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*Street, Apt. No.; or PO Box No.* P.O. Box 1188

*City, State, ZIP+4* Houston, TX 77251

PS Form 3800, January 2001 — See Reverse for Instructions

**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

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

Air Permit No. 0410004-004-AC
Gilchrist Compressor Station No. 24
Up-Rating of Gas Turbine Compressor

Enclosed is Final Air Permit No. 0410004-004-AC, which authorizes the up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revision of the emission rates accordingly. The equipment will be modified at existing Compressor Station No. 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 Final Determination (attached), only minor changes to correct typographical errors 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.

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

## CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 1/16/02 to the persons listed:

Mr. Rick Craig, FGT*
Mr. Jim Thompson, FGT
Mr. Kevin McGlynn, McGlynn Consulting Co.
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.

Barbara J. Friday (Clerk) 1/16/02 (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

Gilchrist Compressor Station No. 24
Air Permit No. 0410004-004-AC
Facility ID No. 0410004
SIC No. 4922
Permit Expires: December 30, 2002

**PROJECT AND LOCATION**

This permit authorizes the up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revision of the emission rates accordingly. The equipment will be modified at existing Compressor Station No. 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.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Part 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.

**CONTENTS**



Howard L. Rhodes 11/15/02

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

## FACILITY AND PROJECT DESCRIPTION

The existing facility operates as a compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The new project up-rates gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revises the emission rates accordingly. The existing facility consists of the following emissions units.

| ID | Emission Unit Description |
|---|---|
| 001 | FGT No. 2401: Solar Mars 100 T-15000S gas turbine compressor engine rated at 15,000 bhp fired with natural gas |
| 002 | Miscellaneous support activities |

## REGULATORY CLASSIFICATION

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

Title IV: The existing facility is not 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.

PSD: The facility is not a PSD major source of air pollution.

NSPS: The new gas turbine subject to the New Source Performance Standards in 40 CFR 60, Subpart GG.

## RELEVANT DOCUMENTS

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

- Permit application received on 11/21/01, complete.
- Draft permit package issued on 12/13/01, including comments received.

## 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 CF describes the format used to cite applicable rules and regulations as well as previous permitting actions.
   - Appendix GC specifies the general conditions applicable to all permittees. The general conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
   - Appendix GG identifies the applicable NSPS requirements for gas turbines in 40 CFR 60, Subpart GG.
   - Appendix SC lists standard conditions applicable to air pollution sources compiled from Chapters 62-4, 62-210, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

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

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 permitted emissions units 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 60 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.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

## A. FGT UNIT 2401, GAS TURBINE COMPRESSOR ENGINE

This section of the permit addresses the following modified emissions unit.

| **Emissions Unit No. 001: Gas Turbine Compressor (FGT Unit No. 2401)** |
|---|
| *Description*: Pipeline compressor engine consisting of a Solar Mars 100 T-15000S gas turbine rated at 15,000 bhp. |
| *Fuel*: The gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01). The maximum natural gas firing rate is approximately 119,900 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas. |
| *Capacity*: At a compressor inlet air temperature of 59° F, the gas turbine produces 15,000 bhp when firing approximately 125 MMBtu (HHV) per hour of natural gas. |
| *Controls*: The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/$PM_{10}$), sulfur dioxide ($SO_2$), and volatile organic compounds (VOC). Lean premix combustion technology reduces nitrogen oxide (NOx) emissions. |
| *Stack Parameters*: When operating at 100% capacity, exhaust gases exit a rectangular stack (7.5' x 8.0') that is 58.0 feet tall with a flow rate of approximately 193,613 acfm at 903° F. |

### APPLICABLE STANDARDS AND REGULATIONS

1. NSPS Requirements: The new 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 GG of this permit. The Department determines that the conditions in this section are at least as stringent, or more stringent than, the NSPS requirements of Subpart GG. [Rule 62-4.070(3), F.A.C.; 40 CFR 60, Subpart GG]

### EQUIPMENT

2. Gas Turbine Compressor: The permittee is authorized to up-rate the existing Solar Mars 100 T-15000S gas turbine from 10,350 bhp to 15,000 bhp for use as a pipeline compressor engine. The gas turbine design shall incorporate lean premix combustion technology to reduce emissions of nitrogen oxides below the permitted limits. Ancillary equipment includes an automated gas turbine control system, an inlet air filtration system, and a rectangular stack (7.5' x 8.0') that is 58.0 feet tall. The permittee identifies the gas turbine compressor engine as Unit No. 2401. [Applicant Request; Design]

### PERFORMANCE RESTRICTIONS

3. Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 125 mmBTU per hour while producing approximately 15,000 bhp based on a compressor inlet air temperature of 59° F, 100% load, and a higher heating value (HHV) of 1040 BTU per SCF for 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 compliance 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.]

4. Authorized Fuel: The gas turbine shall fire only pipeline-quality natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

5. Restricted Operation: The hours of operation for the gas turbine are not limited (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**

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

| Pollutant | Standards | | Equivalent Maximum Emissions | | Rule Basis[h] |
|---|---|---|---|---|---|
| | Limit | Units | lb/hour[f] | TPY[g] | |
| CO[a] | 50.0 | ppmvd @ 15% $O_2$ | 13.7 | 60.0 | Avoid major source status |
| NOx[b] | 25.0 | ppmvd @ 15% $O_2$ | 11.3 | 49.5 | Avoid major source status<br>40 CFR 60.332 |
| $SO_2$[c] | Pipeline-quality natural gas | | 3.4 | 14.9 | Avoid major source status<br>40 CFR 60.333 |
| Opacity[d] | 10% opacity, 6-minute average | | Not Applicable | | Avoid major source status |
| PM[e] | Good combustion practices | | 0.8 | 3.5 | Avoid major source status |
| VOC[e] | Good combustion practices | | 0.4 | 1.8 | Avoid major source status |

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 the average of three test runs as determined EPA Method 20.

c. Maximum $SO_2$ emissions are based on the maximum level specified by Federal Energy Regulatory Commission (FERC), which is 10 grains of sulfur per 100 standard cubic feet of natural gas. Actual fuel sulfur levels are expected to be less than 1 grain per 100 SCF of natural gas.

d. The opacity standard is based on a 6-minute block average, as determined by EPA Method 9. {Permitting Note: This standard is established as reasonable assurance of good combustion practices to minimize emissions.}

e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions were based on data in Table 3.1-2a in AP-42. Regulated VOC emissions were conservatively assumed to be 10% of the manufacturer's estimated emissions for total hydrocarbons. No testing required.

f. Equivalent maximum hourly emission rates are the maximum expected emissions based on permitted capacity and a compressor inlet air temperature of 59° F. For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the compressor 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 compressor inlet temperatures.

g. Annual emissions are based on 8760 hours of operation per year and the maximum hourly emission rate.

h. The emissions standards of this permit ensure that the project does not trigger the major source requirements of Title V (Chapter 62-213, F.A.C.) or PSD (Chapter 62-212, F.A.C.).

**EMISSIONS PERFORMANCE TESTING**

7. Initial Compliance 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 at least 90% of the maximum permitted capacity, but not later than 180 days after initial operation 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 an analysis of the natural gas fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]

8. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), 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 the vendor analysis of fuel sulfur content and the fuel consumption rate. [Rule and 62-297.310(7)(a)4, F.A.C. and to avoid Rule 62-212.400, F.A.C.]

9. 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]

10. 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<br>{Notes: The method shall be based on a continuous sampling train.} |
| 19 | Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (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 Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines |

Tests shall also be conducted in accordance with the requirements specified in Section 4, Appendix SC of this permit. 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 unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

**RECORDS AND REPORTS**

11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Section 4, Appendix SC of this permit. In addition, NOx emissions shall be

corrected to ISO ambient atmospheric conditions and compared to the NSPS Subpart GG standard identified in Appendix GG of this permit for each required test. For each run, the test report shall indicate the natural gas firing rate (cubic feet per hour), heat input rate (mmBTU per hour), the power output (bhp), percent base load, and the compressor inlet temperature. [Rule 62-297.310(8), F.A.C.; 40 CFR 60.332]

12. Custom Fuel Monitoring Schedule: The Department approves the following custom fuel-monitoring schedule in lieu of the fuel monitoring requirements of NSPS Subpart GG for this project.

    a. 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.

    b. Fuel sulfur monitoring shall be performed in accordance with the following requirements:

        (1) 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.

        (2) 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).

        (3) 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.

        (4) 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]

13. 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 the gas turbine. If requested by the Department, the permittee shall be able to provide a summary of this information within at least ten days of such request. The information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

## CONTENTS

# SECTION 4. APPENDIX CF
# CITATION FORMAT

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

**REFERENCES TO PREVIOUS PERMITTING ACTIONS**

Old Permit Numbers

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

*Where:* "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

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

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

PSD Permit Numbers

*Example*: Permit No. PSD-FL-317

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

**RULE CITATION FORMATS**

Florida Administrative Code (F.A.C.)

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

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

Code of Federal Regulations (CFR)

*Example*: [40 CRF 60.7]

*Means*: Title 40, Part 60, Section 7

## SECTION 4. APPENDIX GC
## GENERAL CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

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

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

13. This permit also constitutes:

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

14. The permittee shall comply with the following:

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

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

    c. Records of monitoring information shall include:

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

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

## SECTION 4. APPENDIX GG

## NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

The following emissions 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.

| **Emissions Unit 001: FGT Unit No. 2401, Gas Turbine Compressor** |
|---|
| Gas turbine is a Solar Model Mars 100 T-15000S that will be used as a compressor engine for the natural gas pipeline. |

### 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

**{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 bold immediately following the section to which they refer. The rule basis for the Department requirements specified below is Rule 62-4.070(3), F.A.C.}**

Section 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.

Section 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.

