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1. Article Addressed to:

Mr. Danny Pribble
Vice President of Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

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Vice President of Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

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STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

Authorized Representative:
Danny Pribble, V.P. of Operations

Bradford Compressor Station No. 16
Air Permit No. 0070012-004-AC
Phase V Modifications

Enclosed is Final Air Permit No. 0070012-004-AC, which authorizes the construction of a new 7009 bhp gas turbine compressor engine and a new 585 bhp emergency generator. The new equipment will be installed at Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford 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 7/19/01 to the person(s) listed:

Mr. Danny Pribble, 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.

Charlotte J. Hayes (Clerk) 7/19/01 (Date)

FINAL DETERMINATION

PERMITTEE

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

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

Site Name: Bradford Compressor Station No. 16
Air Permit No. 0070012-004-AC

This permit authorizes the construction of a new 7009 bhp gas turbine compressor engine and a new 585 bhp emergency generator. The new equipment will be installed at Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford County, Florida.

NOTICE AND PUBLICATION

The Department distributed an "Intent to Issue Permit" package on June 12, 2001. The applicant published the "Public Notice of Intent to Issue" in The Gainesville Sun on June 30, 2001. The Gainesville Sun is distributed in the adjacent Bradford County. The Department received the proof of publication on July 12, 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.

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
1400 Smith Street
Houston, TX 77002

Authorized Representative:
Danny Pribble, V.P. of Operations

Bradford Compressor Station No. 16
Air Permit No. 0070012-004-AC
Facility ID No. 0070012
SIC No. 4922
Permit Expires: June 1, 2002

PROJECT AND LOCATION

This permit authorizes the construction of a new 7009 bhp gas turbine compressor engine and a new 585 bhp emergency generator. The new equipment will be installed at Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford County, Florida. The UTM coordinates are Zone 17, 372.0 km East, and 3310.6 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

July 18, 2001

Howard L. Rhodes, Director
Division of Air Resources Management

(Date)

FACILITY AND PROJECT DESCRIPTION

The existing facility operates as a compressor station in Bradford County for Florida Gas Transmission Company's natural gas pipeline. The new project will add one 7009 bhp gas turbine as a new compressor engine and replace the two existing emergency generators with a single 585 bhp emergency generator. After the project is complete, the facility will consist of the following emissions units.

ID	Emission Unit Description
001	**FGT Unit Nos. 1601 to 1605**: Five 2000 bhp natural gas-fired reciprocating internal combustion engines (Worthington Model No. SEHG-8) were installed as compressor engines in 1958 (three), 1966 (one) and 1968 (one).
002	**FGT Unit Nos. 1606**: One 4000 bhp natural gas-fired reciprocating internal combustion engine (Cooper Bessemer Model No. 8W-330-C2) was installed as a compressor engine in 1991, subject to PSD review.
003	**FGT Unit Nos. 1607**: A new 7009 bhp natural gas-fired gas turbine will be installed as a compressor engine (Cooper-Rolls Model 501-KC7-DLE) subject to the conditions of this permit.
004	**Unregulated Emissions Units**: A new 585 bhp natural gas-fired emergency generator (GEN-03, Waukesha Model H24GL); lube oil storage tanks; used oil storage tanks; one air compressor (Air Compressor No. 1); and miscellaneous fugitive emission leaks from valves, flanges, etc.

REGULATORY CLASSIFICATION

Title III: The existing facility is identified as a potential major source of hazardous air pollutants (HAP). Total potential HAP emissions from this project are estimated to be less than 2 tons per year.

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

Title V: Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

PSD: The project is located in an area designated as "attainment" or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. Potential emissions of at least one regulated pollutant exceed 250 tons per year. Therefore, the facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C, the Prevention of Significant Deterioration (PSD) of Air Quality. Because potential emissions from this project do not exceed the PSD Significant Emissions Rates (Table 62-212.400-2), the project is not subject to the PSD preconstruction review requirements.

NSPS: The new gas turbine is subject to the New Source Performance Standards of 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 04/13/01, complete.
- Draft permit package issued on June 12, 2001.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct or modify an emissions unit shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/488-4300.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/488-4300.

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. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's Bureau of Air Regulation, and copies to each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. FGT UNIT 1607, GAS TURBINE COMPRESSOR ENGINE

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

Emissions Unit No. 003: Gas Turbine Compressor (FGT Unit No. 1607)
Description: The new gas turbine is a Cooper-Rolls Model 501-KC7 DLE that will be used as a compressor engine for the natural gas pipeline.
Fuel: The gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01). The maximum natural gas firing rate is approximately 59,700 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 7009 bhp when firing approximately 62.1 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). Dry low-NOx (DLN) combustion technology reduces nitrogen oxide (NOx) emissions.
Stack Parameters: When operating at 100% capacity, exhaust gases exit a rectangular stack (88" x 66") that is 61.16 feet tall with a flow rate of approximately 96,903 acfm at 965° F.

APPLICABLE STANDARDS AND REGULATIONS

{Permitting Note: The existing natural gas compressor station is a major source with respect to the PSD preconstruction review program. The equipment design, control systems, fuel specifications, operational restrictions, emissions standards, monitoring provisions, and reporting requirements of this section ensure that the project remains minor with respect to the PSD requirements of Rule 62-212.400, F.A.C.}

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 install, tune, maintain and operate a new Cooper-Rolls Model 501-KC7 DLE gas turbine as a pipeline compressor engine. The gas turbine design shall incorporate dry low-NOx 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 (88" x 66") that is 61.16 feet tall. The permittee identifies the gas turbine compressor engine as Unit No. 1607. [Applicant Request; Design]

PERFORMANCE RESTRICTIONS

3. Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 62.1 mmBTU per hour while producing approximately 7009 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 with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]

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	6.9	30.2	Avoid Rule 62-212.400, F.A.C.
NOx [b]	25.0	ppmvd @ 15% O_2	5.6	24.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO_2 [c]	10.0	grains of sulfur per 100 SCF of natural gas	1.7	7.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
Opacity [d]	10% opacity, 6-minute average		Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM [e]	Good combustion practices		0.4	1.8	Avoid Rule 62-212.400, F.A.C.
VOC [e]	Good combustion practices		0.2	0.9	Avoid Rule 62-212.400, F.A.C.

a. The CO standards are based on 3-hour test averages as determined by EPA Method 10.

b. The NOx standards are based 3-hour test averages as determined EPA Method 20.

