBtu/hr)
= (0.001027 lb/MMBtu)(124.67 MMBtu/hr)
= 0.128

tons HAP/yr
= (lb HAP/hr)(hr/yr)(1 ton/2000 lb)
= (0.128 lb HAP/hr)(8760 hr/yr)(1 ton/2000 lb)
= 0.56

HAP Emission Factors

HAP	Turbine HAP Factors lb/MMBtu
1,3-Butadiene	4.30E-07
Acetaldehyde	4.00E-05
Acrolein	6.40E-06
Benzene	1.20E-05
Ethylbenzene	3.20E-05
Formaldehyde	7.10E-04
Naphthalene	1.30E-06
PAH	2.20E-06
Propylene Oxide	2.90E-05
Toluene	1.30E-04
Xylenes	6.40E-05
Total Hazardous Cmpds	**1.03E-03**

Reference: AP-42, 5th Edition, Supplement F, 04/00, Table3.1-3

Florida Gas Transmission Company

1967 Commonwealth Lane, Tallahassee, FL 32303, (850) 350-5000, Fax Downstairs (850) 350-5001

December 1, 2003 UPS Overnight – 1Z F62 059 22 1004 429 4

Mr. Jeff Koerner
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Bldg.
2600 Blairstone
Tallahassee, FL 32399-2400

Re: Draft Air Permit No. 0410004-007-AC
Florida Gas Transmission Company Compressor Station 24

Dear Mr. Koerner:

Please find enclosed the proof of publication for the above referenced facility's "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT ".

If you have any questions, you can call me at (850) 350-5042.

Sincerely,

Jacob S. Krautsch
Environmental Specialist

Attachment

Cc: Quincy C/S 24
Tallahassee Files
Envision Env. 3.1.20

25737

NO_____

THE GAINESVILLE SUN
Published Daily and Sunday
GAINESVILLE, FLORIDA

STATE OF FLORIDA
COUNTY OF ALACHUA

Before the undersigned authority appeared NAOMI WILLIAMS-JORDAN
Classified Assistant Manager

Who on oath says that he/she is.....of THE GAINESVILLE SUN, a daily

newspaper published at Gainesville in Alachua County, Florida, that the attached copy of advertisement, being a
PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT
.....
Draft Air Permit No. 0410004-007-AC, Existing Compressor Station 24,
Gilchrist County Compressor Engine 2401, Replacement - Florida Gas Transmission Company
in the matter of .....

in the.....Court, was published in said newspaper in the issues of
NOVEMBER 20TH
.....2003

Affidavit further says that the said THE GAINESVILLE SUN is a newspaper published at Gainesville, in said Alachua County, Florida, and that the said newspaper has heretofore been continuously published in said Alachua County, each day, and has been entered as second class mail matter at the post office in Gainesville, in Said Alachua County, Florida, for a period of one year next preceding the first publication of the attached copy Of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount for publication in the said newspaper.

Sworn to and subscribed before me this

21....day of ...NOV.....A.D., 2003

Sharion K Williams

Naomi Williams-Jordan

SHARION K. WILLIAMS
MY COMMISSION # DD 171809
EXPIRES: March 3, 2007
1-800-3-NOTARY FL Notary Service & Bonding, Inc.

RECEIVED
DEC 02 2003
BUREAU OF AIR REGULATION

Florida Department of Environmental Protection

Memorandum

TO: Trina Vielhauer, Chief
Bureau of Air Regulation

THROUGH: Al Linero, Manager
New Source Review Section

FROM: Jeff Koerner, New Source Review Section

DATE: November 7, 2003

SUBJECT: Draft Air Construction Permit No. 0410004-007-AC
Florida Gas Transmission Company
Existing Compressor Station No. 24, Gilchrist County
Engine No. 2401, Replacement

Attached for your review are the following items:

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

The draft permit authorizes the replacement of existing Engine 2401 (a 15,000 bhp gas turbine) with a similar, but smaller unit rated at 13,000 bhp (ISO). Emissions of particulate matter (PM) and sulfur dioxide (SO_2) will be minimized by the firing of natural gas as the exclusive fuel, which contains little or no ash, sulfur, or other contaminants. The new gas turbine incorporates a lean, premix combustion design with automatic control to minimize emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC). Overall, potential emissions from the replacement gas turbine will be reduced by approximately 10% due to the smaller capacity. The existing facility remains a minor source of air pollution with respect to both the PSD and Title V regulatory programs.

The Technical Evaluation and Preliminary Determination provides a detailed description of the project, rule applicability, and emissions standards. The PE certification briefly summarizes the project. The proposed project is part of Florida Gas Transmission Company's overall Phase VI project intended to increase the natural gas supply capacity to service domestic, commercial, and industrial customers in Florida. The Bureau of Air Regulation agreed to process all Phase VI projects for Florida Gas Transmission Company to provide statewide consistency during construction.

Day #74 is January 12, 2004. I recommend your approval of the attached Draft Permit for this project.

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

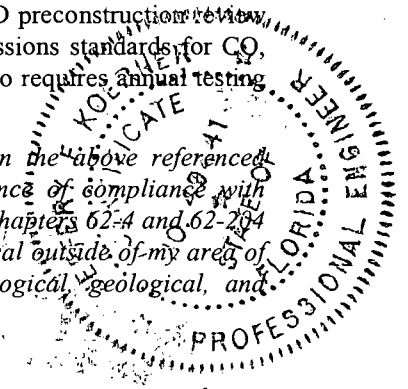
Draft Air Permit No. 0410004-007-AC
Compressor Station 24, Gilchrist County
Engine No. 2401, Replacement

PROJECT DESCRIPTION

The existing facility operates as a Compressor Station 24 in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The proposed project will replace existing Engine 2401 (a 15,000 bhp gas turbine) with a similar, but smaller unit rated at 13,000 bhp (ISO). Emissions of particulate matter (PM) and sulfur dioxide (SO_2) will be minimized by the firing of natural gas as the exclusive fuel, which contains little or no ash, sulfur, or other contaminants. The new gas turbine incorporates a lean, premix combustion design with automatic control to minimize emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC). The new gas turbine will emit the following potential emissions: 54 tons of CO per year; 44 tons of NOx per year; 14 tons of SO_2 per year; 3 tons of PM per year; and 2 tons VOC per year. This represents a reduction in potential pollutant emissions of approximately 10% from the previous unit. The existing facility remains a minor source of air pollution with respect to the Prevention of Significant Deterioration (PSD) preconstruction review permit program and the Title V air operating permit program.

The gas turbine is subject to the New Source Performance Standards of Subpart GG in 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. This federal regulation establishes emissions standards, monitoring, testing, and reporting requirements for NOx and SO_2 emissions. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has also requested a lower standard for NOx emissions to ensure that the project and facility remain minor with respect to the PSD preconstruction review program and the Title V air operating permit program. The draft permit establishes emissions standards for CO, NOx, and opacity and restricts allowable fuels to pipeline natural gas. The draft permit also requires annual testing to demonstrate compliance.

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



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

11-7-03
(Date)

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

November 17, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Rick Craig, V.P. of Southeastern Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

Re: Draft Air Permit No. 0410004-007-AC
Existing Compressor Station 24
Engine No. 2401, Replacement
Gilchrist County, Florida

Dear Mr. Craig:

Enclosed is one copy of the Draft Permit to replace existing Engine 2401 (a 15,000 bhp gas turbine) with a smaller unit rated at 13,000 bhp (ISO). The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. The Department's "Technical Evaluation and Preliminary Determination", "Intent to Issue Permit", and the "Public Notice of Intent to Issue Permit" are also included.

The "Public Notice of Intent to Issue Permit" must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, Administrator of the New Source Review Section, at the above letterhead address. If you have any other questions, please contact Jeff Koerner at 850/921-9536.

Sincerely,

Trina L Vielhauer

Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

In the Matter of an
Application for Air Permit by:

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

Authorized Representative:
Mr. Rick Craig, V.P. of Southeastern Operations

Existing Compressor Station 24
Draft Air Permit No. 0410004-007-AC
Engine No. 2401, Replacement
Gilchrist County, Florida

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of Draft Permit attached) for the proposed project as detailed in the application and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below. The applicant, Florida Gas Transmission Company, applied on October 31, 2003 to the Department for a permit to replace existing Engine 2401 (a 15,000 bhp gas turbine) with a smaller unit rated at 13,000 bhp (ISO). The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, F.S., and Chapters 62-4, 62-210, and 62-212, F.A.C. The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit is required to perform proposed work. The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114, Fax: 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in Section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) and (11), F.A.C.

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 concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of Public Notice. Written comments 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.

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.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542, F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Mediation is not available in this proceeding. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2), F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Permit package (including the Public Notice, Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 11/18/03 to the persons listed:

Mr. Rick Craig, FGTC*
Mr. Jacob Krautsch, FGTC
Mr. David Holmes Parham, FGTC
Mr. V. Duane Pierce, AQMcs
Mr. Chris Kirts, NED

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.

Victoria Gibson / November 18, 2003
(Clerk) (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0410004-007-AC

Florida Gas Transmission Company
Existing Compressor Station 24, Gilchrist County
Compressor Engine 2401, Replacement

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Florida Gas Transmission Company to replace existing Engine 2401 with a similar, but smaller unit. The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. The applicant's authorized representative is Mr. Rick Craig, Vice President of Southeastern Operations. The applicant's mailing address is Florida Gas Transmission Company, P.O. Box 1188, Houston, TX 77251.

The existing facility operates as a Compressor Station 24 in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The proposed project will replace existing Engine 2401 (a 15,000 bhp gas turbine) with a similar, but smaller unit rated at 13,000 bhp (ISO). Emissions of particulate matter (PM) and sulfur dioxide (SO_2) will be minimized by the firing of natural gas as the exclusive fuel, which contains little or no ash, sulfur, or other contaminants. The new gas turbine incorporates a lean, premix combustion design with automatic control to minimize emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC). The new gas turbine will emit the following potential emissions: 54 tons of CO per year; 44 tons of NOx per year; 14 tons of SO_2 per year; 3 tons of PM per year; and 2 tons VOC per year. This represents a reduction in potential pollutant emissions of approximately 10% from the previous unit. The existing facility remains a minor source of air pollution with respect to the Prevention of Significant Deterioration (PSD) preconstruction review permit program and the Title V air operating permit program.

The gas turbine is subject to the New Source Performance Standards of Subpart GG in 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. This federal regulation establishes emissions standards, monitoring, testing, and reporting requirements for NOx and SO_2 emissions. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has also requested a lower standard for NOx emissions to ensure that the project and facility remain minor with respect to the PSD preconstruction review program and the Title V air operating permit program. The draft permit establishes emissions standards for CO, NOx, and opacity and requires annual testing to demonstrate compliance.