Section 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.**

**{Note: The "Y" value provided by the manufacturer is approximately 10.75 for natural gas. The equivalent emission standard is 201 ppmvd at 15% oxygen. The emissions standards in Section III of 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.

Section 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.

Section 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 specified in the Section 3 of the permit.**

**{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).

**{Note: The excess NOx emissions reporting requirements do not apply. The gas turbine uses lean premix 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, 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.**

Section 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.**

**{Note: The dry low-NOx controls are only effective above a minimum load, which 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 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 natural gas shall be sampled and analyzed for the sulfur content as determined by ASTM methods D4084-82, D3246-81 or more recent versions.**

(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.

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

## SECTION 4. APPENDIX SC
## STANDARD CONDITIONS

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

**EMISSIONS AND CONTROLS**

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

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

3. Excess Emissions 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.]

4. 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.]

5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permitee 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.]

6. 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.]

7. 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.]

8. 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.]

9. 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**

10. 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.]

11. 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.]

12. 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.]

13. 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.]

14. 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.]

15. 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.

16. 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.]

17. 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.]

18. 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.

**RECORDS AND REPORTS**

19. 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.]

20. 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.]

**Memorandum**

Florida Department of
Environmental Protection

TO: Howard Rhodes

THRU: Clair Fancy
Al Linero

FROM: Jeff Koerner

DATE: January 8, 2002

SUBJECT: Final Air Construction Permit No. 0410004-004-AC
Florida Gas Transmission Company
Gilchrist Compressor Station No. 24
Phase V Modifications

The Final Permit for this project is attached for your approval and signature, which authorizes the up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revision of the emission rates accordingly. The equipment will be modified at existing Compressor Station No. 24, which is located near Trenton at the intersection of U.S. Highway 129 and SW 50th Street in Gilchrist County, Florida. Although the project is minor with respect to PSD, Florida Gas Transmission Company requested that the Tallahassee office process all Phase V modifications for purposes of consistency.

The Department distributed an "Intent to Issue Permit" package on December 13, 2001. The applicant published the "Public Notice of Intent to Issue" in The Gainesville Sun on December 20, 2001. No requests for administrative hearings were filed.

Day #90 is March 25, 2002. I recommend your approval of the attached Final Permit for this project.

Attachments

HLR/CHF/AAL/jfk

# 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. 0410004-004-AC
Gilchrist Compressor Station No. 24

This permit authorizes the up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revision of the emission rates accordingly. The equipment will be modified at existing Compressor Station No. 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.

## NOTICE AND PUBLICATION

The Department distributed an "Intent to Issue Permit" package on December 13, 2001. The applicant published the "Public Notice of Intent to Issue" in The Gainesville Sun on December 20, 2001. The Gainesville Sun is distributed in the adjacent Osceola County. The Department received the proof of publication on January 4, 2001. No requests for administrative hearings 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.

**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
V. P. of Southeastern Operations
Florida Gas Transmission Company
PO Box 1188
Houston, TX 77251

***COMPLETE THIS SECTION ON DELIVERY***

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

C. Signature

X

☐ 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 2980

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

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**CERTIFIED MAIL RECEIPT**
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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**

# Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

December 13, 2001

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. 0410004-004-AC
Gilchrist Compressor Station No. 24
Phase V Modifications

Dear Mr. Craig:

Enclosed is one copy of the Draft Permit to up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp at Compressor Station No. 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, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Jeff Koerner at 850/921-9536.

Sincerely,

A. A. Linero P.E.

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

CHF/AAl/jfk

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

Compressor Station No. 24
Draft Air Permit No. 0410004-004-AC
Phase V Modifications
Gilchrist County

## 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 November 21, 2001 to the Department for a permit to up-rate a gas turbine compressor engine at the existing Compressor Station No. 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 of the Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (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 Construction Permit. 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 of Intent to Issue Air Permit. Written comments and 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.

12/13

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

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit package (including the Public Notice of Intent to Issue Air Construction Permit, 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 12/13/01 to the person(s) listed:

Mr. Rick Craig, FGT*
Mr. Jim Thompson, FGT
Mr. Kevin McGlynn, McGlynn Consulting Co.
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) 12/13/01 (Date)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0410004-004-AC

Florida Gas Transmission Company
Gilchrist Compressor Station No. 24
Phase V Modifications

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Florida Gas Transmission Company to up-rate an existing gas turbine compressor engine. The equipment is installed at existing Compressor Station No. 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, 1400 Smith Street, Houston, TX 77002.

The existing facility operates as a pipeline compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The proposed project will up-rate one gas turbine compressor engine from 10,350 bhp to 15,000 bhp, which will result in an increase in emissions. The modified gas turbine will emit following potential emissions: 60 tons of carbon monoxide (CO) per year; 50 tons of nitrogen oxides (NOx) per year; 4 tons of particulate matter (PM/PM10) per year; 15 tons of sulfur dioxide ($SO_2$) per year; and 2 ton of volatile organic compounds (VOC) per year. The existing facility is not a major source of air pollution and PSD preconstruction review does not apply. Upon completion of the project, the facility will remain a minor source of air pollution.

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. The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/PM10), sulfur dioxide ($SO_2$), and volatile organic compounds (VOC). Lean premix combustion technology reduces nitrogen oxide (NOx) emissions. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has also requested lower emissions standards for CO and NOx emissions to ensure that the project and facility remain minor with respect to Title V and PSD applicability. The draft permit establishes limits for CO, NOx, and opacity with compliance demonstrated at least annually.

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:

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

Department of Environmental Protection
Northeast District Office
Air Resources Section
7825 Baymeadows Way
Jacksonville, FL 32256-7590
Telephone: 904/807-3300
Fax: 904/448-4363

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. 0410004-004-AC
Up-rating of Existing Gas Turbine Compressor Engine
(Emissions Unit No. 001)

## COUNTY

Gilchrist County

## APPLICANT

Florida Gas Transmission Company
ARMS Facility ID No. 0410004
Existing Gilchrist Compressor Station No. 24

## PERMITTING AUTHORITY

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

**Draft**

*{Filename: FTG 24V TEPD.DOC}*

## 1. GENERAL PROJECT INFORMATION

### 1.1 Applicant Name and Address

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

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

### 1.2 Processing Schedule

11-21-01 Received the application for a minor source air pollution construction permit; complete.

### 1.3 Facility Description and Location

The applicant proposes to up-rate an existing gas turbine compressor engine at Gilchrist Compressor Station No. 24 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. This is an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

### 1.4 Standard Industrial Classification Code (SIC)

SIC No. 4922 – Natural Gas Transmission

### 1.5 Regulatory Categories

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

**Title IV**: The existing facility is not 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.

**PSD**: The facility is not a PSD major source of air pollution.

**NSPS**: The new gas turbine subject to the New Source Performance Standards in 40 CFR 60, Subpart GG.

### 1.6 Project Description

The existing facility operates as a compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. It consists of one gas turbine compressor engine fired exclusively with natural gas and miscellaneous support equipment. This facility was originally permitted in May of 2000 as part of FGT's Phase IV project. However, installation was not completed until this summer due to several delays. The Department's Northeast District Office has two pending permit applications for this facility: one to increase the maximum heat input of the gas turbine (and revise installed model); and one for the initial operation permit. FGT has begun the Phase V expansion of the natural gas pipeline and predicts that an increase in the capacity for Compressor Station No. 24 will be necessary to meet future demands pipeline demands. The applicant proposes to up-rate the existing gas turbine from 10,350 bhp to 15,000 bhp and the emission rates accordingly.

## 2. APPLICABLE REGULATIONS

### 2.1 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 | Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference |
| 62-210 | Required Permits, Public Notice and Comments, Reports, Stack Height Policy, Circumvention, Excess Emissions, Forms and Instructions, |
| 62-212 | General Preconstruction Review |
| 62-296 | Emission Limiting Standards |
| 62-297 | Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures |

## 2.2 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 |

## 2.3 Potential Emissions

The following table summarizes the project emissions based on the application.

**Table 2A.** Potential Emissions

| Pollutant | Emission Factor | Reference | lb/hour | TPY |
|---|---|---|---|---|
| CO | 13.7 lb/hour | Manufacturer: Solar | 13.7 | 60.0 |
| NOx | 11.3 lb/hour | Manufacturer: Solar | 11.3 | 49.5 |
| PM/PM10 | 0.007 lb/MMBtu | AP-42, Table 3.1-2a | 0.8 | 3.5 |
| SO2 | 10 grains/ 100 SCF | FERC Pipeline Limit | 3.4 | 14.9 |
| VOC | 0.4 lb/hour | Manufacturer: Solar | 0.4 | 1.8 |

[a] The annual emissions are based on continuous operation (8760 hours per year) at the noted emission rates. Small differences between the above rates and those in the application are due to round off.

Emissions from the miscellaneous support equipment are each less than 3 tons per year. Therefore, the potential emissions from the proposed project are below the Title V major source threshold of 100 tons per year for each of the above pollutants. Therefore, the facility remains a minor source of air pollution. In addition, the applicant estimates total emissions of hazardous air pollutants (HAP) will be less than 4 tons per year, which is below the thresholds for designation as a major source of HAPs.

# 3. EMISSIONS STANDARDS

## 3.1 Brief Discussion of Emissions

The following text is an excerpt on stationary gas turbines from Section 3.1 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.*

*Available emissions data indicate that the turbine's operating load has a considerable effect on the resulting emission levels. Gas turbines are typically operated at high loads (greater than or equal to 80 percent of rated capacity) to achieve maximum thermal efficiency and peak combustor zone flame temperatures. With reduced loads (lower than 80 percent), or during periods of frequent load changes, the combustor zone flame temperatures are expected to be lower than the high load temperatures, yielding lower thermal efficiencies and more incomplete combustion ... "*

3.2 NSPS Subpart GG Requirements

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 ≤ 201 ppmvd corrected to 15% oxygen
- $SO_2$ emissions are limited by only authorizing the firing of fuels that contain 0.8 percent sulfur by weight or less.

Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has requested lower emissions standards for several pollutants that will ensure that the facility remains minor with respect to PSD applicability and Title V.

3.3 Draft Emissions Standards

Based on the applicant's request, the Department will establish the following emissions standards.

| Pollutant | Standards | | Equivalent Maximum Emissions | | Rule Basis [h] |
|---|---|---|---|---|---|
| | Limit | Units | lb/hour [f] | TPY [g] | |
| CO [a] | 50.0 | ppmvd @ 15% O2 | 13.7 | 60.0 | Avoid major source status |
| NOx [b] | 25.0 | ppmvd @ 15% O2 | 11.3 | 49.5 | Avoid major source status 40 CFR 60.332 |
| $SO_2$ [c] | 10.0 | grains of sulfur per 100 SCF of natural gas | 3.4 | 14.9 | Avoid major source status 40 CFR 60.333 |
| Opacity [d] | 10% opacity, 6-minute average | | Not Applicable | | Avoid major source status |
| PM [e] | Good combustion practices | | 0.8 | 3.5 | Avoid major source status |
| VOC [e] | Good combustion practices | | 0.4 | 1.8 | Avoid major source status |

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 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. Actual fuel sulfur levels are expected to be less than 1 grain per 100 SCF of natural gas.

d. The opacity standard is based on a 6-minute block average, as determined by EPA Method 9. The Department notes that the applicant requested a visible emissions limit of 20% based on the "General

Visible Emissions Standard" in Rule 62-296.320(4)(b), F.A.C. However, a continuous visible plume from a gas turbine firing natural gas would indicate severe operational or equipment problems. The lower 10% opacity standard is established as reasonable good combustion practices to minimize emissions.

e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions were based on data in Table 3.1-2a in AP-42. Regulated VOC emissions were conservatively assumed to be 10% of the manufacturer's estimated emissions for total hydrocarbons. No testing required.

f. Equivalent maximum hourly emission rates are the maximum expected emissions based on permitted capacity and a compressor inlet air temperature of 59° F. For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the compressor 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 compressor inlet temperatures.

g. Annual emissions are based on 8760 hours of operation per year and the maximum hourly emission rate.

h. The emissions standards of this permit ensure that the project does not trigger the major source requirements of Title V (Chapter 62-213, F.A.C.) or PSD (Chapter 62-212, F.A.C.).

3.4 Compliance Methods

a. Initial performance tests shall be required for emissions of CO, NOx, and visible emissions. Testing for CO and NOx shall be conducted concurrently. To satisfy the NSPS requirements, initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load. The CO performance tests shall be conducted concurrently with the NOx performance tests at peak load. $SO_2$ emissions shall be calculated based on an analysis of the natural gas fuel sulfur content.

b. Annual performance tests shall be required for emissions of CO, NOx, and visible emissions. CO and NOx emissions shall be tested concurrently at permitted capacity. $SO_2$ emissions shall be calculated based on the vendor analysis for fuel sulfur content.

c. 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.

## 4. 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.

# DRAFT PERMIT

**PERMITTEE:**

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

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

Gilchrist Compressor Station No. 24
Air Permit No. 0410004-004-AC
Facility ID No. 0410004
SIC No. 4922
Permit Expires: December 30, 2002

**PROJECT AND LOCATION**

This permit authorizes the up-rating of gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revision of the emission rates accordingly. The equipment will be modified at existing Compressor Station No. 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.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Part 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.

**CONTENTS**



(DRAFT)

Howard L. Rhodes, Director
Division of Air Resources Management

(Date)

## FACILITY AND PROJECT DESCRIPTION

The existing facility operates as a compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The new project up-rates gas turbine compressor engine No. 2401 from 10,350 bhp to 15,000 bhp and revises the emission rates accordingly. The existing facility consists of the following emissions units.

| ID | Emission Unit Description |
|---|---|
| 001 | FGT No. 2401: Solar Mars 100 T-15000S gas turbine compressor engine rated at 15,000 bhp fired with natural gas |
| 002 | Miscellaneous support activities |

## REGULATORY CLASSIFICATION

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

Title IV: The existing facility is not 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.

PSD: The facility is not a PSD major source of air pollution.

NSPS: The new gas turbine subject to the New Source Performance Standards in 40 CFR 60, Subpart GG.

## RELEVANT DOCUMENTS

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

- Permit application received on 11/21/01, complete.
- Draft permit package issued on Draft, including comments received.

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 Northwest District Office at 160 Governmental Center, Pensacola, Florida 32501-5794 and phone number 850/595-8300.

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 CF describes the format used to cite applicable rules and regulations as well as previous permitting actions.
   - Appendix GC specifies the general conditions applicable to all permittees. The general conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
   - Appendix GG identifies the applicable NSPS requirements for gas turbines in 40 CFR 60, Subpart GG.
   - Appendix SC lists standard conditions applicable to air pollution sources compiled from Chapters 62-4, 62-210, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

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

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 permitted emissions units 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 60 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.]

## A. FGT UNIT 2401, GAS TURBINE COMPRESSOR ENGINE

This section of the permit addresses the following modified emissions unit.

| **Emissions Unit No. 001: Gas Turbine Compressor (FGT Unit No. 2401)** |
|---|
| *Description*: Pipeline compressor engine consisting of a Solar Mars 100 T-15000S gas turbine rated at 15,000 bhp. |
| *Fuel*: The gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01). The maximum natural gas firing rate is approximately 119,900 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas. |
| *Capacity*: At a compressor inlet air temperature of 59° F, the gas turbine produces 15,000 bhp when firing approximately 125 MMBtu (HHV) per hour of natural gas. |
| *Controls*: The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/$PM_{10}$), sulfur dioxide ($SO_2$), and volatile organic compounds (VOC). Lean premix combustion technology reduces nitrogen oxide (NOx) emissions. |
| *Stack Parameters*: When operating at 100% capacity, exhaust gases exit a rectangular stack (7.5' x 8.0') that is 58.0 feet tall with a flow rate of approximately 193,613 acfm at 903° F. |

### APPLICABLE STANDARDS AND REGULATIONS

1. NSPS Requirements: The new 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 GG of this permit. The Department determines that the conditions in this section are at least as stringent, or more stringent than, the NSPS requirements of Subpart GG. [Rule 62-4.070(3), F.A.C.; 40 CFR 60, Subpart GG]

### EQUIPMENT

2. Gas Turbine Compressor: The permittee is authorized to up-rate the existing Solar Mars 100 T-15000S gas turbine from 10,350 bhp to 15,000 bhp for use as a pipeline compressor engine. The gas turbine design shall incorporate lean premix combustion technology to reduce emissions of nitrogen oxides below the permitted limits. Ancillary equipment includes an automated gas turbine control system, an inlet air filtration system, and a rectangular stack (7.5' x 8.0') that is 58.0 feet tall. The permittee identifies the gas turbine compressor engine as Unit No. 2401. [Applicant Request; Design]

### PERFORMANCE RESTRICTIONS

3. Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 125 mmBTU per hour while producing approximately 15,000 bhp based on a compressor inlet air temperature of 59° F, 100% load, and a higher heating value (HHV) of 1040 BTU per SCF for 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 compliance 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.]

4. Authorized Fuel: The gas turbine shall fire only pipeline-quality natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

5. Restricted Operation: The hours of operation for the gas turbine are not limited (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**

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

| Pollutant | Standards | | Equivalent Maximum Emissions | | Rule Basis [h] |
|---|---|---|---|---|---|
| | Limit | Units | lb/hour [f] | TPY [g] | |
| CO [a] | 50.0 | ppmvd @ 15% $O_2$ | 13.7 | 60.0 | Avoid major source status |
| NOx [b] | 25.0 | ppmvd @ 15% $O_2$ | 11.3 | 49.5 | Avoid major source status 40 CFR 60.332 |
| $SO_2$ [c] | Pipeline-quality natural gas | | 3.4 | 14.9 | Avoid major source status 40 CFR 60.333 |
| Opacity [d] | 10% opacity, 6-minute average | | Not Applicable | | Avoid major source status |
| PM [e] | Good combustion practices | | 0.8 | 3.5 | Avoid major source status |
| VOC [e] | Good combustion practices | | 0.4 | 1.8 | Avoid major source status |

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 the average of three test runs as determined EPA Method 20.

c. Maximum $SO_2$ emissions are based on the maximum level specified by Federal Energy Regulatory Commission (FERC), which is 10 grains of sulfur per 100 standard cubic feet of natural gas. Actual fuel sulfur levels are expected to be less than 1 grain per 100 SCF of natural gas.

d. The opacity standard is based on a 6-minute block average, as determined by EPA Method 9. {Permitting Note: This standard is established as reasonable assurance of good combustion practices to minimize emissions.}

e. For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions were based on data in Table 3.1-2a in AP-42. Regulated VOC emissions were conservatively assumed to be 10% of the manufacturer's estimated emissions for total hydrocarbons. No testing required.

f. Equivalent maximum hourly emission rates are the maximum expected emissions based on permitted capacity and a compressor inlet air temperature of 59° F. For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of mass emission rates versus the compressor 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 compressor inlet temperatures.

g. Annual emissions are based on 8760 hours of operation per year and the maximum hourly emission rate.

h. The emissions standards of this permit ensure that the project does not trigger the major source requirements of Title V (Chapter 62-213, F.A.C.) or PSD (Chapter 62-212, F.A.C.).