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

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

e. 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. Equivalent maximum annual emissions are based on 8760 hours of operation per year.

h. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, 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. [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 {Notes: The method shall be based on a continuous sampling train. The ascarite trap may be omitted or the interference trap of section 10.1 may be used in lieu of the silica gel and ascarite traps.}
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 inlet compressor 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.]

B. UNREGULATED EMISSIONS UNITS

This permit recognizes the following unregulated emissions units.

Emissions Unit No. 004: Unregulated Emissions Units	
004	Support equipment includes: • One Waukesha Model No. H24GL emergency generator (585 bhp) fired exclusively with natural gas and identified by the permittee as "GEN03"; • One 80 bhp air compressor engine fired exclusively with natural gas and identified by permittee as "Air Compressor No. 1"; • Lube oil storage tanks; • Used oil storage tanks; and • Miscellaneous fugitive emission leaks from valves, flanges, etc.

{Permitting Note: The Waukesha Model No. H24GL (GEN 03) 550 bhp emergency generator replaces a 200 bhp natural gas-fired emergency generator (GEN-01) and a 220 bhp natural gas-fired emergency generator (GEN-02).}

The emergency generator and air compressor engine are exempt from air pollution construction permitting requirements in accordance with the following rule.

Rule 62-210.300, F.A.C. Permits Required.

(3) Exemptions.

(c) Categorical Exemptions

20. One or more emergency generators located within a single facility provided:

    a. None of the emergency generators is subject to the Federal Acid Rain Program; and

    b. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.

21. One or more heating units, general purpose internal combustion engines, or other combustion devices, all of which are located within a single facility, are not listed elsewhere in Rule 62-210.300(3)(a), F.A.C., and are not pollution control devices, provided:

    a. None of the heating units, general purpose internal combustion engines, or other combustion devices that would be exempted is subject to the Federal Acid Rain Program;

    b. Total fuel consumption by all such heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used; and

    c. Fuel for the heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to natural gas, diesel fuel, gasoline and propane.

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

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	6.9	30.2	Avoid Rule 62-212.400, F.A.C.
NOx [b]	25.0	ppmvd @ 15% O_2	5.6	24.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO_2 [c]	10.0	grains of sulfur per 100 SCF of natural gas	1.7	7.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
Opacity [d]	10% opacity, 6-minute average		Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM [e]	Good combustion practices		0.4	1.8	Avoid Rule 62-212.400, F.A.C.
VOC [e]	Good combustion practices		0.2	0.9	Avoid Rule 62-212.400, F.A.C.

a. The CO standards are based on 3-hour test averages as determined by EPA Method 10.

b. The NOx standards are based 3-hour test averages as determined EPA Method 20.

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

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

e. 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. Equivalent maximum annual emissions are based on 8760 hours of operation per year.

h. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, 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. [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 {Notes: The method shall be based on a continuous sampling train. The ascarite trap may be omitted or the interference trap of section 10.1 may be used in lieu of the silica gel and ascarite traps.}
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 inlet compressor 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.]

B. UNREGULATED EMISSIONS UNITS

This permit recognizes the following unregulated emissions units.

Emissions Unit No. 004: Unregulated Emissions Units	
004	Support equipment includes: • One Waukesha Model No. H24GL emergency generator (585 bhp) fired exclusively with natural gas and identified by the permittee as "GEN03"; • One 80 bhp air compressor engine fired exclusively with natural gas and identified by permittee as "Air Compressor No. 1"; • Lube oil storage tanks; • Used oil storage tanks; and • Miscellaneous fugitive emission leaks from valves, flanges, etc.

{Permitting Note: The Waukesha Model No. H24GL (GEN 03) 550 bhp emergency generator replaces a 200 bhp natural gas-fired emergency generator (GEN-01) and a 220 bhp natural gas-fired emergency generator (GEN-02).}

The emergency generator and air compressor engine are exempt from air pollution construction permitting requirements in accordance with the following rule.

Rule 62-210.300, F.A.C. Permits Required.

(3) Exemptions.

(c) Categorical Exemptions

20. One or more emergency generators located within a single facility provided:

    a. None of the emergency generators is subject to the Federal Acid Rain Program; and

    b. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.

21. One or more heating units, general purpose internal combustion engines, or other combustion devices, all of which are located within a single facility, are not listed elsewhere in Rule 62-210.300(3)(a), F.A.C., and are not pollution control devices, provided:

    a. None of the heating units, general purpose internal combustion engines, or other combustion devices that would be exempted is subject to the Federal Acid Rain Program;

    b. Total fuel consumption by all such heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used; and

    c. Fuel for the heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to natural gas, diesel fuel, gasoline and propane.

A. FGT UNIT 1607, GAS TURBINE COMPRESSOR ENGINE

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

Emissions Unit No. 003: Gas Turbine Compressor (FGT Unit No. 1607)
Description: The new gas turbine is a Cooper-Rolls Model 501-KC7 DLE that will be used as a compressor engine for the natural gas pipeline.
Fuel: The gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01). The maximum natural gas firing rate is approximately 59,700 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 7009 bhp when firing approximately 62.1 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). Dry low-NOx (DLN) combustion technology reduces nitrogen oxide (NOx) emissions.
Stack Parameters: When operating at 100% capacity, exhaust gases exit a rectangular stack (88" x 66") that is 61.16 feet tall with a flow rate of approximately 96,903 acfm at 965° F.

APPLICABLE STANDARDS AND REGULATIONS

{Permitting Note: The existing natural gas compressor station is a major source with respect to the PSD preconstruction review program. The equipment design, control systems, fuel specifications, operational restrictions, emissions standards, monitoring provisions, and reporting requirements of this section ensure that the project remains minor with respect to the PSD requirements of Rule 62-212.400, F.A.C.}

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 install, tune, maintain and operate a new Cooper-Rolls Model 501-KC7 DLE gas turbine as a pipeline compressor engine. The gas turbine design shall incorporate dry low-NOx 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 (88" x 66") that is 61.16 feet tall. The permittee identifies the gas turbine compressor engine as Unit No. 1607. [Applicant Request; Design]

PERFORMANCE RESTRICTIONS

3. Permitted Capacity: The maximum heat input rate to the gas turbine shall not exceed 62.1 mmBTU per hour while producing approximately 7009 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.]