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 concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments 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

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

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

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

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

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

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

Florida Department of Environmental Protection
Northeast District Office
Air Resources Section
7825 Baymeadows Way, Suite 200B
Jacksonville, FL 32256-7590
Telephone: 904/807-3300

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

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

PROJECT

Draft Air Construction Permit No. 041004-007-AC
Existing Compressor Station 24
ARMS Facility ID No. 0410004
Replacement of Engine 2401
(Emissions Units 001 - 003)

COUNTY

Gilchrist County, Florida

APPLICANT

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
New Source Review Section

November 7, 2003

{Filename: 0410004-007-AC - TEPD}

1. GENERAL PROJECT INFORMATION

Facility Description and Location

Florida Gas Transmission Company operates existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. The station currently consists of a 15,000 bhp gas turbine (Engine 2401), a 7222 bhp gas turbine (Engine 2402), and miscellaneous support activities. The existing site is in an area that is in attainment with the ambient air quality standards for carbon monoxide, nitrogen oxides, sulfur dioxide, and ozone. It is unclassifiable with regard to particulate matter and lead.

Standard Industrial Classification Code (SIC)

SIC No. 4922 – Natural Gas Transmission

Regulatory Categories

Title III: The facility is not a major source of hazardous air pollutants (HAP).

Title IV: The facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is not a Title V major source of air pollution pursuant to Chapter 62-213, F.A.C.

PSD: The facility is not a PSD major source of air pollution pursuant to Rule 62-212.400, F.A.C.

NSPS: New gas turbines are subject to the New Source Performance Standards of Subpart GG in 40 CFR 60.

Processing Schedule

The Department received a complete application on October 31, 2003.

Project Description

A recent pipeline flow study shows that Station 24 will need less horsepower than previously projected. The Federal Energy Regulatory Commission (FERC), which regulates construction and operation of the natural gas pipeline, does not allow extra capacity on the system. Florida Gas Transmission Company proposes to replace the existing 15,000 bhp Solar Mars 100-T15000S gas turbine with a smaller 13,000 bhp Solar Model No. Mars 90-T13000S gas turbine. The replacement unit is also equipped with dry low-NOx emission (DLE) combustors. The proposed project is part of Florida Gas Transmission Company's overall Phase VI project intended to increase the natural gas supply capacity and reliability to service domestic, commercial, and industrial customers in Florida. The Bureau of Air Regulation agreed to process all Phase VI projects for Florida Gas Transmission Company to provide statewide consistency during construction.

2. APPLICABLE REGULATIONS

State Regulations

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code.

Chapter	Description
62-4	Permitting Requirements
62-204	Federal Regulations Adopted by Reference
62-210	Required Permits, Public Notice, Reports, Circumvention, Excess Emissions, and Forms
62-212	Preconstruction Review
62-213	Operation Permits for Major Sources of Air Pollution
62-296	Emission Limiting Standards
62-297	Test Methods and Procedures

Federal Regulations

This project is also subject to the applicable federal provisions regarding air quality as established by the EPA in the following sections of the Code of Federal Regulations (CFR).

Title 40, CFR	Description
Part 60	Subpart A - General Provisions for NSPS Sources NSPS Subpart GG - Stationary Gas Turbines Applicable Appendices

3. EMISSIONS STANDARDS

Process Description

The following sections are excerpts on gas turbines from Section 3.1 of EPA's AP-42 emission factor document:

"The primary pollutants from gas turbine engines are nitrogen oxides (NOx), carbon monoxide (CO), and to a lesser extent, volatile organic compounds (VOC). Particulate matter (PM) is also a primary pollutant for gas turbines using liquid fuels. Nitrogen oxide formation is strongly dependent on the high temperatures developed in the combustor. Carbon monoxide, VOC, hazardous air pollutants (HAP), and PM are primarily the result of incomplete combustion. Trace to low amounts of HAP and sulfur dioxide (SO_2) are emitted from gas turbines. Ash and metallic additives in the fuel may also contribute to PM in the exhaust. Oxides of sulfur (SOx) will only appear in a significant quantity if heavy oils are fired in the turbine. Emissions of sulfur compounds, mainly SO_2, are directly related to the sulfur content of the fuel."

"Since thermal NOx is a function of both temperature (exponentially) and time (linearly), the basis of dry controls are to either lower the combustor temperature using lean mixtures of air and/or fuel staging, or decrease the residence time of the combustor. A combination of methods may be used to reduce NOx emissions such as lean combustion and staged combustion (two stage lean/lean combustion or two-stage rich/lean combustion)."

"Two stage rich/lean combustors are essentially air-staged, premixed combustors in which the primary zone is operated fuel rich and the secondary zone is operated fuel lean. The rich mixture produces lower temperatures (compared to stoichiometric) and higher concentrations of CO and H_2, because of incomplete combustion. The rich mixture also decreases the amount of oxygen available for NOx generation. Before entering the secondary zone, the exhaust of the primary zone is quenched (to extinguish the flame) by large amounts of air and a lean mixture is created. The lean mixture is pre-ignited and the combustion completed in the secondary zone. NOx formation in the second stage is minimized through combustion in a fuel lean, lower temperature environment. Staged combustion is identified through a variety of names, including Dry-Low NOx (DLN), Dry-Low Emissions (DLE), or SoLoNOx."

The gas turbine proposed for the project will fire natural gas as the exclusive fuel, which contains little or no ash, sulfur, or other contaminants. This will minimize emissions of particulate matter and sulfur dioxide. The design of the proposed unit includes lean premix combustion technology with automated control to reduce emissions of nitrogen oxides. Emissions of carbon monoxide and volatile organic compounds will also be minimized by this technology, which results in the efficient combustion of natural gas at uniformly high temperatures.

NSPS Subpart GG Standards

The gas turbine is subject to the New Source Performance Standards of Subpart GG in 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. This regulation establishes standards for emissions of NOx and SO_2 as well as testing and monitoring requirements. In general, the emissions standards are:

- NOx emissions ≤ 150 ppmvd corrected for heat rate and fuel nitrogen (equivalent to 187 ppmvd @ 15% O_2), and
- SO_2 emissions are limited by firing only fuels containing ≤ 0.8% sulfur by weight (equivalent to 150 ppmvd).

The manufacturer's guaranteed NOx emission rate is 25 ppmvd @ 15% O_2, which readily complies with the NSPS NOx standard. The Federal Energy Regulatory Commission (FERC) currently limits the maximum sulfur content of natural gas to 10 grains of sulfur per 100 scf, which is less than 0.03% sulfur by weight (assuming a density for natural gas of 0.0455 lb/scf). The actual sulfur content of pipeline natural gas is typically less than 1 grain per 100 scf. The exclusive firing of natural gas readily complies with the NSPS standard for SO_2 emissions.

Draft Emissions Standards

The smaller gas turbine will reduce emissions by approximately 10% of the previous potential emissions. The draft permit establishes emissions standards for several pollutants that reflect efficient operation of the proposed equipment and ensure that the project remains minor with respect to the PSD preconstruction review permit program and the Title V operating

permit program. The Department establishes the following emissions standards based on the application for Engine 2401 and previous air construction Permit No. 0410004-006-AC for Engine 2402.

Table 3A. EU-001: Compressor Engines 2401 and 2402, Gas Turbines

Pollutant	Standards Engines 2401 and 2402	Equivalent Maximum Emissions [f]				Rule Basis [g]
		Engine 2401		Engine 2402		
		lb/hour	TPY	lb/hour	TPY	
CO [a]	50.0 ppmvd @ 15% O2	12.3	54	7.0	31	Rule 62-4.070(3), F.A.C.
NOx [b]	25.0 ppmvd @ 15% O2	10.1	44	5.7	25	Rule 62-4.070(3), F.A.C. 40 CFR 60.332
SO2 [c]	10 grains of sulfur/100 scf	3.1	14	1.7	8	Rule 62-4.070(3), F.A.C. 40 CFR 60.333
Opacity [d]	10% opacity, 6-minute average	Not Applicable				Rule 62-4.070(3), F.A.C.
PM [e]	Lean premix combustion design	0.7	3	0.4	2	Rule 62-4.070(3), F.A.C.
VOC [e]	Lean premix combustion design	0.4	2	1.5	7	Rule 62-4.070(3), F.A.C.

a. The CO standards are based on the average of three test runs as determined by EPA Method 10.

b. The NOx standards are based on the average of three test runs as determined EPA Method 20.

c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO2 emissions. Expected fuel sulfur levels are less than 1 grain per 100 scf of natural gas from the pipeline.

d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.

e. PM and VOC emissions are minimized by the equipment specification of "lean premix combustion design" for each gas turbine. The equivalent maximum emissions are provided for informational purposes only. PM emissions are based on an AP-42 emission factor of 0.0066 lb/MMBtu (Table 3.1-2a). VOC emissions are based on available vendor data and exclude emissions of methane and ethane, which are assumed to be 90% of the factor for total unburned hydrocarbons. No testing or other compliance demonstration is required for emissions of PM or VOC.

f. Equivalent maximum emissions for each gas turbine are based on: permitted capacity, a turbine inlet air temperature of 59° F, full operation (8760 hours per year), and the permit standards (CO, NOx, and SO2) or the maximum expected emissions (PM and VOC). For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the turbine inlet temperatures. Each test report shall include measured mass emission rates for CO, NOx and SO2. Mass emission rates for SO2 shall be calculated based on actual fuel sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on compressor inlet temperatures.

g. The emissions standards of this permit ensure that the facility remains a minor source of air pollution with respect to both the PSD preconstruction review permit program and the Title V operating permit program.

4. COMPLIANCE DEMONSTRATIONS

Initial Tests

The gas turbine shall be tested to demonstrate initial compliance with the emission standards for CO, NOx, and visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup of the gas turbine. The initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load. Each of the three low-load NOx performance tests shall consist of three, 20-minute test runs. The peak load NOx performance test shall consist of three, 1-

hour test runs. The CO performance tests shall be conducted concurrently with the NOx performance tests at peak load. SO_2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]

Annual Tests

During each federal fiscal year (October 1 - September 30), the gas turbine shall be tested to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. CO and NOx emissions shall be tested concurrently at permitted capacity. SO_2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a), F.A.C.]

Custom Fuel Monitoring

The applicant has requested a custom fuel-monitoring schedule for fuel sulfur that meets the general requirements of EPA's most recent guidance regarding compliance with the NSPS Subpart GG provisions. The frequency of monitoring shall begin at twice per week and may eventually be reduced to twice per year based on satisfactory results.

5. REPLACEMENT COMPONENTS

The applicant requests authorization to replace modular components of the gas turbines compressor engines with "like-kind" equipment, including the entire gas generator and power turbine. The replacement components will be of the same make and model with an equivalent (or better) design emission profile. The repair and maintenance of combustors and turbine blades is complex and further complicated when performed in the field. Therefore, gas turbine manufacturers provide a modular design for light-industrial, aero-derivative gas turbines such as these to facilitate repairs and maintenance. The component requiring maintenance is disconnected and sent to a regional repair facility. A replacement component from a pool of like-kind equipment is installed to minimize downtime of the compressor engine. The applicant will re-test the unit after replacement of the gas generator component.