**EMISSIONS PERFORMANCE TESTING**

7. Initial Compliance 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 at least 90% of the maximum permitted capacity, but not later than 180 days after initial operation 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 an analysis of the natural gas fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]

8. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), 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 the vendor analysis of fuel sulfur content and the fuel consumption rate. [Rule and 62-297.310(7)(a)4, F.A.C. and to avoid Rule 62-212.400, F.A.C.]

9. 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]

10. 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<br>{Notes: The method shall be based on a continuous sampling train.} |
| 19 | Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (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 Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines |

Tests shall also be conducted in accordance with the requirements specified in Section 4, Appendix SC of this permit. 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 unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

**RECORDS AND REPORTS**

11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Section 4, Appendix SC of this permit. In addition, NOx emissions shall be

corrected to ISO ambient atmospheric conditions and compared to the NSPS Subpart GG standard identified in Appendix GG of this permit for each required test. For each run, the test report shall indicate the natural gas firing rate (cubic feet per hour), heat input rate (mmBTU per hour), the power output (bhp), percent base load, and the compressor inlet temperature. [Rule 62-297.310(8), F.A.C.; 40 CFR 60.332]

12. Custom Fuel Monitoring Schedule: The Department approves the following custom fuel-monitoring schedule in lieu of the fuel monitoring requirements of NSPS Subpart GG for this project.

    a. 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.

    b. Fuel sulfur monitoring shall be performed in accordance with the following requirements:

        (1) 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.

        (2) 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).

        (3) 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.

        (4) 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]

13. 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 the gas turbine. If requested by the Department, the permittee shall be able to provide a summary of this information within at least ten days of such request. The information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

## CONTENTS

## SECTION 4. APPENDIX CF
## CITATION FORMAT

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

### REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

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

*Where*: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

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

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

PSD Permit Numbers

*Example*: Permit No. PSD-FL-317

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

### RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

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

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

Code of Federal Regulations (CFR)

*Example*: [40 CRF 60.7]

*Means*: Title 40, Part 60, Section 7

## GENERAL CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

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

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

13. This permit also constitutes:

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

14. The permittee shall comply with the following:

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

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

    c. Records of monitoring information shall include:

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

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

## SECTION 4. APPENDIX GG

## NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

The following emissions 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.

| **Emissions Unit 001: FGT Unit No. 2401, Gas Turbine Compressor** |
|---|
| Gas turbine is a Solar Model Mars 100 T-15000S that will be used as a compressor engine for the natural gas pipeline. |

### 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

**{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 bold immediately following the section to which they refer. The rule basis for the Department requirements specified below is Rule 62-4.070(3), F.A.C.}**

Section 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.

Section 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.

Section 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.**

**{Note: The "Y" value provided by the manufacturer is approximately 10.75 for natural gas. The equivalent emission standard is 201 ppmvd at 15% oxygen. The emissions standards in Section III of 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.

Section 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.

Section 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 specified in the Section 3 of the permit.**

**{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).

**{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, 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.**

Section 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.**

**{Note: The dry low-NOx controls are only effective above a minimum load, which 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 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 natural gas shall be sampled and analyzed for the sulfur content as determined by ASTM methods D4084-82, D3246-81 or more recent versions.**

(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.

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

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

**EMISSIONS AND CONTROLS**

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

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

3. Excess Emissions 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.]

4. 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.]

5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permitee 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.]

6. 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.]

7. 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.]

8. 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.]

9. 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**

10. 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.]

11. 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.]

12. 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.]

13. 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.]

14. 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.]

15. 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.

16. 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.]

17. 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.]

18. 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:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. 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.
5. 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.
6. 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.
7. 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.
8. The date, starting time and duration of each sampling run.
9. 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.
10. The number of points sampled and configuration and location of the sampling plane.
11. 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.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. 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.
21. 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.

**RECORDS AND REPORTS**

19. 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.]

20. 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.]

# Florida Department of Environmental Protection

**Memorandum**

TO: Clair Fancy, Chief, BAR

THROUGH: Al Linero, Administrator - New Source Review Section

FROM: Jeff Koerner, New Source Review Section

DATE: December 10, 2001

SUBJECT: Draft Air Construction Permit No. 0410004-004-AC
Florida Gas Transmission Company
Gilchrist Compressor Station No. 24
Phase V Modifications

Attached for your review are the following items:

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

This project will up-rate a gas turbine compressor engine at the existing station, is minor with respect to PSD, and required no netting analysis. The Technical Evaluation and Preliminary Determination provides a detailed description of the project, rule applicability, and emissions standards. The P.E. certification briefly summarizes proposed project. Day #90 is February 18, 2002. I recommend your approval of the attached Draft Permit for this project.

CHF/AAL/jfk

Attachments

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

# P.E. CERTIFICATION STATEMENT

**PERMITTEE**

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

Draft Air Permit No. 0410004-004-AC
Gilchrist Compressor Station No. 24
Phase V Modifications

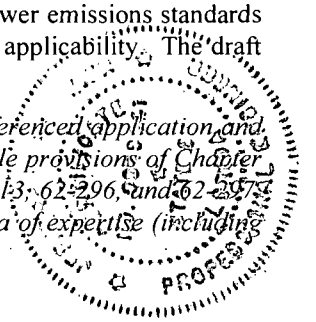
**PROJECT DESCRIPTION**

The existing facility operates as a compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. It consists of one gas turbine compressor engine fired exclusively with natural gas and miscellaneous support equipment. This facility was originally permitted in May of 2000 as part of FGT's Phase IV project. However, installation was not completed until the summer of 2001 due to several delays. The Department's Northeast District Office has two pending permit applications for this facility: one to increase the maximum heat input of the gas turbine (and revise installed model); and one for the initial operation permit. FGT has begun the Phase V expansion of the natural gas pipeline and predicts that an increase in the capacity for Compressor Station No. 24 will be necessary to meet future demands pipeline demands. The applicant proposes to up-rate the existing gas turbine from 10,350 bhp to 15,000 bhp and the emission rates accordingly.

The existing facility is not Title V major source of air pollution. The existing facility is not a PSD major source of air pollution nor is the project subject to PSD review. In addition, total emissions of hazardous air pollutants (HAP) are predicted to be less than 4 tons per year, which is much less than the HAP thresholds that would trigger a case-by case- MACT determination. The facility will remain a minor source of air pollution after completion of this project.

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. The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/$PM_{10}$), sulfur dioxide ($SO_2$), and volatile organic compounds (VOC). Lean premix combustion technology reduces nitrogen oxide (NOx) emissions. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has also requested lower emissions standards for CO and NOx emissions to ensure that the project remains minor with respect to Title V and PSD applicability. The draft permit establishes limits for CO, NOx, and opacity with compliance demonstrated at least annually.

***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, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297. However, I have not evaluated and I do not certify aspects of the proposed project outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*



Jeffery J. Koerner

12-10-01

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

(Date)

RECEIVED
JAN 04 2002
BUREAU OF AIR REGULATION

January 3, 2002

Jeff Koerner
Bureau of Air Regulation
2600 Blair Stone Road
MS #5505
Tallahassee, FL 32399

Dear Mr. Koerner:

Please see attached Proof of Publication for Florida Gas Transmission, CS. 24.

If you have any questions please call me at 813-655-7441.

Thanks,

Heather Kendrick

POND FAX

HEATHER KENDRICK

RECEIVED

JAN 04 2002

BUREAU OF AIR REGULATION

21135

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, Florida Gas Transmission

in the matter of Intent to issue Air Construction Permit

in the Court, was published in said newspaper in the issue of DECMBER 20

2001

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

3 day of Jan A.D.,2001

Sharon K. Williams

(seal) Notary Public

SHARON K WILLIAMS
MY COMMISSION # CC 814219
EXPIRES: March 3, 2003
Bonded Thru Notary Public Underwriters

Naomi Williams-Jordan

BEST AVAILABLE COPY



**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT**

**STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Draft Air Permit No. 0410009-004-AC**

**Florida Gas Transmission Company**
**Gilchrist Compressor Station No. 24**
**Phase V Modifications**

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Florida Gas Transmission Company to uprate an existing gas turbine compressor engine. The equipment is installed at existing Compressor Station No. 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 mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The existing facility operates as a pipeline compressor station in Gilchrist County for Florida Gas Transmission Company's natural gas pipeline. The proposed project will uprate one gas turbine compressor engine from 10,300 bhp to 16,000 bhp, which will result in an increase in emissions. The modified gas turbine will emit following potential emissions: 50 tons of carbon monoxide (CO) per year, 60 tons of nitrogen oxides (NOx) per year, 4 tons of particulate matter per year, 10 tons of sulfur dioxide (SO2) per year, and 7 ton of volatile organic compound (VOC) per year. The existing facility is not a major source of air pollution and PSD pre-construction review does not apply. Upon completion of the project, the facility will remain a minor source of air pollution.

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. The federal regulations established standards, monitoring, testing, and reporting requirements for NOx and SO2 emissions. The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/PM10), sulfur dioxide (SO2), and volatile organic compounds (VOC). Lean premix combustion technology reduces nitrogen oxide (NOx) emissions. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The applicant has also requested lower emissions standards for CO and NOx emissions to ensure that the project and facility remain minor with respect to Title V and PSD applicability. The draft permit establishes limits for CO, NOx, and opacity with compliance demonstrated at least annually.

The Department will issue the Final Permit with the attached conditions unless a response received in accordance with the following procedures result 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 publications of this Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Department's Bureau of Air Regulations 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 Section 120.569 and 120.57, F.S., before the deadline for filing petition. The procedures for petitioning for a hearing are set forth below. Mediations is not available in the proceedings.

A person whose substantial interest are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under Section 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 publications 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 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 the 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 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:

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

Department of Environmental Protection
Northeast District Office
Air Resources Section
7825 Baymeadows Way
Jacksonville, FL 32256-7590
Telephone: 904/807-3300
FAX: 904/448-4300

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.