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 003: FGT Unit No. 1607, Gas Turbine Compressor
Gas turbine is a Cooper-Rolls Model 501-KC7 DLE 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)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	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 11.4 for natural gas. The equivalent emission standard is 190 ppmvd at 15% oxygen. The emissions standards in Section III of this permit are 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.}

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:

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.]

Memorandum

Florida Department of
Environmental Protection

TO: Clair Fancy, Chief, BAR

THROUGH: Al Linero, Administrator - New Source Review Section

FROM: Jeff Koerner, New Source Review Section JK

DATE: June 7, 2001

SUBJECT: Draft Air Construction Permit No. 0070012-004-AC
Florida Gas Transmission Company
Bradford Compressor Station No. 16
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
- PE Certification

This project will add a new gas turbine compressor engine to 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 July 11, 2001. I recommend your approval of the attached Draft Permit for this project.

CHF/AAL/jfk

Attachments

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 003: FGT Unit No. 1607, Gas Turbine Compressor
Gas turbine is a Cooper-Rolls Model 501-KC7 DLE 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)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	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 11.4 for natural gas. The equivalent emission standard is 190 ppmvd at 15% oxygen. The emissions standards in Section III of this permit are 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.]

Memorandum

Florida Department of
Environmental Protection

TO: Howard Rhodes

THRU: ~~Clair Fancy~~
Al Linero 7/17

FROM: Jeff Koerner JK

DATE: July 17, 2001

SUBJECT: Draft Air Construction Permit No. 0070012-004-AC
Florida Gas Transmission Company
Bradford Compressor Station No. 16
Phase V Modifications

The Final Permit for this project is attached for your approval and signature. This project will add a new gas turbine compressor engine to the existing station, is minor with respect to PSD, and required no netting analysis.

The Department distributed an "Intent to Issue Permit" package on June 12, 2001. The applicant published the "Public Notice of Intent to Issue" in The Gainesville Sun on June 30, 2001. The Gainesville Sun is distributed in the adjacent Bradford County. The Department received the proof of publication on July 12, 2001. No requests for administrative hearings were filed.

Day #90 is August 23, 2001. I recommend your approval of the attached Final Permit for this project.

Attachments

CHF/AAL/jfk

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
1400 Smith Street
Houston, TX 77002

Draft Air Permit No. 0070012-004-AC
Bradford Compressor Station No. 16
Phase V Modifications

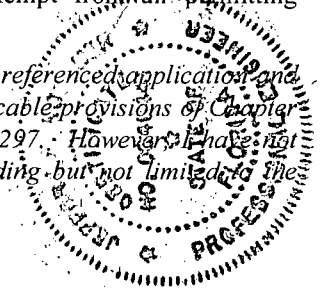
PROJECT DESCRIPTION

The existing facility operates as a compressor station in Bradford County for Florida Gas Transmission Company's natural gas pipeline. It consists of five reciprocating internal combustion engines and two small emergency generators. Three 2000 bhp engines were installed in 1958, one 2000 bhp engine was installed in 1966, one 2000 bhp engine was installed in 1968, and one 4000 bhp engine was installed in 1991. All units fire natural gas. The proposed project will add a Cooper Rolls Model 501-KC7 DLE gas turbine with a capacity of 7009 bhp as a new compressor engine. The project will also replace two existing emergency generators with a single Waukesha Model No. H24GL emergency generator with a capacity of 585 bhp. Both new units fire natural gas exclusively.

Because potential emissions of at least one regulated pollutant exceed 250 tons per year, the existing facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C, the Prevention of Significant Deterioration (PSD) of Air Quality. Therefore, new projects are subject to a PSD applicability review. The new gas turbine compressor engine will result in the following potential emissions increases: 30 tons of carbon monoxide per year; 25 tons of nitrogen oxides per year; 8 tons of sulfur dioxide per year; 2 tons of particulate matter per year; and 1 ton of volatile organic compounds per year. The project is not subject to PSD preconstruction review because the emissions increases are less than the PSD significant emissions rates. Emissions from the emergency generator are each less than 1 ton per year. In addition, total emissions of hazardous air pollutants (HAP) are predicted to be less than 2 tons per year, which is much less than the HAP thresholds that would trigger a case-by case- MACT determination.

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 applicant has requested lower emissions standards for these pollutants to ensure that the project remains minor with respect to PSD applicability. Based on the manufacturer's estimated performance, the gas turbine will readily comply with the NSPS requirements. The emergency generator is categorically exempt from air permitting requirements in accordance with Rule 62-210.300(3)(c)20, F.A.C.

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



Jeffery J. Koerner

6-7-01

Jeffery F. Koerner, P.E. (Date)
Registration Number: 49441

U.S. Postal Service

CERTIFIED MAIL RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0026 4129 8566

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

Postmark Here

Tot Mr. Danny Pribble

Reci Vice President of Operations

Stree Florida Gas Transmission Company

City, P.O. Box 1188

Houston, TX 77251

PS Form 3800, February 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

June 8, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Danny Pribble, V.P. of Operations
Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

Re: Draft Air Permit No. 0070012-004-AC
Bradford Compressor Station No. 16
Phase V Modifications

Dear Mr. Pribble:

Enclosed is one copy of the Draft Permit to add a new gas turbine compressor engine and a new emergency generator to Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford 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,

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
1400 Smith Street
Houston, TX 77002

Authorized Representative:
Mr. Danny Pribble, V.P. of Operations

Compressor Station No. 16
Draft Air Permit No. 0070012-004-AC
Phase V Modifications
Bradford 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 April 13, 2001 to the Department for a permit to construct a new gas turbine compressor engine and new emergency generator at Compressor Station No. 16. The facility is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford 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.