Station 24 is a minor source of air pollution. Therefore, replacements of like-kind components that do not increase emissions are not subject to PSD preconstruction review. With reference to the NSPS Subpart GG requirements, the gas turbines are already subject to this regulation, so "reconstruction" and "modification" are not issues with regard to the NSPS. In addition, there will be no increase in maximum hourly emissions because replacements will be with like-kind equipment having the same design emission standards. Without an increase in emissions, such replacements could not constitute a modification as defined by the NSPS. This is consistent with EPA's original intent for gas turbines as described in the background document for the final NSPS Subpart GG regulations (No. EPA-450/2-77-017a). The Department approves the request and the draft permit establishes a condition allowing the replacement of like-kind components with appropriate requirements for notification, certification, testing, and reporting.

6. OTHER EMISSIONS UNITS

Engine 2402 is a 7222 bhp (ISO) Cooper-Rolls Model No. 501-KC7-DLE gas turbine that was recently constructed under Permit No. 0410004-006-AC. Station 24 also includes miscellaneous support activities such as a 443 bhp emergency generator, an oily water tank, a diesel oil tank, a pipeline condensate storage tank, and miscellaneous fugitive leaks from pipeline equipment such as pumps, valves, flanges, connectors, etc. The Department will consolidate all previous regulatory requirements in Permit No. 0410004-006-AC for these other emissions units under the proposed draft permit. The air construction permit for this project will supersede all previous air construction permits for the corresponding emissions units.

7. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the specific conditions of the draft permit. Jeff Koerner is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

PERMITTEE:

Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

Authorized Representative:
Mr. Rick Craig, V.P. of Southeastern Operations

Air Permit No. 0410004-007-AC
Facility ID No. 0410004
Compressor Station 24
Replacement of Engine 2401
Gilchrist County, Florida
Permit Expires: November 30, 2004

PROJECT AND LOCATION

This permit authorizes the replacement of existing Engine 2401 with a smaller 13,000 bhp (ISO) gas turbine. The air construction permit also consolidates all previous regulatory requirements for the remaining emissions units under a single air construction permit. The new equipment will be installed at existing Compressor Station 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. The UTM coordinates are Zone 17, 321.3 km East, and 3282.8 km North.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.); 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 60 of the Code of Federal Regulations. 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. This air construction permit supersedes all previous air construction permits for the emissions units at this facility.

CONTENTS

Michael G. Cooke, Director
Division of Air Resources Management

(Date)

FACILITY AND PROJECT DESCRIPTION

Florida Gas Transmission Company (FGTC) operates existing Compressor Station 24 in Gilchrist County for their natural gas pipeline. The station currently consists of a 15,000 bhp gas turbine (Engine 2401), a 7222 bhp gas turbine (Engine 2402), and miscellaneous support activities. The permittee proposes to replace Engine 2401 with a smaller 13,000 bhp gas turbine. Upon completing the replacement, the station will consist of the following emissions units.

ID No.	Emission Unit Description
001	Engine 2401: Solar Model Mars 90-T13000S gas turbine rated at 13,000 bhp (ISO)
002	Miscellaneous support activities
003	Engine 2402: Cooper-Rolls Model No. 501-KC7-DLE gas turbine rated at 7222 bhp (ISO)

The project is part of FGTC's overall Phase VI project intended to increase the natural gas supply capacity and reliability to service domestic, commercial, and industrial customers in Florida. The permit consolidates the regulatory requirements for the emissions units at this facility.

REGULATORY CLASSIFICATION

Title III: The facility is not a major source of hazardous air pollutants (HAP).

Title IV: The facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is not a Title V major source of air pollution pursuant to Chapter 62-213, F.A.C.

PSD: The facility is not a PSD major source of air pollution pursuant to Rule 62-212.400, F.A.C.

NSPS: New gas turbines are subject to the New Source Performance Standards of Subpart GG in 40 CFR 60.

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 No. 0410004-001-AC: Initial authorization to construct the new station (Engine 2401).
- Permit No. 0410004-002-AO: Initial air operation permit (Engine 2401).
- Permit No. 0410004-003-AC: Modification to increase heat input rate for Engine 2401.
- Permit No. 0410004-004-AC: Modification to increase heat input rate for Engine 2401.
- Permit No. 0410004-005-AO: Revision of the air operation permit (Engine 2401).
- Permit No. 0410004-006-AC: Authorization to construct of Engine 2402.
- Project No. 041004-007-AC: Application to replace Engine 2401 (consolidates all emissions units).

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to operate an emissions unit shall be submitted to the Department's Air Resource Section of the Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/807-3300.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Air Resource Section of the Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/807-3300.

3. Appendices: The following Appendices are attached as part of this permit.
   Appendix A. Citation Format
   Appendix B. Common State Regulatory Requirements
   Appendix C. NSPS Subpart GG Requirements for Gas Turbines
   Appendix D. Custom Fuel Monitoring Schedule
   Appendix E. Summary of Potential Emissions

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the emissions units 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.; Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.; and Title 40, Part 60 of the Code of Federal Regulations, adopted by reference in Rule 62-204.800, F.A.C. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

5. 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.]

6. 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.]

7. Air Operation Permit: This permit authorizes construction of the emissions unit and initial operation to determine compliance with Department rules. An air operation permit is required for regular operation of the permitted emissions unit. At least sixty (60) days prior to the expiration of this air construction permit, the permittee shall submit an application for an air operation permit with the required compliance test report. [Rules 62-210.300, F.A.C.]

Compressor Station 24

This section of the permit addresses the following emissions units.

EU ID	Emissions Unit Description
001	Compressor Engine 2401 consists of a Solar Model No. Mars 90-T13000S gas turbine. *Fuel*: The gas turbine fires pipeline natural gas (SCC No. 2-02-002-01) at a maximum firing rate of approximately 108,100 cubic feet per hour based on a heating value (HHV) for natural gas of 1040 Btu/scf. *Capacity*: At a maximum heat input rate of 113 MMBtu per hour, the gas turbine produces approximately 13,000 bhp (ISO). The gas turbine is intended to operate at or near capacity. *Controls*: The efficient lean premix combustor design minimizes emissions of CO, NOx, and VOC. The exclusive combustion of natural gas minimizes emissions of PM and SO2. *Stack Parameters*: When operating at capacity, exhaust gases exit a rectangular stack (7.5 feet by 8 feet) that is 58 feet tall with a flow rate of approximately 179,100 acfm and a temperature of approximately 873° F.
002	Miscellaneous support equipment at this station includes of a 443 bhp gas-fired emergency generator ("GEN03"), an oily water tank, a diesel oil tank, a pipeline condensate storage tank, and miscellaneous fugitive emissions from pipeline equipment such as pumps, valves, flanges, connectors, etc. *{Permitting Note: The emergency generator is expected to operate much less than 500 hours per year.}*
003	Compressor Engine 2402 consists of a Cooper-Rolls Royce Model No. 501-KC7-DLE gas turbine. *Fuel*: The gas turbine fires pipeline natural gas (SCC No. 2-02-002-01) at a maximum firing rate of approximately 60,700 cubic feet per hour based on a heating value (HHV) of 1040 Btu per scf of gas. *Capacity*: At a maximum of 63 MMBtu per hour of heat input, the gas turbine produces approximately 7222 bhp (ISO). The gas turbine is intended to operate at or near capacity. *Controls*: The efficient lean premix combustor design minimizes emissions of CO, NOx, and VOC. The exclusive combustion of natural gas minimizes emissions of PM and SO2. *Stack Parameters*: When operating at capacity, exhaust gases exit a rectangular stack (7.33 feet by 5.50 feet) that is 61 feet tall with a flow rate of approximately 98,000 acfm and a temperature of approximately 960° F.

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS Requirements: Each gas turbine shall comply with the New Source Performance Standards (NSPS) of Subpart GG in 40 CFR 60. The applicable NSPS requirements are provided in Appendix C of this permit. An approved Custom Fuel Monitoring Schedule is specified in Appendix D of this permit. The Department believes that the conditions in this section are at least as stringent as, or more stringent than, the NSPS requirements of Subpart GG. [Rule 62-210.800, F.A.C., 40 CFR 60, Subpart GG]

2. Other Permits: This permit supersedes all previous air construction permits for the emissions units identified at this facility. [Rule 62-4.070(3), F.A.C.]

EQUIPMENT

3. Compressor Engine 2401: The permittee is authorized to replace existing Engine 2401 with a 13,000 bhp (ISO) Solar Model No. Mars 90-T13000S gas turbine with lean premix combustor design. Ancillary equipment includes the automated gas turbine control system, an inlet air filtration system, and a rectangular stack. The permittee shall tune, operate and maintain the gas turbine's lean premix combustion system to reduce emissions of nitrogen oxides to achieve the permitted standards. The existing 15,000 bhp Solar Mars 100-T15000S gas turbine shall be permanently removed from this site. [Applicant Request; Design]

4. Compressor Engine 2402: The permittee is authorized to install one 7222 bhp (ISO) gas turbine compressor engine consisting of a Cooper-Rolls Royce Model No. 501-KC7-DLE. Ancillary equipment includes the automated gas turbine control system, an inlet air filtration system, and a rectangular stack. The permittee shall tune, operate and maintain the gas turbine's lean premix combustion system to reduce emissions of nitrogen oxides to achieve the permitted standards. [Applicant Request; Design]

PERFORMANCE RESTRICTIONS

5. Permitted Capacities

   a. *Engine 2401*: The maximum heat input rate to the gas turbine is 113 MMBtu per hour while producing approximately 13,000 bhp (ISO) based on a turbine inlet air temperature of 59° F, 100% load, and a heating value (HHV) of 1040 Btu/scf of natural gas.

   b. *Engine 2402*: The maximum heat input rate to the gas turbine is 63 MMBtu per hour while producing approximately 7222 bhp (ISO) based on a turbine inlet air temperature of 59° F, 100% load, and a heating value (HHV) of 1040 Btu per scf of natural gas.