#21135 12/00

RECEIVED
JAN 04 2002
BUREAU OF

**Florida Gas Transmission Company**

*Capital Projects Field Office, 111 Kelsey Lane, Ste. A., Tampa, FL 33619*
*813.655.7441 / 800.381.1477*

November 01, 2001

RECEIVED

NOV 21 2001

BUREAU OF AIR REGULATION

Mr. Clair H. Fancy, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Bldg.
2600 Blairstone
Tallahassee, FL 32399-2400

Reference: Facility Number: 0410004
Compressor Station No. 24, Gilchrist County

Dear Mr. Fancy:

**Subject: Application for Air Construction Permit**

Florida Gas Transmission Company (FGT) is proposing to upgrade an existing compressor turbine from 10,350 bhp to 15,000 bhp at the above referenced facility. This existing facility is a minor source under Title V and New Source Review regulations and the proposed modification is not significant; therefore, only a state construction permit is required.

Enclosed is an Application for an Air Construction Permit for the proposed modification. A check for $4,500.00 is attached for the application fee.

If you have any questions or need additional information, please call me at (800) 381-1477.

Sincerely,

Jim Thompson
Environmental Project Manager
For Florida Gas Transmission Company Phase V Project

ATTACHMENTS

CC: James Alexander, Phase V w/o attachments
Rick Craig, w/o attachments
Frank Diemont
Jake Krautsch, Tallahassee

# Florida Gas Transmission Company

# Phase V Expansion Project

# Compressor Station No. 24

# Trenton, Florida

# APPLICATION
# For
# AIR CONSTRUCTION
# PERMIT

November 2001

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**Prepared by AQMcs, LLC**

# Table of Contents

## List of Tables

## 1.0 INTRODUCTION

Florida Gas Transmission Company (FGT), a Delaware Corporation and ENRON/EL PASO affiliate of Houston, Texas, is proposing to modify its existing natural gas pipeline facility near Trenton in Gilchrist County, Florida (Compressor Station No. 24). This proposed modification is part of FGT's Phase V Expansion Project, aimed at increasing the supply capacity of FGT's network servicing domestic, commercial, and industrial customers in Florida. The scope of work for the Phase V Expansion Project includes expansion through the addition of state-of-the-art compressor engines at eight existing compressor stations and the development of three new compressor stations and pipeline within the State of Florida. The basic project components include:

- Mainline loops, additions, and replacements;
- Lateral loops and additions;
- Meter station additions, modifications, and expansions;
- Regulator additions, modifications, and expansions; and
- Compressor station additions and modifications.

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 upgrading of an existing compressor turbine from 10,350 bhp to 15,000 bhp (ISO). The compressor turbine is used solely for transporting natural gas by pipeline for distribution to markets in Florida. The existing engine is a Solar Mars 100-T15000S equipped with dry low $NO_X$ (oxides of nitrogen) combustion and derated to 10,350 bhp. Under current federal and state air quality regulations, the facility constitutes a new minor stationary source. Based on the projected annual emission rates, there will be no PSD significant increase in any emissions.

Engineering designs for the proposed expansion 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 upgraded turbine 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.

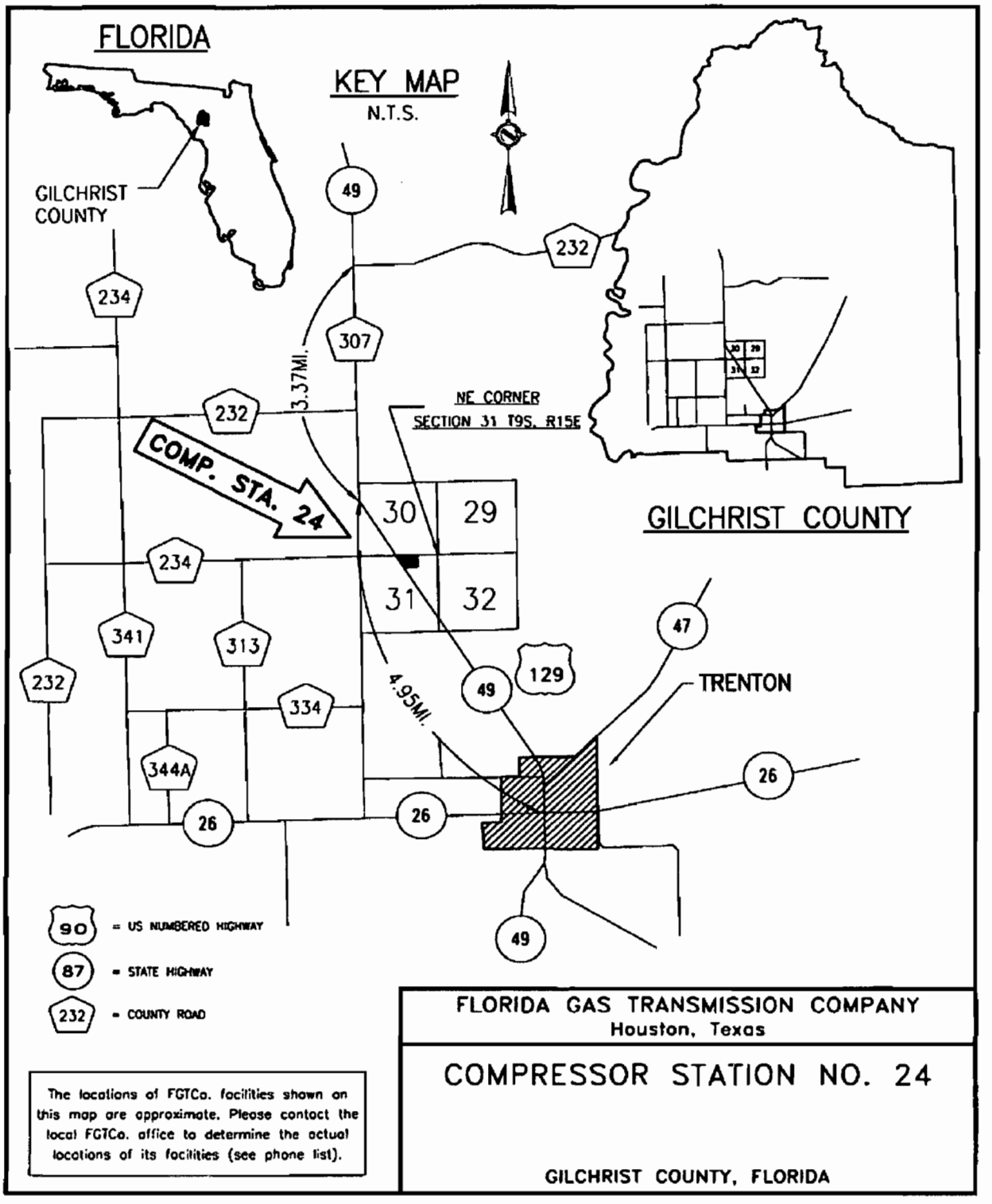
FLORIDA
KEY MAP
N.T.S.
GILCHRIST COUNTY
49
232
234
307
3.37MI.
NE CORNER
SECTION 31 T9S, R15E
COMP. STA. 24
30
29
31
32
GILCHRIST COUNTY
234
341
313
232
334
4.95MI.
49
129
47
TRENTON
344A
26
26
26
49
90 = US NUMBERED HIGHWAY
87 = STATE HIGHWAY
232 = COUNTY ROAD
The locations of FGTCo. facilities shown 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 10,350 bhp gas-fired turbine engine. Table 2-1 summarizes engine manufacturer and model for the existing engine. Compressor Station No. 24 was built as a part of the Phase IV Expansion Project and was constructed in 2000-2001. The existing engine is being modified as part of this 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 increase the horsepower capacity of Compressor Station No. 24, as part of the Phase V Expansion Project. This will involve upgrading an existing gas-fired turbine (Compressor Engine 2401). The proposed upgraded engine will be used to increase the volumetric delivery capacity by driving a gas compressor that is a part of a gas transmission line that transports natural gas from source wells in Texas and Louisiana for delivery throughout Florida. Without the proposed modifications, it would not be possible to increase the volumetric delivery capacity necessary to meet both short and long-term demands for natural gas in Florida.

#### 2.2.1 Upgraded Compressor Turbine

FGT proposes to upgrade one existing natural gas-fired turbine engine compressor unit at Compressor Station No. 24. The existing engine is a Solar Mars 100 T-15000S turbine compressor unit flat rated at 10,350 bhp that will be upgraded to 15,000 bhp ISO (14,922 bhp ISO at site elevation). Fuel will be exclusively natural gas from FGT's natural gas pipeline. Specifications and stack parameters for the proposed modified engine are presented in Table 2-1.

**Table 2-1 Proposed Upgraded 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).

Hourly and annual emissions of regulated pollutants from the proposed engine under normal operating conditions are presented in Table 2-2. Emissions of NOX, CO and VOCs are based on the engine manufacturer's supplied data (See Attachment B).

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 2-2 Proposed Upgraded Turbine (2401) Compressor Engine 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 | GRI HapCalc 3.0 | 0.71 | 3.1 |

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

### 2.2.2 Emissions Summary

The total new emissions resulting from the project are listed on Table 2-3. As can be seen from the table, the emission increases are not significant under PSD. The calculations used to estimate these emissions are presented in Attachment D.