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 6/12/01 to the person(s) listed:

Mr. Danny Pribble, 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.

Charlotte J Hayes (Clerk) 6/12/01 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0070012-004-AC

Florida Gas Transmission Company
Bradford Compressor Station No. 16
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 construct a new gas turbine compressor engine and new emergency generator at the existing Compressor Station No. 16. The facility is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford County, Florida. The applicant's authorized representative is Mr. Danny Pribble, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The existing facility operates as a compressor station in Bradford County for Florida Gas Transmission Company's natural gas pipeline. Because potential emissions of at least one regulated pollutant exceed 250 tons per year, the existing facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C, the Prevention of Significant Deterioration (PSD) of Air Quality. Therefore, new projects are subject to a PSD applicability review. The proposed project will add one 7009 bhp gas turbine as a new compressor engine and replace the two existing emergency generators with a single 585 bhp emergency generator. The new gas turbine compressor engine will result in the following potential emissions increases: 30 tons of carbon monoxide per year; 25 tons of nitrogen oxides per year; 8 tons of sulfur dioxide per year; 2 tons of particulate matter per year; and 1 ton of volatile organic compounds per year. The project is not subject to PSD preconstruction review because the emissions increases are less than the PSD significant emissions rates. Emissions from the emergency generator are each less than 1 ton per year and this equipment is exempt from air permitting requirements.

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 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, Suite 200B
Jacksonville, FL 32256-7590
Telephone: 904/448-4300
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. 0070012-004-AC
Addition of a New Gas Turbine Compressor Engine
(Emissions Unit Nos. 003 and 004)

COUNTY

Bradford County

APPLICANT

Florida Gas Transmission Company
ARMS Facility ID No. 0070012
Existing Bradford Compressor Station No. 16

PERMITTING AUTHORITY

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

June 7, 2001

{Filename: FTG 16V TEPD.DOC}

1. GENERAL PROJECT INFORMATION

1.1 Applicant Name and Address

Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

Authorized Representative:
Danny Pribble, V.P. of Operations

1.2 Processing Schedule

04-13-01 Received the application for a minor source air pollution construction permit; complete.

1.3 Facility Description and Location

The applicant proposes to add a new gas turbine compressor engine to the existing Bradford Compressor Station No. 16 located on State Road 231 approximately 3 miles north of Brooker in Bradford County, Florida. The UTM coordinates are Zone 17, 372.0 km East, and 3310.6 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: Based on the application, the facility is a major source of hazardous air pollutants (HAP).

Title IV: Based on the Title V permit, the existing facility is not subject to the acid rain provisions of the Clean Air Act.

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

PSD: Because potential emissions are greater than 250 tons per year for at least one regulated air pollutant, the facility is a major source of air pollution in accordance with the requirements of the Prevention of Significant Deterioration (PSD) of Air Quality Program (Rule 62-212.400, F.A.C.). Projects resulting in net emissions increases greater than the Significant Emissions Rates specified in Table 62-212.400-2, F.A.C. are subject to the PSD new source preconstruction review requirements.

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 Bradford County for Florida Gas Transmission Company's natural gas pipeline. It consists of five reciprocating internal combustion engines and two small emergency generators. Three 2000 bhp engines were installed in 1958, one 2000 bhp engine was installed in 1966, one 2000 bhp engine was installed in 1968, and one 4000 bhp engine was installed in 1991. All units fire natural gas. The proposed project will add a Cooper Rolls Model 501-KC7 DLE gas turbine with a capacity of 7009 bhp as a new compressor engine. The project will also replace two existing emergency generators with a single Waukesha Model No. H24GL emergency generator with a capacity of 585 bhp. Both new units fire natural gas exclusively.

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	Preconstruction Review, PSD Requirements, and BACT Determinations
62-213	Operation Permits for Major Sources of Air Pollution
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 General PSD Applicability

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as approved by the EPA in Florida's State Implementation Plan and defined in Rule 62-212.400, F.A.C. A PSD review is required only in areas currently in attainment with the National Ambient Air Quality Standard (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant, or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories (Table 62-212.400-1, F.A.C.), or
- 5 tons per year of lead.

For new projects at PSD-major sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the Significant Emission Rates listed in Table 62-212.400-2, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants

2.4 PSD Applicability for Project

The proposed project is located in Bradford County, Florida, an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). As previously discussed, the facility is an existing PSD-major source and is subject to the new source preconstruction review requirements. The following table summarizes PSD applicability for this project based on information in the application.

Table 1A. Potential Emissions and PSD Applicability

Pollutant	Potential Emissions [a] (Tons Per Year)	Significant Emissions Rate (Tons Per Year)	Significant? Table 62-212.400-2, F.A.C.	BACT Required?
CO	30	100	No	No
NOx	25	40	No	No
PM/PM10	2/2	25/15	No	No
SO2	8	40	No	No
VOC	1	40	No	No

[a] The potential emissions listed are for the new gas turbine compressor engine only. The replacement of two "exempt" emergency generators with a single "exempt" emergency generator is not considered in the PSD applicability determination for this project.

As shown in the above table, potential emissions from the proposed project will not exceed the PSD significant emissions rates. Therefore, the project is not subject to PSD preconstruction review. In addition, the applicant estimates total emissions of hazardous air pollutants (HAP) will be less than 2 tons per year. This is much less than the HAP thresholds that would trigger a case-by case- MACT determination.

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 (SO2) 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 SO2, 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 ≤ 190 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 project remains minor with respect to PSD applicability.

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	6.9	30.2	Avoid Rule 62-212.400, F.A.C.
NOx [b]	25.0	ppmvd @ 15% O2	5.6	24.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO_2 [c]	10.0	grains of sulfur per 100 SCF of natural gas	1.7	7.5	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.333
Opacity [d]	10% opacity, 6-minute average		Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM [e]	Good combustion practices		0.4	1.8	Avoid Rule 62-212.400, F.A.C.
VOC [e]	Good combustion practices		0.2	0.9	Avoid Rule 62-212.400, F.A.C.

a. The CO standards are based on 3-hour test averages as determined by EPA Method 10.

b. The NOx standards are based 3-hour test averages as determined EPA Method 20.