   Heat input rates will vary depending upon gas turbine characteristics, load, and ambient conditions. 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 testing. Performance data shall 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.] *{Permitting Note: The maximum heat input rates are based on the manufacturer's equipment specifications for each gas turbine. They are included to identify the capacity of each emissions unit for purposes of confirming that tests are conducted within 90% to 100% of the emission unit's rated capacity (or to limit future operation to 105% of the test load, if applicable), to establish appropriate emissions limits, and to aid in determining future rule applicability.}*

6. Authorized Fuel: Each gas turbine shall fire only natural gas with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

7. Restricted Operation: The hours of operation for each gas turbine are not restricted (8760 hours per year). Except for startup and shutdown, operation below 50% base load is prohibited. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

8. Emissions Standards: Each gas turbine shall not exceed the following standards for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

Pollutant	Standards: Engines 2401 and 2402	Equivalent Maximum Emissions [f]				Rule Basis [g]
		Engine 2401		Engine 2402		
		lb/hour	TPY	lb/hour	TPY	
CO [a]	50.0 ppmvd @ 15% O_2	12.3	54	7.0	31	Rule 62-4.070(3), F.A.C.
NOx [b]	25.0 ppmvd @ 15% O_2	10.1	44	5.7	25	Rule 62-4.070(3), F.A.C. 40 CFR 60.332
SO_2 [c]	10 grains of sulfur/100 scf	3.1	14	1.7	8	Rule 62-4.070(3), F.A.C. 40 CFR 60.333
Opacity [d]	10% opacity, 6-minute average	Not Applicable				Rule 62-4.070(3), F.A.C.
PM [e]	Lean premix combustion design	0.7	3	0.4	2	Rule 62-4.070(3), F.A.C.
VOC [e]	Lean premix combustion design	0.4	2	1.5	7	Rule 62-4.070(3), F.A.C.

   a. The CO standards are based on the average of three test runs as determined by EPA Method 10.

   b. The NOx standards are based on the average of three test runs as determined EPA Method 20.

   c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO_2 emissions. Expected fuel sulfur levels are less than 1 grain per 100 scf of natural gas from the pipeline.

   d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.

e. PM and VOC emissions are minimized by the equipment specification of "lean premix combustion design" for each gas turbine. The equivalent maximum emissions are provided for informational purposes only. PM emissions are based on an AP-42 emission factor of 0.0066 lb/MMBtu (Table 3.1-2a). VOC emissions are based on available vendor data and exclude emissions of methane and ethane, which are assumed to be 90% of the factor for total unburned hydrocarbons. No testing or other compliance demonstration is required for emissions of PM or VOC.

f. Equivalent maximum emissions for each gas turbine are based on: permitted capacity, a turbine inlet air temperature of 59° F, full operation (8760 hours per year), and the permit standards (CO, NOx, and SO_2) or the maximum expected emissions (PM and VOC). For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the turbine inlet temperatures. Each test report shall include measured mass emission rates for CO, NOx and SO_2. Mass emission rates for SO_2 shall be calculated based on actual fuel sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on turbine inlet temperatures.

g. The emissions standards of this permit ensure that the facility remains a minor source of air pollution with respect to both the PSD preconstruction review permit program and the Title V operating permit program.

Appendix E of this permit summarizes the potential emissions estimates for Station 24.

EMISSIONS PERFORMANCE TESTING

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

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources *{Permitting Note: The method shall be based on a continuous sampling train.}*
19	Determination of SO_2 Removal Efficiency and Emission Rates for PM, SO_2, and NOx *{Permitting Note: Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.}*
20	Determination of NOx, SO_2, and Diluent Emissions from Gas Turbines

The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing without prior written approval from the Department. Tests shall also be conducted in accordance with the requirements specified in Appendix B of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

10. Initial Tests: Each gas turbine shall be tested to demonstrate initial compliance with the emission standards for CO, NOx, and visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup of the gas turbine. The initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load. Each of the three low-load NOx performance tests shall consist of three, 20-minute test runs. The peak load NOx performance test shall consist of three, 1-hour test runs. The CO performance tests shall be conducted concurrently with the NOx performance tests at peak load. SO_2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. *{Permitting Note: The permittee may have previously satisfied the requirement for the initial testing of Engine 2402.}* [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]

11. Annual Tests: During each federal fiscal year (October 1 - September 30), each gas turbine shall be tested to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. CO and NOx emissions shall

be tested concurrently at permitted capacity. SO_2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a), F.A.C.]

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

RECORDS AND REPORTS

13. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix B of this permit. For each required NOx test, emissions shall be corrected to equivalent terms and compared to the NSPS Subpart GG standard identified in Appendix C of this permit. For each test run, the report shall also indicate the natural gas firing rate (cubic feet per hour), heat input rate (MMBtu per hour), the power output (bhp), percent of base load, and the turbine inlet temperature. [Rule 62-297.310(8), F.A.C.; 40 CFR 60.334]

14. Operational Data: Using the automated gas turbine control system, the permittee shall monitor and record heat input (MMBtu), power output (bhp), and hours of operation for each gas turbine. Operational information shall be summarized and reported with the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

15. Component Replacements: Each gas turbine system generally consists of the following general components: gas generator, accessory drive system, air inlet and filtration system, fuel delivery system, cooling system, lubrication system, power turbine, power shaft, control system, starting system, and exhaust system with stack. These light-industrial aero-derivative gas turbines are designed with modular components to facilitate quick repairs. Common "wear items" include stator blades, turbine nozzles, turbine buckets, fuel nozzles, combustion chambers, seals, and shaft packings. The modular design extends to complete replacement of the gas generator and power turbine. Replacements are authorized provided the following requirements are met.

    a. Components shall be replaced with functionally equivalent "like-kind" equipment. Replacement components may consist of upgraded equipment, but shall not increase the maximum heat input rate to or emissions from the gas turbine. Replacement components shall be designed to achieve and shall achieve the emissions standards specified in this permit or better.

    b. The permittee shall keep the Compliance Authority informed of any scheduled gas generator replacements. Within ten days of first fire on a replacement gas generator, the permittee shall provide the following: date of first fire; certification from the vendor that the replacement gas generator is a functionally equivalent "like-kind" component designed to achieve the emissions standards specified in this permit; specifications including vendor, model number, serial number, maximum heat input rate (MMBtu/hour), power output (bhp), and maximum emission rates; and a preliminary schedule for conducting performance testing. A copy of the vendor certification shall be kept on site with the air permit. Replacement gas generators are subject to the standards of this permit. Within 60 days of replacing a gas generator, the permittee shall conduct emissions stack tests to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. The permittee shall comply with the requirements for notification, test methods, test procedures, and reporting specified in this permit.

    c. To up-rate a gas turbine or increase the maximum heat input rate, the permittee shall apply for prior approval through the air construction permit process.

    d. After investigation and for good cause (such as complaints, increased visible emissions or questionable maintenance of control equipment), the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.

    [Rule 62-4.070(3), F.A.C.]

Contents

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 CRF 60.7]

Means: Title 40, Part 60, Section 7

{Permitting Note: Unless otherwise specified by permit, the following conditions apply to all emissions units and activities at this facility.}

GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions. [Rule 62-4.160(1), F.A.C.]

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. [Rule 62-4.160(2), F.A.C.]

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. [Rule 62-4.160(3), F.A.C.]

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. [Rule 62-4.160(4), F.A.C.]

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. [Rule 62-4.160(5), F.A.C.]

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. [Rule 62-4.160(6), F.A.C.]

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. [Rule 62-4.160(7), F.A.C.]

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. [Rule 62-4.160(8), F.A.C.]

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. [Rule 62-4.160(9), F.A.C.]

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. [Rule 62-4.160(10), F.A.C.]

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. [Rule 62-4.160(11), F.A.C.]

12. This permit or a copy thereof shall be kept at the work site of the permitted activity. [Rule 62-4.160(12), F.A.C.]

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (not applicable);
    b. Determination of Prevention of Significant Deterioration (not applicable); and
    c. Compliance with New Source Performance Standards (applicable).

    [Rule 62-4.160(13), F.A.C.]

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.

    [Rule 62-4.160(14), F.A.C.]

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. [Rule 62-4.160(15), F.A.C.]

EMISSIONS AND CONTROLS

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

17. 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.]

18. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

19. 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.]

20. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

21. 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.]

22. 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.]

23. 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.]

24. 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

25. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

26. 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.]

27. 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.]

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

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

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

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

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

29. 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.]

30. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.

31. Test Notification: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]

32. 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.]

33. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

a. The type, location, and designation of the emissions unit tested.

b. The facility at which the emissions unit is located.

c. The owner or operator of the emissions unit.

d. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

f. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating

parameters during each test run.

g. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.

h. The date, starting time and duration of each sampling run.

i. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

j. The number of points sampled and configuration and location of the sampling plane.

k. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

l. The type, manufacturer and configuration of the sampling equipment used.

m. Data related to the required calibration of the test equipment.

n. Data on the identification, processing and weights of all filters used.

o. Data on the types and amounts of any chemical solutions used.

p. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

q. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

r. All measured and calculated data required to be determined by each applicable test procedure for each run.

s. The detailed calculations for one run that relate the collected data to the calculated emission rate.

t. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.

u. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

RECORDS AND REPORTS

34. 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.]

35. 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.]

The following emissions unit is 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.

EU ID	Emission Unit Description
001	Engine 2401: Solar Model Mars 90-T13000S gas turbine rated at 13,000 bhp (ISO)
003	Engine 2402: Cooper-Rolls Model No. 501-KC7-DLE gas turbine rated at 7222 bhp (ISO)

NSPS General Provisions

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.

40 CFR 60, Subpart GG
Standards of Performance for Stationary Gas Turbines

{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. 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 italics 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 60.330 - Applicability and Designation of Affected Facility

(a) The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour), based on the lower heating value of the fuel fired.

40 CFR 60.331 - Definitions

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(g) ISO standard day conditions means 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilopascals pressure.

(i) Peak load means 100 percent of the manufacturer's design capacity of the gas turbine at ISO standard day conditions.

(j) Base load means the load level at which a gas turbine is normally operated.

40 CFR 60.332 - Standard for Nitrogen Oxides

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

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

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

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.

{Permitting Note: The "Y" value provided by the manufacturer is approximately 11.57 for natural gas. The equivalent emission standard is 187 ppmvd corrected to 15% oxygen. The emissions standards specified in this permit are much more stringent than this requirement.}

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 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)(2) 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 Section 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.

{Permitting Note: The gas turbines will exclusively fire natural gas, which contains less than 0.03% sulfur by weight assuming a density of 0.0455 lb/scf of natural gas.}

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 pipeline quality natural gas fired is waived because natural gas is the exclusive fuel and contains negligible amounts of nitrogen. For purposes of complying with the sulfur content monitoring requirements of this rule, the permittee shall comply with the Custom Fuel Monitoring Schedule in Appendix D of this permit.

{Permitting Note: This is consistent with guidance from EPA Region 4 on custom fuel monitoring.}

(c) For the purpose of reports required under Section 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 Section 60.332 by the performance test required in Section 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 Section 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 Section 60.335(a).

{Permitting Note: The excess NOx emissions reporting requirements do not apply. The gas turbine uses dry low-NOx combustion technology and not wet injection to control NOx emissions. Also, NOx emissions due to fuel bound nitrogen are considered negligible because natural gas is the exclusive fuel and contains little nitrogen.}

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

Department Requirement: In accordance with the Custom Fuel Monitoring Schedule specified in Appendix D of this permit, any period between two consecutive fuel sulfur analyses shall be reported as excess emissions if the results of the second analysis indicates failure to comply with the fuel sulfur limit of the permit.

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 Section 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 Section 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 Sections 60.332 and 60.333(a) as follows:

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

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

where:

NOx = emission rate of NOx at 15 percent O2 and ISO standard ambient conditions, volume percent.
NOxo = observed NOx concentration, ppm by volume.
Pr = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.
Po = observed combustor inlet absolute pressure at test, mm Hg.
Ho = observed humidity of ambient air, g H2O/g air.
e = transcendental constant, 2.718.
Ta = ambient temperature, °K.

Department Requirement: The permittee is required to correct NOx emissions to ISO ambient atmospheric conditions for each required emissions performance test and compare to the NOx standard specified in 40 CFR 60.332.

(2) The monitoring device of Section 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with Section 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 initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load.