**Table 2-3 Potential Annual Emissions (tpy) Summary**

| SOURCE ID | DESCRIPTION | $NO_x$ | CO | VOC[a] | $SO_2$ | PM |
|---|---|---|---|---|---|---|
| | | | | | | |
| **EXISTING EMISSIONS** | | | | | | |
| 2401 | 10,350 bhp Turbine Engine | 42.1 | 51.3 | 1.5 | 12.8 | 3.1 |
| GEN03 | 443 bhp Recip. Engine | 2.2 | 0.6 | 0.01 | 0.2 | 0.2 |
| FUGITIVE | Fugitive | | | 0.32 | | |
| TANK 01 | Oily Water Tank | | | <0.001 | | |
| TANK 02 | Diesel Tank | | | <0.001 | | |
| TANK 03 | Condensate Tank | | | | | |
| | | | | | | |
| **CURRENT TOTALS:** | | **44.3** | **51.9** | **1.832** | **13** | **3.3** |
| | | | | | | |
| **ADDITIONAL NEW EMISSIONS** | | | | | | |
| 2401 | 15,000 bhp Turbine Engine | **7.3** | **8.8** | **0.2** | **2.2** | **0.5** |
| | | | | | | |
| **PROPOSED NEW TOTALS:** | | **51.6** | **60.7** | **2.0** | **15.3** | **3.8** |

(a) VOC = NM/NE HC

# 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 Classification of Ambient Air Quality

The 1970 Amendments to the CAA gave the USEPA specific authority to establish the minimum level of air quality that all states would be required to achieve. These minimum values or standards were developed in order to protect the public health (primary) and welfare (secondary).

Areas of the country that have air quality equal to or better than these standards (i.e., ambient concentrations less than a standard) are designated as "Attainment Areas", while those where monitoring indicates air quality is worse than the standards are known as "Non-attainment Areas." The designation of an area has particular importance for a proposed project as it determines the type of permit review to which the application will be subject.

Major new sources or major modifications to existing major sources located in attainment areas are required to obtain a PSD permit before initiation of construction. Similar sources located in areas designated as non-attainment or that adversely impact such areas undergo more stringent Non-attainment New Source Review (NNSR). In either case, it is necessary, as a first step, to determine the air quality classification of a project site.

All areas of all states are classified as either attainment, non-attainment or unclassifiable for each criteria pollutant. The current classification of Gilchrist County is listed on Table 3-1 for each criteria pollutant. Gilchrist County in designated as either unclassifiable or attainment for all criteria pollutants. These designations were obtained from 40 CFR 81.310, as updated in the June 5, 1998 Federal Register (FR31036) and 62-204.340 F.A.C.

**Table 3-1 Classification Of Gilchrist County For Each Criteria Pollutant**

| | |
|---|---|
| Carbon Monoxide | Attainment |
| Oxides of Nitrogen | Attainment |
| Sulfur Dioxide | Attainment |
| Particulate Matter ($PM_{10}$) | Unclassifiable |
| Lead | Unclassifiable |
| Ozone | Attainment |
| Source 40 CFR 81.310 1998; 62-204.340 F.A.C. | |

The designation of Unclassifiable indicates that there is insufficient monitoring data to prove that the area has attained the federal standards; however, the limited data available indicate that the standard has been achieved. Areas with this classification are treated as attainment areas for permitting purposes.

### 3.1.2 PSD Applicability

The 1977 CAA Amendments added Part C: Prevention of Significant Deterioration to the Act. This part required proposed new major stationary sources or existing sources planning a major modification in an area that has attained the National AAQS, to conduct a preconstruction review that includes a detailed analysis of the impacts from the source's emissions. Federal air quality permitting regulations for attainment areas are codified in the Code of Federal Regulations (CFR), Title 40- Protection of the Environment, Part 52.21 - Prevention of Significant Deterioration (40 CFR 52.21).

For the PSD regulations to apply to a given project, the proposed location must be in a PSD area, i.e., an area that has been classified as attainment or as unclassifiable for a particular pollutant. Gilchrist County is designated as attainment area for all criteria pollutants. A project's potential to emit is then reviewed to determine whether it constitutes a major stationary source or major modification to an existing major stationary source.

A major stationary source is defined as either one of the 28 sources identified in 40 CFR 52.21 that has a potential to emit 100 tons or more per year of any regulated pollutant, or any other stationary source that has the potential to emit 250 tons or more per year of a regulated pollutant. "Potential to emit" is determined on an annual basis after the application of air pollution control equipment, or any other federally enforceable restriction.

According to the "Draft New Source Review Workshop (NSR) Manual (USEPA, October 1990),"

for a modification to be classified as major and therefore, subject to PSD review:

(1) The modification must occur at an existing major stationary source, and

(2) The net emissions increase of any pollutant emitted by the source, as a result of modification, is "significant", or

(3) The modification results in emissions increases, which if considered alone would constitute a major stationary source.

"Significant" emission rates are defined as amounts equal to or greater than the emission rates given in Table 3-2.

By these definitions, and based on the emissions presented in Section 2.0, the action proposed for Compressor Station No. 24 is modification of a minor stationary source, since Compressor Station No. 24 is not one of the 28 named source categories and emits <250 TPY of each regulated pollutant. Therefore, the compressor station is not subject to PSD pre-construction review.

**Table 3-2 Applicability of PSD Significant Emission Rates**

| Pollutant | Emission Rate Tons/Year |
|---|---|
| Carbon Monoxide | 100 |
| Nitrogen Oxides | 40 |
| Sulfur Dioxide | 40 |
| Particulate Matter ($PM/PM_{10}$) | 25/15 |
| Ozone (VOC) | 40 |
| Lead | 0.6 |
| Fluorides | 3 |
| Reduced Sulfur including Hydrogen Sulfide | 10 |
| Total Reduced Sulfur including Hydrogen Sulfide | 10 |
| Sulfuric Acid Mist | 7 |
| Lead | 0.6 |
| Mercury | 0.1 |
| VOC = Volatile Organic Compounds<br>Sources: 40 CFR 52.21(b)(23); Table 212.400-2 62-212 F.A.C. | |

### 3.1.3 Non-Attainment New Source Review (NSR) Applicability

Based on the current non-attainment provisions, all new major stationary sources, or major modifications to such sources, located in a non-attainment area must undergo Non-attainment New Source Review, if they have the potential to emit above an NSR significant threshold. For major new sources or major modifications in an attainment or unclassifiable area, the non-attainment provisions apply if the source or modification is located within the area of influence of a non-attainment area. The area of influence is defined as an area, which is outside the boundary of a non-attainment area, but within the locus of all points that are 50 kilometers outside the non-attainment area.

Compressor Station No. 24 is located in an area that is designated as either attainment or not classifiable for all criteria pollutants and is not located in an area of influence outside a non-attainment area. Therefore, this compressor station is not subject to federal non-attainment New Source Review.

### 3.1.4 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.

$$Y = \textit{Btu/bhp-hr} \times 1.055\ \textit{Kj/Btu} \times \textit{hp-hr/745.7 watt-hour}$$

$$= 7{,}595\ \textit{Btu/bhp-hr} \times 1.055\ \textit{Kj/Btu} \times \textit{hp-hr/745.7 watt-hour}$$

$$= 10.75$$

$$STD = 0.0150\ (14.4/10.75) + 0$$

$$= 0.0201\%$$

$$= 201\ ppm_v$$

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

The turbine at this facility will meet the NSPS for $NO_X$ of 201 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).

**Table 3-3 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(a)(2) | Engine No. 2401 Gas Turbine | Gas | $NO_2$ | >10 MM Btu/hr | 113.3 MMBtu/hr | 201 $ppm_v$ | 25 $ppm_v$ |
| GG | 60.333(a) | Engine No. 2401 Gas Turbine | Gas | $SO_2$ | >10 MM Btu/hr | 113.3 MMBtu/hr | 150 $ppm_v$ | ~10 $ppm_v$ |
| Design maximum based on vendor data of 14,922 hp and heat input of 7,595 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).

#### 3.2.5 Rule 62-210.300(3)(a) Exempt Emissions Units and/or Activities.

The emissions from the emergency generator, storage tanks and the fugitive leak emissions are insignificant sources and are exempt from the permitting requirements of Chapter 62-210 Stationary Sources - General Requirements, 62-213 Operation Permits For Major Sources Of Air Pollution and 62-4 Permits.

# 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: [ X ] Unknown | |
| 4. Facility Location:<br>Street Address or Other Locator: Intersection of U.S. Highway 129 and SW 50th Street<br>City: Trenton County: Gilchrist Zip Code: 32693 | |
| 5. Relocatable Facility?<br>[ ] Yes [ X ] No | 6. Existing Permitted Facility?<br>[ X ] Yes [ ] No |

**Application Contact**

| |
|---|
| 1. Name and Title of Application Contact:<br>Jim Thompson,<br>Environmental Project Manager for Florida Gas Transmission Co. – Phase V Expansion Project |
| 2. Application Contact Mailing Address:<br>Organization/Firm: Florida Gas Transmission Company<br>Street Address: 111 Kelsey Lane, Ste. A<br>City: Tampa State: FL Zip Code: 33619 |
| 3. Application Contact Telephone Numbers:<br>Telephone: (800) 381-1477 Fax: (813) 655-3951 |

**Application Processing Information (DEP Use)**

| | |
|---|---|
| 1. Date of Receipt of Application: | 11-21-01 |
| 2. Permit Number: | 0410004-004-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 A. Craig 11/13/01

   Signature Date

* Attach letter of authorization if not currently on file.

**Professional Engineer Certification**

1. Professional Engineer Name: Kevin McGlynn
   Registration Number: 50908

2. Professional Engineer Mailing Address:
   Organization/Firm: McGlynn Consulting Company
   Street Address: 1967 Commonwealth Lane
   City: Tallahassee State: FL Zip Code: 32303

3. Professional Engineer Telephone Numbers:
   Telephone: (850)350-5035 Fax: (850) 350-5002

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.*

Kevin J. McGlynn, P.E. — November 1, 2001

Signature #50908 — Date

(seal)

Attach any exception to certification statement.