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

d. The opacity standard is based on a 6-minute 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 an indicator of good combustion practices in accordance with Rule 62-212.400 (BACT), F.A.C., which this project seeks to avoid.

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.

h. The emissions standards of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, 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.

5. 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
1400 Smith Street
Houston, TX 77002

Authorized Representative:
Danny Pribble, V.P. of Operations

Bradford Compressor Station No. 16
Air Permit No. 0070012-004-AC
Facility ID No. 0070012
SIC No. 4922
Permit Expires: June 1, 2002

PROJECT AND LOCATION

This permit authorizes the construction of a new 7009 bhp gas turbine compressor engine and a new 585 bhp emergency generator. The new equipment will be installed at Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford County, Florida. The UTM coordinates are Zone 17, 372.0 km East, and 3310.6 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 Bradford County for Florida Gas Transmission Company's natural gas pipeline. The new project will add one 7009 bhp gas turbine as a new compressor engine and replace the two existing emergency generators with a single 585 bhp emergency generator. After the project is complete, the facility will consist of the following emissions units.

ID	Emission Unit Description
001	**FGT Unit Nos. 1601 to 1605**: Five 2000 bhp natural gas-fired reciprocating internal combustion engines (Worthington Model No. SEHG-8) were installed as compressor engines in 1958 (three), 1966 (one) and 1968 (one).
002	**FGT Unit Nos. 1606**: One 4000 bhp natural gas-fired reciprocating internal combustion engine (Cooper Bessemer Model No. 8W-330-C2) was installed as a compressor engine in 1991, subject to PSD review.
003	**FGT Unit Nos. 1607**: A new 7009 bhp natural gas-fired gas turbine will be installed as a compressor engine (Cooper-Rolls Model 501-KC7-DLE) subject to the conditions of this permit.
004	**Unregulated Emissions Units**: A new 585 bhp natural gas-fired emergency generator (GEN-03, Waukesha Model H24GL); lube oil storage tanks; used oil storage tanks; one air compressor (Air Compressor No. 1); and miscellaneous fugitive emission leaks from valves, flanges, etc.

REGULATORY CLASSIFICATION

Title III: The existing facility is identified as a potential major source of hazardous air pollutants (HAP). Total potential HAP emissions from this project are estimated to be less than 2 tons per year.

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

Title V: Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

PSD: The project is located in an area designated as "attainment" or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. Potential emissions of at least one regulated pollutant exceed 250 tons per year. Therefore, the facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C, the Prevention of Significant Deterioration (PSD) of Air Quality. Because potential emissions from this project do not exceed the PSD Significant Emissions Rates (Table 62-212.400-2), the project is not subject to the PSD preconstruction review requirements.

NSPS: The new gas turbine is subject to the New Source Performance Standards of 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 04/13/01, complete.
- Draft permit package issued on Draft, including comments received.

1. Permitting Authority: All documents related to applications for permits to construct or modify an emissions unit shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/488-4300.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590 and phone number 904/488-4300.

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. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's Bureau of Air Regulation, and copies to each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

June 8, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Danny Pribble, V.P. of Operations
Florida Gas Transmission Company
1400 Smith Street
Houston, TX 77002

Re: Draft Air Permit No. 0070012-004-AC
Bradford Compressor Station No. 16 - Proof of Publication
Phase V Modifications

Dear Mr. Pribble:

Enclosed is one copy of the Draft Permit to add a new gas turbine compressor engine and a new emergency generator to Compressor Station No. 16, which is located approximately 3 miles north of the city of Brooker on Highway 231 in Bradford 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,

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

CHF/AAl/jfk

Enclosures

Post-it® Fax Note 7671	Date 7/5/01	# of pages ▶
To Heather Kissick	From Naomi Blake	
Co./Dept.	Co.	
Phone #	Phone # 374-5017	
Fax # 813-655-3951	Fax # 338-3131	

20409

NO_____

RECEIVED

JUL 06 2001

BUREAU OF AIR REGULATION

THE GAINESVILLE SUN
Published Daily and Sunday
GAINESVILLE, FLORIDA

STATE OF FLORIDA
COUNTY OF ALACHUA

Before the undersigned authority appeared Naomi Williams-Jordan

Classified Assistant Manager

Who on oath says that he/she is of THE GAINESVILLE SUN, a daily newspaper published at Gainesville in Alachua County, Florida, that the attached copy of advertisement, being a Public Notice of Intent to Issue PSD Air Construction Permit

Draft No. 0070012-004-AC

in the matter of

in the Court, was published in said newspaper in the issue of June 30

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

5 day of July A.D., 2001

Sharon K. Williams

(seal) Notary Public

Naomi Williams-Jordan

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

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0750012-006-AC

Florida Gas Transmission Company Bradford Compressor Station No. 16 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 construct a new gas turbine compressor engine and new emergency generator at the existing compressor Station No. 16. The facility is located approximately 3 miles north of the City of Brooker on highway 301 in Bradford County, Florida. The applicant's authorized representative is Mr. Danny Pribble, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The existing facility operates as a compressor station in Bradford County for Florida Gas Transmission Company's natural gas pipeline. Because potential emissions of at least one regulated pollutant exceed 250 tons per year, the existing facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. Therefore, new projects are subject to a PSD applicability review. The proposed project will add one 7905 bhp gas turbine as a new compressor engine and replace the two existing emergency generators with a single 605 bhp emergency generator. The new gas turbine compressor engine will result in the following potential emissions increases: 30 tons of carbon monoxide per year; 53 tons of nitrogen oxides per year; 3 tons of sulfur dioxide per year; 2 tons of particulate matter per year; and 1 ton of volatile organic compounds per year. The project is not subject to PSD preconstruction review because the emissions increases are less than the PSD significant emissions rates. Emissions from the emergency generator are each less than 1 ton per year and this equipment is exempt from air permitting requirements.

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, MS #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

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

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

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

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

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

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

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, Suite 200B
Jacksonville, FL 32256-7590
Telephone: 904/448-4300
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 permitting engineer for this project for additional information at the address and phone numbers listed above.