{Permitting Note: Although the dry low-NOx combustion controls are only effective above a minimum load of approximately 50%, the proposed gas turbines are able to quickly ramp up above this level. Gas turbines used as compressor engines typically operate at permitted capacity. Excluding startup and shutdown, the permit requires operation above 50% load. The minimum normal operating load will be identified during initial testing.}

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

Department Requirement: The span value shall be no greater than 75 ppm of nitrogen oxides due to the low NOx emission levels of the specified gas turbine.

(d) The owner or operator shall determine compliance with the sulfur content standard in Section 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 Section 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 Custom Fuel Monitoring Schedule in Appendix D specifies the requirements for sampling and analyzing the pipeline natural gas.

(e) To meet the requirements of Section 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.

Department Requirement: The Custom Fuel Monitoring Schedule in Appendix D specifies the requirements for sampling and analyzing the pipeline natural gas.

Custom Fuel Monitoring Schedule

Custom Fuel Monitoring Schedule: The Department approves the following Custom Fuel Monitoring Schedule in lieu of the NSPS fuel monitoring requirements in 40 CFR 60.334 of Subpart GG for the gas turbine affected by this project.

1. Because natural gas is the exclusive fuel for the gas turbine and contains negligible amounts of nitrogen, no monitoring of the fuel nitrogen content is required.
2. Fuel sulfur monitoring shall be performed in accordance with the following requirements:
   a. The natural gas shall be sampled and analyzed for the sulfur content as determined by ASTM methods D4084-82, D3246-81 or more recent versions.
   b. After first fire in the gas turbine, fuel sulfur monitoring shall be conducted at least twice each month. If this monitoring indicates little variability and compliance with the fuel sulfur limit of this permit for a period of six months, monitoring shall be reduced to once each calendar quarter. If this monitoring indicates little variability and compliance with the fuel sulfur limit of this permit for six calendar quarters, monitoring shall be reduced to twice each year (once each during the first and third calendar quarters).
   c. The permittee shall provide written notification to the Compliance Authority prior to reducing the frequency of monitoring in accordance with the above custom schedule. The notification shall include the results of the previous fuel sulfur analyses, the current frequency of monitoring, and the future frequency of monitoring.
3. This custom fuel-monitoring plan shall be reevaluated if there is a change in the fuel supply, a substantial change in the fuel quality, or any required monitoring indicates failure to comply with the fuel sulfur limit of this permit. For such cases, fuel sulfur monitoring shall resume on a weekly basis while the Department reevaluates the monitoring schedule.

[Rule 62-4.070(3); 40 CFR 60.334]

Summary of Potential Emissions

For informational purposes only, the following table summarizes the potential emissions from Station 24.

EU No.	Description	Hourly Emissions, lb/hour						Annual Emissions, ton/year					
		CO	NOx	PM	SO_2	VOC	HAPs	CO	NOx	PM	SO_2	VOC	HAPs
001	Engine 2401, 13,000 bhp Gas Turbine	12.3	10.1	0.7	3.1	0.4	0.12	53.9	44.2	3.3	13.5	1.5	0.5
002	Miscellaneous Support Activities	---	---	---	---	---	---	0.6	2.2	0.2	0.2	0.6	0.6
	GEN03, 443 bhp Emergency Generator	2.4	8.8	0.7	0.8	0.02	Neg.	0.6	2.2	0.2	0.2	Neg.	Neg.
	Fugitive VOC Leaks	---	---	---	---	---	---	---	---	---	---	0.6	0.6
	Oily Water Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
	Diesel Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
	Condensate Tank	---	---	---	---	---	Neg.	---	---	---	---	Neg.	Neg.
003	Engine 2402, 7222 bhp gas turbine	7.0	5.7	0.4	1.7	1.5	0.3	30.5	25.0	1.8	7.6	6.5	0.3
Total for Station 24								85.0	71.4	5.3	21.3	8.6	1.4

Notes:

1. All VOC emissions from fugitive leaks were assumed to be HAPs.
2. Hourly emissions are based on manufacturer's equipment specifications.
3. Annual emissions are based on information in the application and permit conditions.

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Mr. Rick Craig
Vice President of Southeastern Operations
Florida Gas Transmission Company
Post Office Box 1188
Houston, TX 77251

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)*: E.O. Rice — B. Date of Delivery: 11/24/03

C. Signature: x E.O. Rice — ☑ Agent ☐ Addressee

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

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

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

2. Article Number *(Copy from service label)*
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PS Form 3811, July 1999 — Domestic Return Receipt — 102595-99-M-1789

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O F F I C I A L U S E

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	**$**

Postmark Here

Sent To
Rick Craig
Street, Apt. No.; or PO Box No.
PO Box 1188
City, State, ZIP+ 4
Houston, TX 77251

PS Form 3800, May 2000 — **See Reverse for Instructions**

Florida Gas Transmission Company

Phase VI Expansion Project

Compressor Station No. 24

Trenton, Florida

APPLICATION
For
AIR CONSTRUCTION
PERMIT

RECEIVED
OCT 31 2003
BUREAU OF AIR REGULATION

October 2003

Prepared by AQMcs, LLC

Table of Contents

List of Tables

1.0 INTRODUCTION

Florida Gas Transmission Company (FGT), is proposing to derate a turbine at its existing natural gas pipeline facility near Trenton in Gilchrist County, Florida (Compressor Station No. 24). Compressor Station No. 24 is located in Gilchrist County, Florida, approximately 4 miles north of Trenton on U. S. Highway 129. Figure 1-1 shows the location of the compressor station.

The proposed modification involves the replacement of a 15,000 bhp turbine with a smaller 13,000 bhp (ISO) turbine. The existing engine is a Solar Mars 100-T15000S equipped with dry low NO_X (oxides of nitrogen) combustion. The new engine is a Solar Mars 90-T13000S also equipped with dry low NO_X (oxides of nitrogen) combustion. There will be a decrease in emissions as a result of this replacement.

Engineering designs for this project include selection of an engine incorporating dry low NO_X combustion technology. Dry low NO_X technology for control of NO_X emissions would represent Best Available Control Technology (BACT) for the proposed turbine engine under PSD requirements.

This application contains two additional sections. Descriptions of the existing operation at FGT's Compressor Station No. 24 and the proposed turbine replacement are presented in Section 2.0. The air quality review requirements and applicability of state and federal regulations are discussed in Section 3.0.

FDEP permit application forms are provided in Attachment A. Attachment B contains vendor information and Attachment C contains emission calculations.

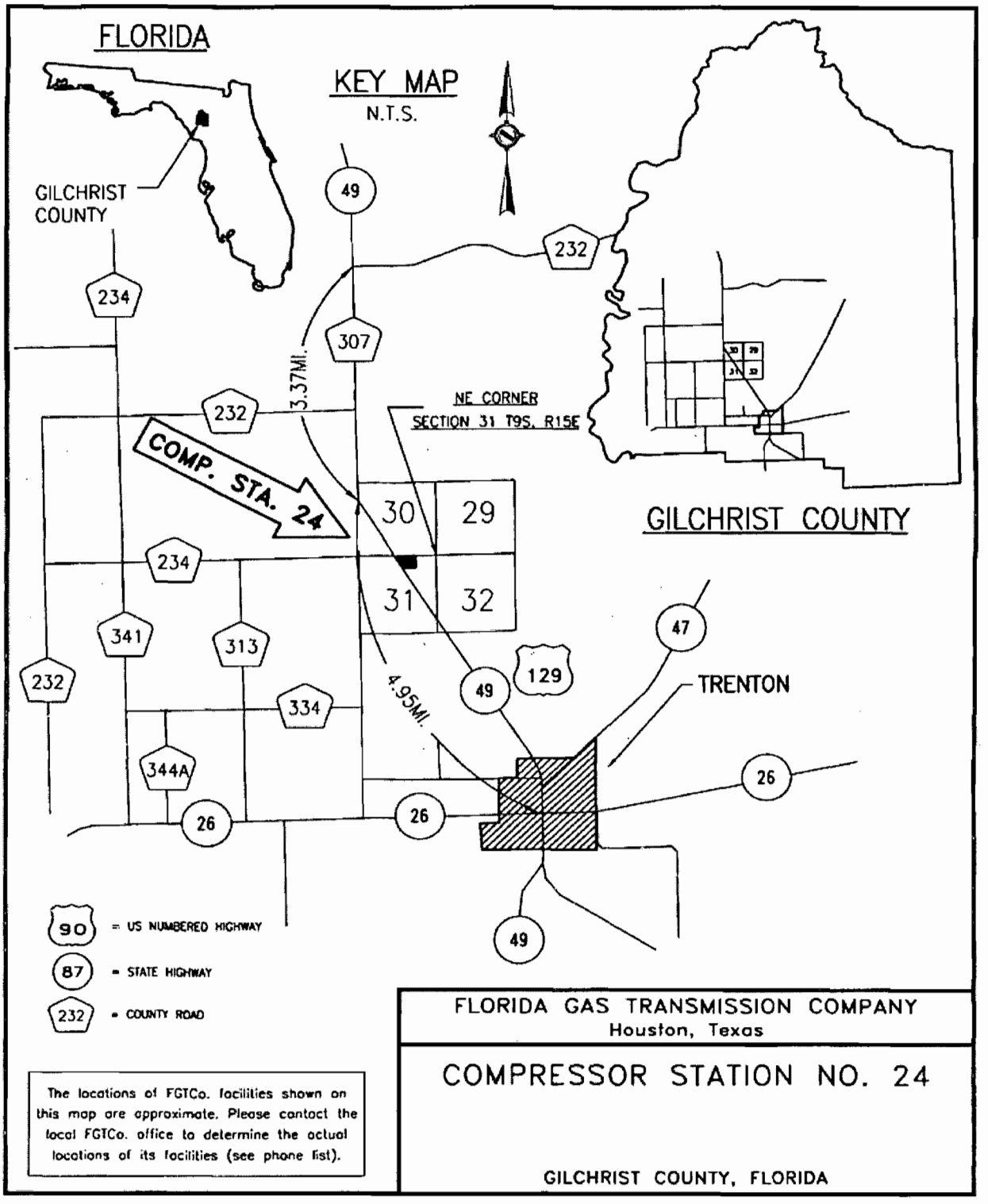
FLORIDA
KEY MAP
N.T.S.
GILCHRIST COUNTY
49
232
234
307
3.37MI.
NE CORNER
SECTION 31 T9S, R15E
COMP. STA. 24
30
29
31
32
GILCHRIST COUNTY
234
341
313
232
334
4.95MI.
49
129
47
TRENTON
344A
26
26
26
49
90 = US NUMBERED HIGHWAY
87 = STATE HIGHWAY
232 = COUNTY ROAD
The locations of FGTCo. facilities shown on this map are approximate. Please contact the local FGTCo. office to determine the actual locations of its facilities (see phone list).
FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas
COMPRESSOR STATION NO. 24
GILCHRIST COUNTY, FLORIDA

Figure 1-1

2.0 PROJECT DESCRIPTION

A plot plan of FGT's Compressor Station No. 24, showing the location of the plant boundaries and the location of the proposed modified engine is presented in Attachment B. The following sections provide a description of the operations at this location.