## Scope of Application

| Emissions Unit ID | Description of Emissions Unit | Permit Type | Processing Fee |
|---|---|---|---|
| 2401 | Solar Mars 100 T-15000S Turbine rated at 15,000 bhp, Engine 2401, uprated from 10,350 bhp | AC1C | $4500.00 |
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## Application Processing Fee

Check one: [ X ] Attached - Amount: $__4,500.00_____ [ ] Not Applicable

## Construction/Modification Information

1. Description of Proposed Project or Alterations:

Modification of a gas fired Solar Mars 100 T-15002S compressor turbine from a 10,350 horsepower ISO to 15,000 hp. There is no change in model name.

2. Projected or Actual Date of Commencement of Construction: 09/15/02

3. Projected Date of Completion of Construction: 12/15/02

## Application Comment

This facility is part of FGT's Phase V 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:<br>Zone: 17 | East (km): 321.323 | North (km): 3282.787 | |
| 2. Facility Latitude/Longitude:<br>Latitude (DD/MM/SS): 29/39/51 | Longitude (DD/MM/SS): 82/50/46 | | |
| 3. Governmental Facility Code:<br>0 | 4. Facility Status Code:<br>A | 5. Facility Major Group SIC Code:<br>49 | 6. Facility SIC(s):<br>4922 |
| 7. Facility Comment (limit to 500 characters):<br>Compressor Station No. 24 is a natural gas pipeline compressor station with one compressor engine. 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:<br>Organization/Firm: Florida Gas Transmission Company<br>Street Address: 5030 N. U.S. 129 Hwy. 239<br>City: Trenton | State: FL | Zip Code: 32693 | |
| 3. Facility Contact Telephone Numbers:<br>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 | | | | |
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## C. FACILITY SUPPLEMENTAL INFORMATION

**Supplemental Requirements**

1. Area Map Showing Facility Location:
   [ ] Attached, Document ID:_____ [ ] Not Applicable [ X ] 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:
   [ ] Attached, Document ID::_____ [ X ] 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):

15,000 bhp ISO natural gas fired turbine compressor unit

3. Emissions Unit Identification Number: [ X ] No ID
ID: [ ] ID Unknown

| 4. Emissions Unit Status Code: | 5. Initial Startup Date: | 6. Emissions Unit Major Group SIC Code: |
|---|---|---|
| C | 12/15/02 | 49 |

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

The turbine engine is an existing Solar Mars 100 T-15000S engine compressor unit currently rated at 10,350 bhp ISO. This turbine will be upgraded to 15,000 bhp ISO (14,922 bhp with site elevation). 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 100 T-15000S
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: 124.66 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 124.66 MM Btu/hr based on vendor specifications of 7,595 Btu/hp-hr plus 10% (8354.5 Btu/bhp-hr) and 14,922 bhp.

## 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: 903 °F | 9. Actual Volumetric Flow Rate: 193,613 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 _____ of _____

| | | |
|---|---|---|
| 1. Segment Description (Process/Fuel Type) (limit to 500 characters):<br><br>Natural gas fired turbine engine driving a natural gas compressor, operating full time. | | |
| 2. Source Classification Code (SCC):<br>2-02-002-01 | 3. SCC Units:<br>million cubic feet burned | |
| 4. Maximum Hourly Rate:<br>0.1199 | 5. Maximum Annual Rate:<br>1050.1 | 6. Estimated Annual Activity Factor: NA |
| 7. Maximum % Sulfur:<br>0.03 | 8. Maximum % Ash:<br>NA | 9. Million Btu per SCC Unit:<br>1040 |
| 10. Segment Comment (limit to 200 characters):<br><br>Based on vendor supplied fuel rate of 113.33 MMBtu/hr plus 10%<br><br>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: 11.28 lb/hour 49.4 tons/year | | 7. Synthetically Limited? [ ] |
| 8. Emission Factor: 11.28 lb/hr<br>Reference: Vendor's data | | 9. Emissions Method Code: 5 |

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

(11.28 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 49.4 lb/hr

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: 11.28 lb/hour 49.4 tons/year |

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

Initial performance test.

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

40 CFR 60.332(a)(2) NOX emissions to 201 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: 13.73 lb/hour 60.1 tons/year | | 7. Synthetically Limited? [ ] |
| 8. Emission Factor: 13.73 lb/hr<br>Reference: Vendor's data | | 9. Emissions Method Code: 5 |
| 10. Calculation of Emissions (limit to 600 characters):<br>(13.73 lb/hr))(8760 hr/1 yr)(1 ton/2000 lb) = 60.1 lb/hr | | |
| 11. Pollutant Potential Emissions Comment (limit to 200 characters):<br>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: 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: 0.3932 lb/hour 1.72 tons/year | | 7. Synthetically Limited? [ ] |
| 8. Emission Factor: 0.3932 lb/hr<br>Reference: Vendor's data | | 9. Emissions Method Code: 5 |

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

Vendor factor for unburned hydrocarbons (UHC) = 3.932 lb/hr
Assume 10% is VOC.
(0.3932 lb/hr)(8760 hr/1 yr)(1 ton/2000 lb = 1.72 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: 3.42 lb/hour 15.0 tons/year | | 7. Synthetically Limited? [ ] |
| 8. Emission Factor: 10 gr/100scf<br>Reference: Vendor's fuel use data | | 9. Emissions Method Code: 2 |

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

(10 gr S/100 scf)(0.1199 MMscf/hr)(1 lb/7000 gr) = 1.71 lb S/hr
(1.71 lb S/hr)(2 lb SO2/lb S) = 3.42 lb SO2/hr
(3.42 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 15.0 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: NA | 2. Future Effective Date of Allowable Emissions: NA |
| 3. Requested Allowable Emissions and Units: 10 grains/100 scf | 4. Equivalent Allowable Emissions: 3.43 lb/hour 15.0 tons/year |

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

Initial 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.

## 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: 0.82 lb/hour 3.6 tons/year | | 7. Synthetically Limited? [ ] |
| 8. Emission Factor: 0.0066 lb/MM Btu<br>Reference: Table 3.1-2a, AP-42 4/00, Supplement E | | 9. Emissions Method Code: 4 |
| 10. Calculation of Emissions (limit to 600 characters):<br>(0.0066 lb/MMBtu)(124.66 MMBtu/hr) = 0.82 lb/hr<br>(0.82 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 3.6 ton/yr | | |
| 11. Pollutant Potential Emissions Comment (limit to 200 characters):<br>Revised to vendor's fuel use value plus 10%. | | |

**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: 0.71 lb/hour 3.1 tons/year | | 7. Synthetically Limited? [ ] |
| 6. Emission Factor: 0.0217 g/hp-hr<br>Reference: GRI-HAPCalc 3.0 | | 7. Emissions Method Code: 5 |

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

(0.0217g/hp-hr)(14,922 hp)(1 lb/453.6 g) = 0.714 lb/hr
(0.714 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 3.13 ton/yr

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

Detailed calculations provided in Attachment C.
Included in VOC emissions.

**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: VE20 | 2. Basis for Allowable Opacity: [ X ] Rule [ ] Other |
|---|---|
| 3. Requested Allowable Opacity: Normal Conditions: 20% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour | |
| 4. Method of Compliance: 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<br>[ ] Attached, Document ID:_____ [ ] Not Applicable [ X ] Waiver Requested |
| 2. Fuel Analysis or Specification<br>[ ] Attached, Document ID:_____ [ ] Not Applicable [ X ] Waiver Requested |
| 3. Detailed Description of Control Equipment<br>[ ] Attached, Document ID:_____ [ X ] Not Applicable [ ] Waiver Requested |
| 4. Description of Stack Sampling Facilities<br>[ ] Attached, Document ID:_____ [ ] Not Applicable [ X ] Waiver Requested |
| 5. Compliance Test Report<br>[ ] Attached, Document ID:___<br>[ ] Previously submitted, Date:_____<br>[ X ] Not Applicable |
| 6. Procedures for Startup and Shutdown<br>[ ] Attached, Document ID:_____ [ X ] Not Applicable [ ] Waiver Requested |
| 7. Operation and Maintenance Plan<br>[ ] Attached, Document ID:_____ [ X ] Not Applicable [ ] Waiver Requested |
| 8. Supplemental Information for Construction Permit Application<br>[ ] Attached, Document ID:_____ [ X ] Not Applicable |
| 9. Other Information Required by Rule or Statute<br>[ ] Attached, Document ID:_____ [ X ] Not Applicable |
| 10. Supplemental Requirements Comment:<br><br>Supplemental information was provided in the construction permit application for the original facility. The original turbine installation was tested 05/07/01. |

# Attachment B

## Vendor Information

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.85
CUSTOMER: FGT
JOB ID: STATION 24