(07/04/01 0/30

U.S. Postal Service

CERTIFIED MAIL RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0026 4129 8566

Postage	$
Certified Fee	
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Restricted Delivery Fee (Endorsement Required)	
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Postmark Here

Reci Mr. Danny Pribble
Vice President of Operations
Stree Florida Gas Transmission Company
P.O. Box 1188
City, Houston, TX 77251

PS Form 3800, February 2000 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Mr. Danny Pribble
Vice President of Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

COMPLETE THIS SECTION ON DELIVERY

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

JUN 23 2001

C. Signature

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Mr. Danny Pribble
Vice President of Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251

See Reverse for Instructions

RECEIVED

JUL 12 2001 NO 20409

AU OF AIR REGULATION

THE GAINESVILLE SUN
Published Daily and Sunday
GAINESVILLE, FLORIDA

STATE OF FLORIDA
COUNTY OF ALACHUA

Before the undersigned authority appeared Naomi Williams-Jordan
Classified Assistant Manager

Who on oath says that he/she is of THE GAINESVILLE SUN, a daily newspaper published at Gainesville in Alachua County, Florida, that the attached copy of advertisement, being a Public Notice of Intent to Issue PSD Air Construction Permit
Draft No. 0070012-004-AC
in the matter of

in the Court, was published in said newspaper in the issue of June 30
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

5 day of July A.D.,2001

Naomi Williams-Jordan

Sharon K. Williams

(seal) Notary Public

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

cc: J. Kollner
NED

5 Legal Notice

PUBLIC NOTICE OF INTENT TO ISSUE PSD AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0070012-004-AC

Florida Gas Transmission Company
Bradford Compressor Station No. 16
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 construct a new gas turbine compressor engine and new emergency generator at the existing Compressor Station No. 16. The facility is located approximately 3 miles north of the City of Brooker on Highway 231 in Bradford County, Florida. The applicant's authorized representative is Mr. Danny Pribble, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The existing facility operates as a compressor station in Bradford County for Florida Gas Transmission Company's natural gas pipeline. Because potential emissions of at least one regulated pollutant exceed 250 tons per year, the existing facility is classified as a major source of air pollution with respect to Rule 62-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. Therefore, new projects are subject to a PSD applicability review. The proposed project will add one 7009 bhp gas turbine as a new compressor engine and replace the two existing emergency generators with a single 585 bhp emergency generator. The new gas turbine compressor engine will result in the following potential emissions increases: 30 tons of carbon monoxide per year; 25 tons of nitrogen oxides per year; 8 tons of sulfur dioxide per year; 2 tons of particulate matter per year; and 1 ton of volatile organic compounds per year. The project is not subject to PSD preconstruction review because the emissions increases are less than the PSD significant emissions rates. Emissions from the emergency generator are each less than 1 ton per year and this equipment is exempt from air permitting requirements.

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 person other than those entitled to written notice under Section 120.60(3), F.S. must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), F.S., however any person who asked the Department for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

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

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

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

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

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, Suite 200B
Jacksonville, FL 32256-7590
Telephone: 904/448-4300
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

FACILITY ID: 0070012 ~~200~~

PROJECT #: ~~0~~ N/A

PERMIT TYPE: AC

PSD-FL- N/A

PATS #: ~~#0003~~

DOCUMENT TYPE(S)/DATE:

___ Application/ ~~10-31~~ 03

✓ Correspondence/ 10-31-03

___ Intent/_____

___ Permit/_____

___ OGC/_____

___ Amendment/_____

Comments:

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1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

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C. Signature X [signature] ☐ Agent ☐ Addressee

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

PS Form 3800, May 2000 See Reverse for Instructions

Memorandum

Florida Department of Environmental Protection

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

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

FROM: Jeff Koerner, New Source Review Section

DATE: October 31, 2003

SUBJECT: Exemption from Requirement to Obtain an Air Construction Permit
Florida Gas Transmission Company, Bradford Compressor Station No. 16
Replacement of Gas Generator Component of Engine No. 1607
Title V Air Operation Permit No. 0070012-006-AV

Attached for your approval and signature is a letter that exempts the Florida Gas Transmission Company (FGTC) from the requirement to obtain an air construction permit to replace the existing gas generator component of Engine 1607. The replacement component will be functionally equivalent and of the same make and model. The design emissions profile will be identical and, after completing the replacement, FGTC will test Engine 1607 to demonstrate that the repaired unit complies with the permitted emissions standards. I recommend your approval and signature. "Day 90" to act on this request is February 8, 2004.

Attachments

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

October 31, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard Craig, Vice President of Southeastern Operations
Florida Gas Transmission Company
P.O. Box 1188
Houston, TX 77251-1188

Re: Exemption from the Requirement to Obtain an Air Construction Permit
Florida Gas Transmission Company, Bradford Compressor Station No. 16
Replacement of Gas Generator Component of Engine No. 1607
Title V Air Operation Permit No. 0070012-006-AV

Dear Mr. Craig:

On October 28, 2003, Florida Gas Transmission Company submitted a request for an exemption from the requirement to obtain an air construction permit pursuant to Rule 62.4.040(1)(b), F.A.C. to replace the gas generator portion of existing Engine No. 1607. This emissions unit is a nominal 7000 bhp gas turbine compressor engine that is located at existing Station No. 16 in Bradford County approximately 3 miles north of the city of Brooker on Highway 231. For the reasons stated in the attached Technical Evaluation, the Department approves the request and exempts the proposed replacement activity from the requirement to obtain an air construction permit. This determination may be revoked if the proposed activity is substantially modified or the basis for the exemption is determined to be materially incorrect. After completion of the replacement, the Department requires that Engine 1607 be tested to demonstrate compliance with the emission standards specified in Title V Air Operation Permit No. 0070012-006-AV. Florida Gas Transmission Company shall maintain a copy of this letter at Station 16. This permitting decision is made pursuant to Chapter 403, Florida Statutes.

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 21 days of receipt of this notice of intent. 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.

Mediation is not available in this proceeding.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this action will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68, F.S., 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.