2.1 Existing Operations

FGT's existing Compressor Station No. 24 consists of one 15,000 bhp (ISO) gas-fired turbine engine. Compressor Station No. 24 was built as a part of the Phase IV Expansion Project and was constructed in 2000-2001. The existing turbine (Compressor Engine 2401) was up rated in 2002 as part of the Phase V Expansion Project. FGT added one new gas-fired 7,222 bhp turbine (Compressor Engine 2402) as part of the Phase VI Expansion Project.

The existing facility also has supporting equipment including pipeline condensate and oily water storage tanks and an emergency generator.

2.2 Proposed Compressor Station Modification

FGT proposes to decrease the horsepower capacity of Compressor Station No. 24 at this time. This is being done to meet requirements from the Federal energy Regulatory Commission (FERC). The project will involve replacing the existing Solar Mars 100 T-15000S turbine compressor unit rated at 15,000 bhp ISO (Engine 2401, EU 001) with a Solar Mars 90 T-13000S turbine compressor unit rated at 13,000 bhp ISO).

Specifications and stack parameters for the existing Solar Mars 100 T-15000S turbine compressor unit are presented in Table 2-1 and hourly and annual emissions of regulated pollutants from the engine under normal operating conditions are presented in Table 2-2. Specifications and stack parameters for the proposed replacement Solar Mars 90 T-13000S turbine compressor unit are presented in Table 2-3 and hourly and annual emissions of regulated pollutants from the engine under normal operating conditions are presented in Table 2-4.

Typically, turbine vendors do not provide information on particulate matter or SO_2 emissions; therefore, particulate matter emissions are based upon USEPA publication AP-42 Table 3.1-2a (USEPA, 2000) and emissions of SO_2 are based on FGT's Federal Energy Regulatory Commission (FERC) certificate limit of 10 grains sulfur per 100 cubic feet of natural gas. Hazardous air pollutant (HAP) emissions are based upon the Gas Research Institute's (GRI) HapCalc software that uses USEPA emission factors, emission factors found in research literature and emission factors based on GRI research data.

Table 2-1 Existing Turbine (2401) Specifications and Stack Parameters

Parameter	Design
Compressor Engine	2401
Type	Gas Turbine
Manufacturer	Solar
Model	Mars 100 T-15000S
Unit Size	14,922 bhp (15,000 ISO)
Heat Input	7,595 Btu/hp-hr
Maximum Fuel Consumption [a]	0.11987 MMscf/hr
Speed	8,956 rpm
Stack Parameters	
Stack Height	58 ft
Stack Diameter	7.5 ft x 8 ft (rectangular)
Exhaust Gas Flow	193,613 acfm
Exhaust Temperature	903 °F
Exhaust Gas Velocity	53.8 ft/sec

NOTE:

acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/hp-hr	=	British thermal units per brake horsepower per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
MMscf/hr	=	million standard cubic feet per hour.
rpm	=	revolutions per minute.

[a]Based on vendor heat rate value plus 10% and higher heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).

Table 2-2 Existing Turbine (2401) Emissions

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	11.28 lb/hr	Manufacturer Data	11.28	49.4
Carbon Monoxide	13.73 lb/hr	Manufacturer Data	13.73	60.1
Volatile Organic Compounds	0.39 lb/hr	Manufacturer Data	0.39	1.7
Particulate Matter*	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.82	3.6
Sulfur Dioxide*	10 grains/100 scf	FERC Limit	3.42	15.0
HAPs**	Various see Attachment C	AP-42, Table 3.1-3	0.13	0.56

* Emissions based on vendor provided heat rate plus 10 per cent

** HAP Emissions were originally based on GRI HapCalc 3.0 emission factors, they are converted here for comparison purposes to the newer proposed draft 40 CFR 63 Subpart YYYY emission factor

Table 2-3 New (Replacement) Turbine (2401) Specifications and Stack Parameters

Parameter	Design [a]
Compressor Engine	2401
Type	Gas Turbine
Manufacturer	Solar
Model	Mars 90 T-13000S
Unit Size [b]	12,384 bhp (13,000 ISO)
Heat Input [c]	9,080 Btu/hp-hr
Maximum Fuel Consumption [c]	0.1081 MMscf/hr
Speed	8,356 rpm
Stack Parameters	
Stack Height	58 ft
Stack Diameter	7.5 ft x 8 ft (rectangular)
Exhaust Gas Flow	179,109 acfm
Exhaust Temperature	873 °F
Exhaust Gas Velocity	49.75 ft/sec

NOTE:

acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/hp-hr	=	British thermal units per brake horsepower per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
MMscf/hr	=	million standard cubic feet per hour.
rpm	=	revolutions per minute.

[a] All values based on ISO conditions

[b] Less elevation, inlet and exhaust losses

[c] Based on vendor lower heating value of 939.2 Btu/scf and a heat rate of 8200 Btu/hp-hr adjusted to a higher heating value for natural gas of 1040 Btu/scf.

Table 2-4 New (Replacement) Turbine (2401) Emissions

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	10.10 b/hr	Manufacturer Data	10.10	44.2
Carbon Monoxide	12.30 lb/hr	Manufacturer Data	12.30	53.9
Volatile Organic Compounds*	0.35 lb/hr	Manufacturer Data	0.35	1.5
Particulate Matter**	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.74	3.3
Sulfur Dioxide**	10 grains/100 scf	FERC Limit	3.09	13.5
HAPs**	Various see Attachment C	AP-42, Table 3.1-3	0.12	0.51

* Assumes VOCs are 10% of unburned hydrocarbons
** Emissions based on vendor provided heat rate adjusted to HHV

2.2.1 Emissions Summary

The total new emissions resulting from the project are listed on Table 2-5. As can be seen from the table, the emissions will decreases. The calculations used to estimate these emissions are presented in Attachment C.

Table 2-5 Potential Annual Emissions (tpy) Summary

SOURCE ID	DESCRIPTION	NO_x	CO	VOC[a]	SO_2	PM
	EXISTING FACILITY					
2401	**15,000 bhp Turbine Engine**	49.5	60.0	1.8	14.9	3.5
2402	7,222 bhp Turbine Engine	25.0	30.5	6.5	7.6	1.8
GEN03	443 bhp Recip. Engine	2.2	0.6	0.01	0.2	0.2
FUGITIVE	Fugitive Leaks			0.59		
TANK 01	Oily Water Tank			<0.001		
TANK 02	Diesel Tank			<0.001		
TANK 03	Condensate Tank			<0.001		
	EXISTING ANNUAL POTENTIALTOTALS:	**76.7**	**91.1**	**8.903**	**22.7**	**5.5**
	PROPOSED MODIFIED FACILITY					
2401	**13,000 bhp Turbine Engine (New)**	44.2	53.9	1.5	13.5	3.3
2402	7,222 bhp Turbine Engine	25.0	30.5	6.5	7.6	1.8
GEN03	443 bhp Recip. Engine	2.2	0.6	0.01	0.2	0.2
FUGITIVE	Fugitive Leaks			0.59		
TANK 01	Oily Water Tank			<0.001		
TANK 02	Diesel Tank			<0.001		
TANK 03	Condensate Tank			<0.001		
	NEW ANNUAL POTENTIAL TOTALS:	**71.4**	**85**	**8.603**	**21.3**	**5.3**
	NET CHANGES IN POTENTIAL EMISSIONS:	**-5.3**	**-6.1**	**-0.3**	**-1.4**	**-0.2**

3.0 REGULATORY ANALYSIS

This section presents a review of federal and Florida State air quality regulations, which govern the operations and proposed modifications to be conducted at Compressor Station No. 24.

3.1 Federal Regulations Review

The federal regulatory programs administered by the USEPA have been developed under the authority of the Clean Air Act. The following subsections review the essential elements of the federal regulatory program and the impact they have on the proposed operations at Compressor Station No. 24.

3.1.1 Applicability of New Source Performance Standards (NSPS)

The regulation of new sources through the development of standards applicable to a specific category of sources was a significant step taken by the 1970 CAA Amendments. The Administrator was directed to publish a proposed regulation establishing a Standard of Performance for any category of new sources that cause or contribute significantly to air pollution and which may reasonably be anticipated to endanger public health. All Standards apply to all sources within a given category, regardless of geographic location or ambient air quality at the location.

Performance standards are published in 40 CFR 60. The new turbine installed at Compressor Station No. 24 is subject to Subpart GG, Standards of Performance for Stationary Gas Turbines, because it will have a maximum heat input at peak load of >10.7 gigajoules/hour (10 MMBtu/hr) based on the lower heating value of the natural gas fuel. This regulation establishes emission limits for NO_X and SO_2 and requires performance testing and daily monitoring of fuel nitrogen and sulfur. The applicable emission standards are provided in Table 3-4.

The NO_x emission limit for Subpart GG is calculated as follows:

$$STD = 0.0150\ (14.4/Y) + F$$

STD = Allowable NO_x emissions

Y = Heat rate at peak load not to exceed 14.4 *KjJwatt-hour*

F = NO_x emission allowance

The fuel bound nitrogen in natural gas is less than 0.015% by weight. Therefore, the value of F as defined in 40 CFR 60.332(3) is equal to zero.

Y = Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= 8,200 Btu/bhp-hr x 1.055 *Kj/Btu x hp-hr/745.7 watt-hour*

= 11.57

STD = 0.0150 (14.4/11.57) + 0

= 0.0150%

= 150 ppm_v

Table 3-3 summarizes the NSPS applicability for the proposed gas engine.

The turbine at this facility will meet the NSPS for NO_X of 150 ppmv (i.e., manufacturer's estimation of 25 ppmv), and for SO_2 of 150 ppmv (estimated for this turbine to be about 10 ppmv).

3.1.2 Applicability of National Emission Standards for Hazardous Air Pollutants (NESHAPS)

Currently the only NESHAPS potentially applicable to this compressor station is 40 CFR 63 Subpart HHH. Compressor Station No. 24 has no affected sources as defined by 40 CFR 63 Subpart HHH and is, therefore, not subject to this subpart.

40 CFR 63 Subpart YYYY has been proposed for turbines, but these regulations have not been promulgated at this time.

Table 3-1 Applicability of New Source Performance Standards

NSPS Subpart	NSPS Regulations	Equipment	Fuel	Pollutant	Heat Input Applicability	Equipment Design Maximum*	NSPS Emission Limits	Equipment Emissions
GG	60.332	Engine No. 2401 Gas Turbine	Gas	NO_2	>10 MM Btu/hr	101.5 MMBtu/hr	150 ppm_v	25 ppm_v
Design maximum based on vendor data of 12,384 hp and heat input of 8,200 Btu/hp-hr (LHV).								

3.2 Florida State Air Quality Regulations

Compressor Station No. 24 is currently operating under Permit No. 0390029-001-AV and is subject to the provisions of that permit. Rule 62, F.A.C., contains the air quality rules and regulations for the State of Florida. The primary federal regulations that affect Compressor Station No. 24 have been incorporated into or are referenced by these rules. The significant state regulations that are applicable to the new emission units are briefly listed below.

3.2.1 Rule 62-210.300 Permits Required

FGT is required to obtain a construction permit prior to construction of new emission units. This requirement is being met by the submittal of this application.