DATE RUN: 22-NOV-00
RUN BY: Casadonte, Corrine

MARS 100-T15000S
CS/MD
122F MATCH
GAS
TMF-2S REV. 3.0

DATA FOR NOMINAL PERFORMANCE

| | | |
|---|---|---|
| Fuel Type | SD NATURAL GAS | |
| Elevation | Feet | 53 |
| Inlet Loss | in. H2O | 0 |
| Exhaust Loss | in. H2O | 0 |

| **LOAD** | | **FULL** | **95%** | **90%** | **85%** | **75%** | **70%** |
|---|---|---|---|---|---|---|---|
| Engine Inlet Temp. | Deg. F | 59.0 | 59.0 | 59.0 | 59.0 | 59.0 | 59.0 |
| Relative Humidity | % | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Elevation Loss | Hp | 29 | 27 | 26 | 25 | 22 | 20 |
| Inlet Loss | Hp | 0 | 0 | 0 | 0 | 0 | 0 |
| Exhaust Loss | Hp | 0 | 0 | 0 | 0 | 0 | 0 |
| Driven Equipment Speed | RPM | 8956 | 8806 | 8710 | 8607 | 8403 | 8306 |
| Optimum Equipment Speed | RPM | 8956 | 8806 | 8710 | 8607 | 8403 | 8306 |
| Gas Generator Speed | RPM | 11168 | 11035 | 10937 | 10841 | 10650 | 10552 |
| Specified Load | Hp | FULL | 14176 | 13429 | 12683 | 11191 | 10445 |
| Net Output Power | Hp | 14922 | 14176 | 13429 | 12683 | 11191 | 10445 |
| Fuel Flow | MMBtu/hr | 113.33 | 108.47 | 106.25 | 103.86 | 98.60 | 95.73 |
| Heat Rate | Btu/Hp-hr | 7595 | 7652 | 7912 | 8189 | 8811 | 9165 |
| Inlet Air Flow | lbm/hr | 332406 | 328324 | 324642 | 320321 | 309708 | 303399 |
| Engine Exhaust Flow | lbm/hr | 336740 | 332438 | 328661 | 324239 | 313408 | 306982 |
| PCD | psi(g) | 245.1 | 238.6 | 230.2 | 221.7 | 204.8 | 196.1 |
| PT Inlet Temp. (T5) | Deg. F | 1320 | 1286 | 1286 | 1286 | 1286 | 1286 |
| Display T5, S/W | Deg. F | 1360 | 1326 | 1326 | 1326 | 1326 | 1326 |
| Exhaust Temperature | Deg. F | 903 | 882 | 888 | 894 | 906 | 912 |

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.85
CUSTOMER: FGT
JOB ID:

DATE RUN: 22-NOV-00
RUN BY: Casadonte, Corrine

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR STATION 24

Fuel: SD NATURAL GAS
Water Injection: NO
Number of Engines Tested: 0
Model: MARS 100-T15000S CS/MD 122F MATCH GAS
SHIPMENTS AFTER 1/95
Emissions Data: REV. 0.0

Customer: FGT
Inquiry Number: Station 24

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. Short term permitting values such as PPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.

2. Long term reference emission units (e.g. tons/yr) should reference the average conditions at the site (e.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.

3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.

4. If a SoLoNOx model is planned to be installed in the future, use no less than 50 PPMv CO.

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

**Hp= 14922, %Full Load= 100.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 11.28 | * | 13.73 | * | 3.932 | lbm/hr |
| * | 49.39 | * | 60.14 | * | 17.223 | ton/yr |

**Hp= 14176, %Full Load= 95.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 10.79 | * | 13.14 | * | 3.763 | lbm/hr |
| * | 47.26 | * | 57.55 | * | 16.480 | ton/yr |

**Hp= 13429, %Full Load= 90.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 10.57 | * | 12.87 | * | 3.685 | lbm/hr |
| * | 46.29 | * | 56.36 | * | 16.141 | ton/yr |

**Hp= 12683, %Full Load= 85.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 10.33 | * | 12.58 | * | 3.602 | lbm/hr |
| * | 45.24 | * | 55.09 | * | 15.777 | ton/yr |

**Hp= 11191, %Full Load= 75.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 9.80 | * | 11.94 | * | 3.419 | lbm/hr |
| * | 42.94 | * | 52.29 | * | 14.975 | ton/yr |

**Hp= 10445, %Full Load= 70.0, Elev= 53 ft, %RH= 60.0, Temperature= 59.0 F**

| NOX | | CO | | UHC | | |
|---|---|---|---|---|---|---|
| NOM | MAX | NOM | MAX | NOM | MAX | |
| * | 25.00 | * | 50.00 | * | 25.000 | PPMvd at 15% O2 |
| * | 9.52 | * | 11.59 | * | 3.319 | lbm/hr |
| * | 41.69 | * | 50.76 | * | 14.538 | ton/yr |

* NOMINAL EMISSIONS DATA UNAVAILABLE FOR THIS ENGINE

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOx, particulates, or conditions outside those above without separate written approval.
2. 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.
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 the above information is being used regarding existing equipment, it should be verified by actual site testing.

# Attachment C

## Emissions Calculations

## Engine No. 2401

NOx Emissions: (Based on Vendor Data)

lb NOx/hr =11.28

tons NOx/yr =(lb NOx/hr)(hr/yr)(1 ton/2000 lb)
=(11.28 lb NOx/hr)(8760 hr/yr)(1 ton/2000 lb)
=49.41

CO Emissions: (Based on Vendor Data)

lb CO/hr =13.73

tons CO/yr =(lb CO/hr)(hr/yr)(1 ton/2000 lb)
=(13.73 lb CO/hr)(8760 hr/yr)(1 ton/2000 lb)
=60.14

VOC Emissions: (Based on Vendor Data)

lb VOC/hr =0.39

tons VOC/yr =(lb VOC/hr)(hr/yr)(1 ton/2000 lb)
=(0.393 lb VOC/hr)(8760 hr/yr)(1 ton/2000 lb)
=1.72

SO2 Emissions: (Based on FERC Limits)

lb S/hr =(gr S/100 scf)(MMscf/hr)(1 lb/7000 gr)
=(10 gr S/100 scf)(0.1199 MMscf/hr)(1 lb/7000 gr)
=1.71

lb SO2/hr =(lb S/hr)(2 lb SO2/lb S)
=(1.71 lb S/hr)(2 lb SO2/lb S)
=3.42

tons SO2/yr =(lb SO2/hr)(hr/yr)(1 ton/2000 lb)
=(3.42 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb)
=15.00

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)(124.67 MMBtu/hr)
=0.82

tons PM/yr =(lb PM/hr)(hr/yr)(1 ton/2000 lb)
=(0.82 lb PM/hr)(8760 hr/yr)(1 ton/2000 lb)
=3.60

## 2401 HAP Emissions Calculations

| Chemical | EF g/bhp-hr | tpy | lbs/hour | Factor Set |
|---|---|---|---|---|
| Formaldehyde | 0.0146323 | 2.10648267 | 0.48093212 | EPA |
| Acetaldehyde | 0.0003443 | 0.04956582 | 0.0113164 | EPA |
| 1,3-Butadiene | 0.0000019 | 0.00027353 | 0.00006245 | EPA |
| Acrolein | 0.000034 | 0.00489468 | 0.00111751 | EPA |
| Propional | 0.000865 | 0.12452639 | 0.02843068 | GRI Field |
| Propylene Oxide | 0.0001248 | 0.01796635 | 0.00410191 | EPA |
| n-Nitrosodimethylamine | 0.000001 | 0.00014396 | 0.00003287 | EPA |
| Benzene | 0.0006025 | 0.08673659 | 0.01980287 | EPA |
| Toluene | 0.0005595 | 0.08054626 | 0.01838956 | EPA |
| Ethylbenzene | 0.0001033 | 0.01487119 | 0.00339525 | EPA |
| Xylenes(m,p,o) | 0.0001162 | 0.01672829 | 0.00381924 | EPA |
| 2,2,4-Trimethylpentane | 0.0016053 | 0.23110083 | 0.05276275 | GRI Field |
| n-Hexane | 0.0015058 | 0.21677669 | 0.0494924 | GRI Field |
| Phenol | 0.0001101 | 0.01585012 | 0.00361875 | GRI Field |
| n-Nitrosomorpholine | 0.000001 | 0.00014396 | 0.00003287 | EPA |
| Naphthalene | 0.0006025 | 0.08673659 | 0.01980287 | EPA |
| 2-Methylnaphthalene | 0.0000013 | 0.00018715 | 0.00004273 | GRI Field |
| Biphenyl | 0.0003305 | 0.04757916 | 0.01086282 | GRI Field |
| Phenanthrene | 0.0000005 | 0.00007198 | 0.00001643 | GRI Field |
| Chrysene | 0.000001 | 0.00014396 | 0.00003287 | GRI Field |
| Beryllium | 0.0000001 | 0.0000144 | 0.00000329 | GRI Field |
| Phosphorous | 0.0000652 | 0.00938627 | 0.00214298 | GRI Field |
| Chromium | 0.0000056 | 0.00080618 | 0.00018406 | EPA |
| Chromium | 0.0000082 | 0.00118048 | 0.00026952 | GRI Field |
| Manganese | 0.0000069 | 0.00099333 | 0.00022679 | EPA |
| Nickel | 0.0000061 | 0.00087816 | 0.00020049 | GRI Field |
| Cobalt | 0.0000016 | 0.00023034 | 0.00005259 | GRI Field |
| Arsenic | 0.0000002 | 0.00002879 | 0.00000657 | EPA |
| Selenium | 0.0000003 | 0.00004319 | 0.00000986 | GRI Field |
| Cadmium | 0.0000036 | 0.00051826 | 0.00011832 | EPA |
| Mercury | 0.0000019 | 0.00027353 | 0.00006245 | EPA |
| Lead | 0.0000689 | 0.00991892 | 0.00226459 | EPA |
| Totals | 0.0217114 | 3.12559802 | 0.71360686 | |

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

7001 0320 0001 3692 8543

Mr. Rick Craig OFFICIAL USE

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

Postmark Here

Sent To: Florida Gas Transmission Co.
Street, Apt. No.; or PO Box No.: P.O. Box 1188
City, State, ZIP+4: Houston, TX 77251

PS Form 3800, January 2001 — 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
Florida Gas Transmission Co.
P. O. Box 1188
Houston, TX 77251

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by *(Please Print Clearly)*: Allicce Morris — B. Date of Delivery:

C. Signature: X Allicce Morris ☐ Agent ☐ Addressee

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

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)*
7001 0320 0001 3692 8543

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

**BEST AVAILABLE COPY**

**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
V. P. of Southeastern Operations
Florida Gas Transmission Company
PO Box 1188
Houston, TX 77251

***COMPLETE THIS SECTION ON DELIVERY***

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

C. Signature
X ☐ 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 2980

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

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

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

7000 2870 0000 7028 2980

***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