Michael G. Cooke, Director
Division of Air Resources Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this order was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 11/3/03 to the persons listed:

Mr. Richard Craig, FGTC*
Mr. Jacob Krautsch, FGTC
Mr. V. Duane Pierce, AQMcs
Mr. Chris Kirts, NED

Clerk Stamp

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

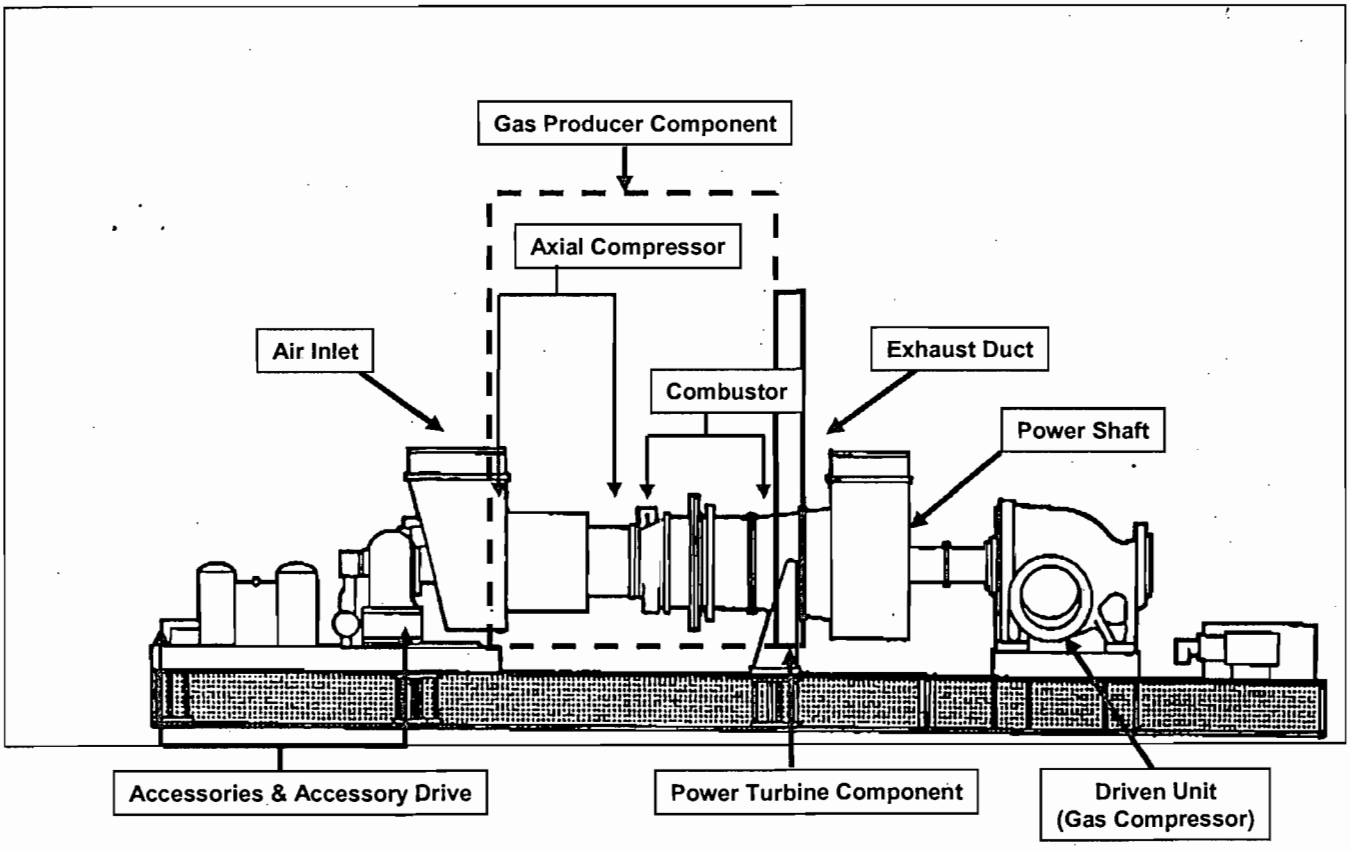
Victoria Gibson (Clerk) November 3, 2003 (Date)

Applicant Request

Pursuant to Rule 62.4.040(1)(b), F.A.C., Florida Gas Transmission Company (FGTC) requests an exemption from the requirement to obtain an air construction permit to replace the gas generator portion of existing Engine No. 1607. Due to ongoing problems with this particular unit, FGTC returned the gas generator to the manufacturer for repair. It is FGTC's intent to have the original component repaired and returned to Engine 1607. However, due to the shutdown of Engine 1607, there is a loss of natural gas throughput in the pipeline of approximately 150 million standard cubic feet per day. This seriously affects the efficiency and reliability of FGTC's natural gas pipeline in delivering energy resources to consumers, commercial facilities, and electric generating plants. Severe warm or cold weather would further strain the system. For this reason, FGTC requests the Department to grant an exemption for a functionally equivalent replacement component that will be of the same make and model. The design emissions profile will be identical and, after completing the replacement, FGTC will test Engine 1607 to demonstrate that the repaired unit complies with the permitted emissions standards.

Department Review

Florida Gas Transmission Company (FGTC) operates existing Compressor Station 16 in Bradford County approximately 3 miles north of the city of Brooker on Highway 231. Station 16 currently consists of five 2000 bhp natural gas-fired reciprocating internal combustion compressor engines (EU-001), one 4000 bhp natural gas-fired reciprocating internal combustion compressor engine (EU-002), a new 7009 bhp natural gas-fired gas turbine compressor engine (EU-003), and several miscellaneous unregulated activities (EU-004). Permit No. 0070012-004-AC authorized the construction of Engine 1607, the 7009 bhp gas turbine (EU-003), which consists of the following components: gas generator, accessory drive system, air inlet and filtration system, fuel delivery system, cooling system, lubrication system, power turbine, power shaft, control system, starting system, and exhaust system with stack. See figure below.



Engine 1607 is one of the new model gas turbines, a Cooper-Rolls Model 501-KC7-DLE. These units have experienced some initial startup problems including blower bearing failures, high vibrations, and compressor bleed valve malfunctions. The gas generator has previously been replaced under the initial air construction permit. However, construction of Engine 1607 is complete and the authority to construct has expired. The unit is now included under current Title V air operation

Permit No. 0070012-006-AV, which specifies standards for CO and NOx emissions. The following table shows actual emissions based on tests conducted to date.