3.2.2 Rule 62-204.240 Ambient Air Quality Standards

FGT must not violate any of the ambient air quality standards listed under this rule.

3.2.3 Rule 62-296.320(2) Objectionable Odors

This rule prohibits the discharge of pollutants that will cause or contribute to an objectionable odor.

3.2.4 Rule 62-296.320(4)(b)1 General Particulate Emission Limiting Standards.

FGT is prohibited from allowing the new compressor engine to discharge into the atmosphere the emissions of air pollutants, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

Attachment A

DEP Forms

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - NON-TITLE V SOURCE

See Instructions for Form No. 62-210.900(3)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Florida Gas Transmission Company	
2. Site Name: Compressor Station No. 24	
3. Facility Identification Number: 0410004 [ ] Unknown	
4. Facility Location: Street Address or Other Locator: Intersection of U.S. Highway 129 and SW 50th Street City: Trenton County: Gilchrist Zip Code: 32693	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: Jacob Krautsch, Division Environmental Specialist
2. Application Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 1967 Commonwealth Lane City: Tallahassee State: FL Zip Code: 32303
3. Application Contact Telephone Numbers: Telephone: (850) 350-5042 Fax: (850) 350-5001

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	10-31-03
2. Permit Number:	0410004-007-AC

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number:_____

[ ] Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Initial non-Title V air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Non-Title V air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[X] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Rick Craig, Vice President, Southeastern Operations

2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: P.O. Box 1188
   City: Houston State: TX Zip Code: 77251

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (713) 646-7227 - Fax: (713) 646-6128

4. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

Richard Craig — Signature

10/27/03 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: David Holmes Parham
   Registration Number: 50834

2. Professional Engineer Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: 601 S. Lake Destiny Dr. Suite 450
   City: Maitland State: FL Zip Code: 32751

3. Professional Engineer Telephone Numbers:
   Telephone: (407) 838-7119 Fax: (407) 838-7101

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

10/28/03
Date

(seal)

DAVID PARHAM, P.E.
P.E. NUMBER 50834
601 SOUTH LAKE DESTINY DRIVE, SUITE 450
MAITLAND, FLORIDA 32794-5100

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	Solar Mars 100 T-13000S Turbine rated at 13,000 bhp, Engine 2401	AC1C	$250.00

Application Processing Fee

Check one: [X] Attached - Amount: $__250.00_____ [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Replacement of a 15,000 hp gas fired Solar Mars 100 T-15002S compressor turbine with a 13,000 hp gas fired Solar Mars 90 T-13002S compressor turbine .

2. Projected or Actual Date of Commencement of Construction: 11/15/03

3. Projected Date of Completion of Construction: 12/15/03

Application Comment

This facility is part of FGT's Phase VI expansion project, aimed at increasing the supply capacity of FGT's network servicing domestic, commercial, and industrial customers in Florida.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 321.323 North (km): 3282.787			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 29/39/51 Longitude (DD/MM/SS): 82/50/46			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4922
7. Facility Comment (limit to 500 characters): Compressor Station No. 24 is a natural gas pipeline compressor station with two compressor engines. It is classified as a minor source under New Source Review and Title V definitions.			

Facility Contact

1. Name and Title of Facility Contact: Abe Kattawar, Team Environmental Leader
2. Facility Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company Street Address: 5030 N. U.S. 129 Hwy. 239 City: Trenton State: FL Zip Code: 32693
3. Facility Contact Telephone Numbers: Telephone: (850) 544-6961 Fax: (352)-463-0097

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [ ] Synthetic Non-Title V Source?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [ ] Synthetic Minor Source of HAPs?	
5. [X] One or More Emissions Units Subject to NSPS?	
6. [ ] One or More Emission Units Subject to NESHAP Recordkeeping or Reporting?	
7. Facility Regulatory Classifications Comment (limit to 200 characters):	
Facility is a minor source for PSD and Title V purposes. Modified turbine is subject to NSPS Subpart GG.	

Rule Applicability Analysis

FDEP Title V Core List

62-296.320(4)(b)1 General Visible Emissions Standards

40 CFR 60, Subpart GG Standards of Performance for Stationary Gas-fired Turbines

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
NO_X	B				
CO	B				
VOC	B				
SO_2	B				
PM	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [ ] Attached, Document ID: *Narr. Fig. 1-1* Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Process Flow Diagram(s): [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
5. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: *Att. B* [ ] Not Applicable
6. Supplemental Requirements Comment: Area map is provided as Figure 1-1 in the narrative. The plot plan and other supplemental information were submitted with the original construction permit application for this facility.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

13,000 bhp ISO natural gas fired turbine compressor unit

3. Emissions Unit Identification Number:
ID: 001

[ ] No ID
[ ] ID Unknown

4. Emissions Unit Status Code:	5. Initial Startup Date:	6. Emissions Unit Major Group SIC Code:
C	12/15/03	49

7. Emissions Unit Comment: (Limit to 500 Characters)

The turbine engine is a Solar Mars 90 T-13000S engine compressor unit rated at 13,000 bhp ISO replacing an existing Solar Mars 100 T-15000S engine compressor unit currently rated at 15,000 bhp ISO. Fuel is exclusively natural gas from the FGT's gas pipeline. The engine incorporates dry, low NO_X combustion technology.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (limit to 200 characters per device or method):

The proposed engine will incorporate dry, low NOX combustion technology.

2. Control Device or Method Code(s): NA

Emissions Unit Details

1. Package Unit:
   Manufacturer: Solar
   Model Number: Mars 90 T-13000S
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: 112.45 mmBtu/hr
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate:
4. Maximum Production Rate:
5. Requested Maximum Operating Schedule:

24	hours/day	7	days/week
52	weeks/year	8760	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr based on a LHV of 939.2 Btu/scf and adjusted to a HHV of 1040 Btu/scf.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? 2401	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA		
5. Discharge Type Code: V	6. Stack Height: 58 feet	7. Exit Diameter: 8.74 feet
8. Exit Temperature: 873 °F	9. Actual Volumetric Flow Rate: 179,109 acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 321.323 North (km): 3282.787		
14. Emission Point Comment (limit to 200 characters): Stack is rectangular in cross section at 7.5 ft. x 8 ft. Diameter given above is equivalent diameter (De) of stack.		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __1___ of __1___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired turbine engine driving a natural gas compressor, operating full time.		
2. Source Classification Code (SCC): 2-02-002-01	3. SCC Units: million cubic feet burned	
4. Maximum Hourly Rate: 0.1081	5. Maximum Annual Rate: 947.15	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1040
10. Segment Comment (limit to 200 characters): Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf Percent sulfur is base on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.		

Segment Description and Rate: Segment _NA__ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: NOX	2. Pollutant Regulatory Code: EL	
3. Primary Control Device Code: 099	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 10.10 lb/hour 44.2 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10.10 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

(10.10 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 44.24 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Vendor's data based on ISO conditions and site elevation.

Allowable Emissions Allowable Emissions __1___ of __1___

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 25 ppmv	4. Equivalent Allowable Emissions: 10.10 lb/hour 44.2 tons/year

5. Method of Compliance (limit to 60 characters):

Initial and annual performance tests.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

Emissions at ISO conditions.
40 CFR 60.332(a)(2) NOX emissions to 150 ppmv.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: CO	2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 12.30 lb/hour 53.9 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 12.30 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

(12.30 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 53.87 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Vendor's data based on ISO conditions and site elevation.

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 12.30 lb/hour 53.9 tons/year

5. Method of Compliance (limit to 60 characters):

Initial and annual performance tests.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: VOC		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.352 lb/hour 1.54 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.352 lb/hr Reference: Vendor's data		9. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

Vendor factor for unburned hydrocarbons (UHC) = 3.52 lb/hr
Assume 10% is VOC.
(0.352 lb/hr)(8760 hr/1 yr)(1 ton/2000 lb) = 1.54 tpy

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Vendor's data based on ISO conditions and site elevation.

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year

5. Method of Compliance (limit to 60 characters):

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: SO2		2. Pollutant Regulatory Code: EL
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 3.09 lb/hour 13.5 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 10 gr/100scf Reference: FERC Fuel Limit		9. Emissions Method Code: 2

10. Calculation of Emissions (limit to 600 characters):

(10 gr S/100 scf)(10,8100 scf/hr)(1 lb/7000 gr) = 1.54 lb S/hr
(1.54 lb S/hr)(2 lb SO2/lb S) = 3.09 lb SO2/hr
(3.09 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 13.53 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Based on vendor's fuel use value plus 10% based on compliance test results.

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 10 grains/100 scf	4. Equivalent Allowable Emissions: 3.09 lb/hour 13.5 tons/year

5. Method of Compliance (limit to 60 characters):

Initial and annual performance test.

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

40 CFR 60.333(a) limits SO2 emissions to 150 ppmv.

Based on fuel use at ISO conditions.

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.74 lb/hour 3.3 tons/year		7. Synthetically Limited? [ ]
8. Emission Factor: 0.0066 lb/MM Btu Reference: Table 3.1-2a, AP-42 4/00, Supplement E		9. Emissions Method Code: 4

10. Calculation of Emissions (limit to 600 characters):

(0.0066 lb/MMBtu)(112.45 MMBtu/hr) = 0.74 lb/hr
(0.74 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 3.25 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):

Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year

5. Method of Compliance (limit to 60 characters):

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: HAPS		2. Pollutant Regulatory Code: NS
3. Primary Control Device Code: NA	4. Secondary Control Device Code: NA	5. Total Percent Efficiency of Control:
6. Potential Emissions: 0.12 lb/hour 0.5 tons/year		7. Synthetically Limited? [ ]
6. Emission Factor: 0.00103 lb/MM Btu Reference: AP-42 Table 3.1-3, 4/00		7. Emissions Method Code: 5

10. Calculation of Emissions (limit to 600 characters):

(0.00103 lb/MM Btu)(112.45 MM Btu/hr) = 0.116 lb/hr
(0.116 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.51 ton/yr

11. Pollutant Potential Emissions Comment (limit to 200 characters):
Detailed calculations provided in Attachment C. Included in VOC emissions.
Heat input is 112.45 MM Btu/hr based on vendor specifications of 8,200 Btu/hp-hr which was based on a LHV of 939.2 Btu/scf then adjusted to a HHV of 1040 Btu/scf and fuel heat value of 1040 Btu/scf

Allowable Emissions Allowable Emissions __NA__ of ____

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year

5. Method of Compliance (limit to 60 characters):

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation __1____ of __1____

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: 10% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: Annual 40 CFR 60 Appendix A Method 9	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor __NA__ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:___ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID:_____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Supplemental information was provided in the construction permit application for the original facility.

Attachment B

Vendor Information

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 3.24
JOB ID:

DATE RUN: 25-Sep-03
RUN BY: John D Wilson

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 2

Fuel: SD NATURAL GAS
Water Injection: NO
Number of Engines Tested: 0
Model: MARS 90-13002S CS/MD 122F MATCH GAS
Emissions Data: REV. 0.0

Customer:
Inquiry Number: NO2271

The following predicted emissions performance is based on the following specific single point: (see attached)

Hp= 12384, %Full Load= 100.0, Elev= 100 ft, %RH= 60.0, Temperature= 60.0 F

NOX		CO		UHC		
NOM	MAX	NOM	MAX	NOM	MAX	
19.48	25.00	0.00	50.00	0.00	25.00	PPMvd at 15% O2
34.46	44.23	0.00	53.86	0.00	15.42	ton/yr
0.077	0.099	0.000	0.121	0.000	0.035	lbm/MMBtu (Fuel LHV)
0.85	1.09	0.00	1.33	0.00	0.38	lbm/(MW-hr) (gas turbine shaft pwr)
7.87	10.10	0.00	12.30	0.00	3.52	lbm/hr

IMPORTANT NOTES

1. For short-term emission limits such as lbs/hr., Solar recommends using "worst case" anticipated operating conditions specific to the application and the site conditions. Worst case for one pollutant is not necessarily the same for another. The emission values on this form are only predicted emissions at the specific operating conditions listed.
2. Solar's typical SoLoNOx warranty is for greater than 0 deg F, and between 50% and 100% load for gas fuel, and between 80% and 100% load for liquid fuel. An emission warranty for non-SoLoNOx equipment is for greater than 0 deg F and between 80% and 100% load.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If needed, Solar can provide generic documents to address turbine operation outside typical warranty ranges, as well as non-warranted emissions of SO2, PM10/2.5, VOC, and formaldehyde.
5. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 3.24
JOB ID:

DATE RUN: 25-Sep-03
RUN BY: John D Wilson

MARS 90-13002S
CS/MD
122F MATCH
GAS
TME-2S REV. 2.1

DATA FOR MINIMUM PERFORMANCE

Fuel Type	SD NATURAL GAS				
Elevation	feet	100			
Inlet Loss	in H20	3.0			
Exhaust Loss	in H20	4.0			
Engine Inlet Temp.	deg F	80.0	60.0	100.0	50.0
Relative Humidity	%	60.0	60.0	60.0	60.0
Elevation Loss	HP	43	48	39	49
Inlet Loss	HP	156	169	143	173
Exhaust Loss	HP	91	95	86	96
Driven Equipment Speed	RPM	8245	8356	8086	8424
Optimum Equipment Speed	RPM	8245	8356	8086	8424
Gas Generator Speed	RPM	11167	11168	11162	11168
Specified Load	HP	FULL	FULL	FULL	FULL
Net Output Power	HP	11265	12384	10065	12841
Fuel Flow	mmBtu/hr	95.00	101.55	87.97	104.45
Heat Rate	Btu/HP-hr	8433	8200	8740	8134
Therm Eff	%	30.18	31.04	29.12	31.29
Inlet Air Flow	lbm/hr	295431	314636	273655	322676
Engine Exhaust Flow	lbm/hr	299065	318524	277019	326678
PCD	psiG	211.2	225.1	195.3	231.0
Compensated PTIT	deg F	1275	1273	1275	1271
Exhaust Temperature	deg F	894	873	919	865

FUEL GAS COMPOSITION (VOLUME PERCENT)
LHV (Btu/Scf) = 939.2 SG = 0.5970 W.I. @60F (Btu/Scf) = 1215.6

A	=	0.0000	CH4	=	92.7899	C2H4	=	0.0000	C2H6	=	4.1600
C3H6	=	0.0000	C3H8	=	0.8400	C4	=	0.1800	C5	=	0.0400
C6	=	0.0400	C7	=	0.0000	C8	=	0.0000	CO	=	0.0000
CO2	=	0.4400	H2	=	0.0000	H2O	=	0.0000	H2S	=	0.0001
N2	=	1.5100	O2	=	0.0000	SO2	=	0.0000	He	=	0.0000

Attachment C

Emissions Calculations

Engine No. 2401

NOx Emissions: (Based on Vendor Data)

lb NOx/hr = 10.10

tons NOx/yr = (lb NOx/hr)(hr/yr)(1 ton/2000 lb)
= (10.10 lb NOx/hr)(8760 hr/yr)(1 ton/2000 lb)
= 44.24

CO Emissions: (Based on Vendor Data)

lb CO/hr = 12.30

tons CO/yr = (lb CO/hr)(hr/yr)(1 ton/2000 lb)
= (12.30 lb CO/hr)(8760 hr/yr)(1 ton/2000 lb)
= 53.87

VOC Emissions: (Based on Vendor Data)

lb VOC/hr = 0.35

tons VOC/yr = (lb VOC/hr)(hr/yr)(1 ton/2000 lb)
= (0.352 lb VOC/hr)(8760 hr/yr)(1 ton/2000 lb)
= 1.54

SO2 Emissions: (Based on FERC Limits)

lb S/hr = (gr S/100 scf)(scf/hr)(1 lb/7000 gr)
= (10 gr S/100 scf)(108,100 MMscf/hr)(1 lb/7000 gr)
= 1.54

lb SO2/hr = (lb S/hr)(2 lb SO2/lb S)
= (1.54 lb S/hr)(2 lb SO2/lb S)
= 3.09

tons SO2/yr = (lb SO2/hr)(hr/yr)(1 ton/2000 lb)
= (3.09 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb)
= 13.53

PM 10/2.5 Emissions: (Based on AP-42 Table 3.1-2a, 4/00)

lb PM/hr = (lb PM/MMscf)(MMBtu/hr)
= (0.0066 lb/Btu)(112.45 MMBtu/hr)
= 0.74

tons PM/yr = (lb PM/hr)(hr/yr)(1 ton/2000 lb)
= (0.74 lb PM/hr)(8760 hr/yr)(1 ton/2000 lb)
= 3.25

HAPs Emissions: (Based on AP-42 Table 3.1-3, 4/00)

lb HAP/hr = (lb HAP/MMBtu)(MMBtu/hr)
= (0.001027 lb/MMBtu)(112.45 MMBtu/hr)
= 0.116

tons HAP/yr = (lb HAP/hr)(hr/yr)(1 ton/2000 lb)
= (0.116 lb HAP/hr)(8760 hr/yr)(1 ton/2000 lb)
= 0.51

Existing Engine No. 2401 Revised HAP Calculation

HAPs Emissions: (Based on AP-42 Table 3.1-3, 4/00)

lb HAP/hr = (lb HAP/MMBtu)(MMBtu/hr)
= (0.001027 lb/MMBtu)(124.67 MMBtu/hr)
= 0.128

tons HAP/yr
= (lb HAP/hr)(hr/yr)(1 ton/2000 lb)
= (0.128 lb HAP/hr)(8760 hr/yr)(1 ton/2000 lb)
= 0.56

HAP Emission Factors

HAP	Turbine HAP Factors lb/MMBtu
1,3-Butadiene	4.30E-07
Acetaldehyde	4.00E-05
Acrolein	6.40E-06
Benzene	1.20E-05
Ethylbenzene	3.20E-05
Formaldehyde	7.10E-04
Naphthalene	1.30E-06
PAH	2.20E-06
Propylene Oxide	2.90E-05
Toluene	1.30E-04
Xylenes	6.40E-05
Total Hazardous Cmpds	**1.03E-03**

Reference: AP-42, 5th Edition, Supplement F, 04/00, Table3.1-3

Florida Gas Transmission Company

1967 Commonwealth Lane, Tallahassee, FL 32303, (850) 350-5000, Fax Downstairs (850) 350-5001

October 30, 2003 UPS Overnight – 1Z F62 059 22 1004 075 2

Ms. Trina Vielhauer
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Bldg.
2600 Blairstone
Tallahassee, FL 32399-2400

Reference: Facility Number: 0410004
Permit No. 0410004-006-AC
Compressor Station No. 24, Gilchrist County

Dear Ms. Vielhauer:

Subject: Application for Air Construction Permit

Florida Gas Transmission Company (FGT) is proposing to make an additional modification as part of the Phase VI Expansion Project at the above referenced facility. The modification consists of the replacement of an existing compressor turbine rated at 15,000 bhp with a smaller one rated at 13,000 bhp. This existing facility is a minor source under Title V and New Source Review regulations and the proposed modification will involve a decrease in emissions. FGT requests that this modification be added to the existing Phase VI construction permit, Permit No. 0410004-006-AC.

Turbines that need major repairs need to be sent offsite to be repaired. Since the compression capability at the compressor station must be maintained in order to maintain the supply of natural gas to Florida, a replacement turbine must to be installed immediately. In order to expedite this replacement, FGT respectfully requests that the following revision be included in the air permit for this non-Title V facility. This language is similar to Condition III. 5.0 of Permit No. 099-0333-003-AO which governs the operation of Compressor Station No. 21.

Proposed Provision:

Gas Turbine Replacement Procedure

The gas turbines may be periodically removed and replaced with an equivalent model. The permittee shall:

(a) As soon as possible, notify the DEP Northeast District Office of any turbine failures and of any scheduled replacements.

(b) Prior to initial operation of a replaced turbine, provide the DEP Northeast District Office with documentation indicating the manufacturer, model number, serial number, brake-horsepower rating, heat input (mmBtu/hr), pollutant emission rates and certification by a Professional Engineer registered in Florida that the replacement unit is a like-kind replacement or equivalent unit.

(c) Within one working day, notify the DEP Northeast District Office when the replacement is complete, when the replacement unit commenced operation, and the scheduled date of the emissions compliance tests.

(d) Conduct emissions compliance tests within 60 days of commencing operation of the replacement unit.

(e) Within 45 days of conducting the tests, submit test results indicating compliance with the emission standards.

*Appendix * lists the current and previous equivalent gas turbine models. The DEP Northeast District Office will revise only Appendix * for each subsequent replacement.*

Since Permit No. 0410004-006-AC expires on December 31, 2003, FGT also requests an extension to this permit to incorporate this modification.

Enclosed is an Application for an Air Construction Permit for the proposed modification. A check for $300.00 is attached for the application fee of $250.00 and the extension request fee of $50.00.

If you have any questions or need additional information, please call me at (850) 350-5042.

Sincerely,

Jacob Krautsch
Environmental Specialist
Florida Gas Transmission Company Phase V Project

ATTACHMENTS

CC: James Alexander, Phase VI w/o attachments
Rick Craig, w/o attachments
David Parham, P.E.
V. Duane Pierce, AQMcs

ENRON

Florida Gas Transmission Company
P. O. Box 1188
Houston, Texas 77251-1188

VENDOR No. 62-20 / 31-1

CHECK NO. 1500000472

CHECK DATE 10/21/03

PAY EXACTLY THREE HUNDRED DOLLARS & 00/100 ---------- DOLLARS

THIS CHECK IS VOID UNLESS PRINTED ON BLUE BACKGROUND

$*300.00**

NOT VALID AFTER 90 DAYS

PAY TO THE ORDER OF

Florida Dept. of Environmental Protection
2600 Bairstone (Twin Towers Office Building)
Tallahassee FL 32399-2400

Citibank Delaware
A SUBSIDIARY OF CITICORP
ONE PENN'S WAY
NEW CASTLE, DE 19720

NOT VALID OVER $5000.00 UNLESS COUNTERSIGNED

FIELD DISBURSEMENT ACCOUNT