Table 1. Actual CO and NOx Emissions, Engine 1607

Test Date	CO Emissions, ppmvd @ 15% O2		NOx Emissions, ppmvd @ 15% O2	
	Highest Tested	Allowable	Highest Tested	Allowable
04/18/02	4.0	50.0	15.9	25.0
03/06/03	3.0	50.0	11.1	25.0
05/02/03	4.0	50.0	11.6	25.0

As shown in the above table, CO emissions have been less than 10% of the permit standard and NOx emissions have been almost half of the permit standard. Note that the additional test in 2003 was conducted after a repaired component. The following information is also taken into consideration in making this determination.

- Engine 1607 may not have established normal operations because construction was complete in 2002 and it has operated for less than two years.
- There are no PSD implications to this replacement. The original project was not subject to PSD preconstruction review. In addition, the total potential emissions from Engine 1607 (and the original construction permit project) for each pollutants are below the PSD significant emission rates. The replacement will not result in increased utilization or annual emissions.
- The unit is subject to the NSPS Subpart GG standards for gas turbines. The replacement of the gas generator with a functionally equivalent component of the same make and model is not a modification with respect to the NSPS because hourly emissions will not increase. Such replacements are discussed by EPA in the background document for the Subpart GG regulations. See EPA document No. EPA-450/2-77-017. Also, the replacement is not "reconstruction" as defined in the NSPS because the replacement cost is well below 50% of the fixed capital cost that would be required to construct a comparable new emissions unit.
- Although the gas generator is a substantial portion of the installed gas turbine compressor engine, it is designed for periodic removal for maintenance of turbine blades, turbine nozzles, turbine buckets, fuel nozzles, combustion chambers, seals, and shaft packings. For small gas turbines, these types of repairs are difficult to perform in the field. The replacement of components from a pool of functionally equivalent equipment is common practice in the gas transmission industry, which generally uses small gas turbines in compressor applications.

Conclusion

Rule 62-4.040(1)(b), F.A.C. allows the Department to exempt from permit requirements the following:

> "Any existing or proposed installation which the Department shall determine does not or will not cause the issuance of air or water contaminants in sufficient quantity, with respect to its character, quality or content, and the circumstances surrounding its location, use and operation, as to contribute significantly to the pollution problems within the State, so that the regulation thereof is not reasonably justified. Such a determination is agency action and is subject to Chapter 120, F.S. Such determination shall be made in writing and filed by the Department as a public record. Such determination may be revoked if the installation is substantially modified or the basis for the exemption is determined to be materially incorrect."

Based on the available information, the Department believes that the replacement of the gas generator in Compressor Engine 1607 with a functionally equivalent component of the same make and model will not result in increased air emissions. The replacement activity will not cause air emissions in sufficient quantity to contribute significantly to the pollution problems within the State. Therefore, the replacement is exempt from the requirement to obtain an air permit. This determination is strictly limited to this specific case and should not be used as a precedent for other cases, or lead to unintended consequences construed from the language contained in this letter. Ultimately, it is the Department that interprets its own regulations and opinions.

Florida Gas Transmission Company

P.O. Box 1188, Houston, TX 77251-1188, (713) 853-6161

October 27, 2003 Hand Delivered

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

Reference: Florida Gas Transmission Company, Brooker Compressor Station 16
Facility No. 0070012

Dear Mr. Linero:

Subject: Exemption Request for a Gas Generator Replacement Under 62-4.040

Florida Gas Transmission Company (FGT) is requesting that the Florida Department of Environmental Protection Agency (FDEP) allows the installation of a gas generator replacement at the above referenced facility per Rule 62-4.040. The gas generator installed at the facility has been sent to the manufacturer for repair after a recent failure. The throughput loss from this turbine is 150 MMscf/day, which adversely effects the efficiency and reliability of FGT's natural gas pipeline in delivering energy resources to consumers, commercial facilities and electric generating plants.

The gas generator will be of the same make and model and no source specific emission limits will be violated. In addition, the replacement unit will be tested to confirm that no specific emission limit is violated.

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

Sincerely,

Richard Craig
Vice President Southeast Operations

CC: Tallahassee Files
Station 16
Envision Env. 1.2.20

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
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1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) B. Date of Delivery 11/7/3

C. Signature
X
☐ Agent
☐ Addressee

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

NOV 07 2003

3. Service Type
☒ Certified Mail ☐ Express Mail
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☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

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

U.S. Postal Service
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	**$**

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

PS Form 3800, May 2000 See Reverse for Instructions

Florida Gas Transmission Company

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

April 11, 2001

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: 0070012
Compressor Station No. 16, Brooker, Bradford County

Dear Mr. Fancy:

Subject: Application for Air Construction Permit

Florida Gas Transmission Company (FGT) is proposing to install a new Cooper-Rolls 501-KC7 compressor turbine at the above referenced facility. The facility is a major source under New Source Review definitions; however, the proposed modifications do not result in emissions that are significant under Prevention of Significant Deterioration requirements. Therefore, a state only construction permit is required.

Enclosed is an Application for an Air Construction Permit for the proposed modifications. FGT understands that no processing fee is required since this facility is operated under a Part 70 Permit.

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

Sincerely,

Jim Thompson
Project Manager, Environmental

CC: James Alexander, Phase V w/o attachments
Jim Thompson, Phase V
Clay Roesler, FGT
V. Duane Pierce, Ph.D., AQMcs, LLC
Brad Barnett , Compressor Station No. 16

Florida Gas Transmission Company

Phase V Expansion Project

Compressor Station No. 16

APPLICATION
For
AIR CONSTRUCTION
PERMIT

March 2001

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 expand its existing natural gas pipeline facility near Brooker in Bradford County, Florida (Compressor Station No. 16). 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 two new compressor stations 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. 16 is located in Bradford County, Florida, approximately 3 miles north of Brooker on Highway 231. Figure 1-1 shows the location of the existing compressor station.

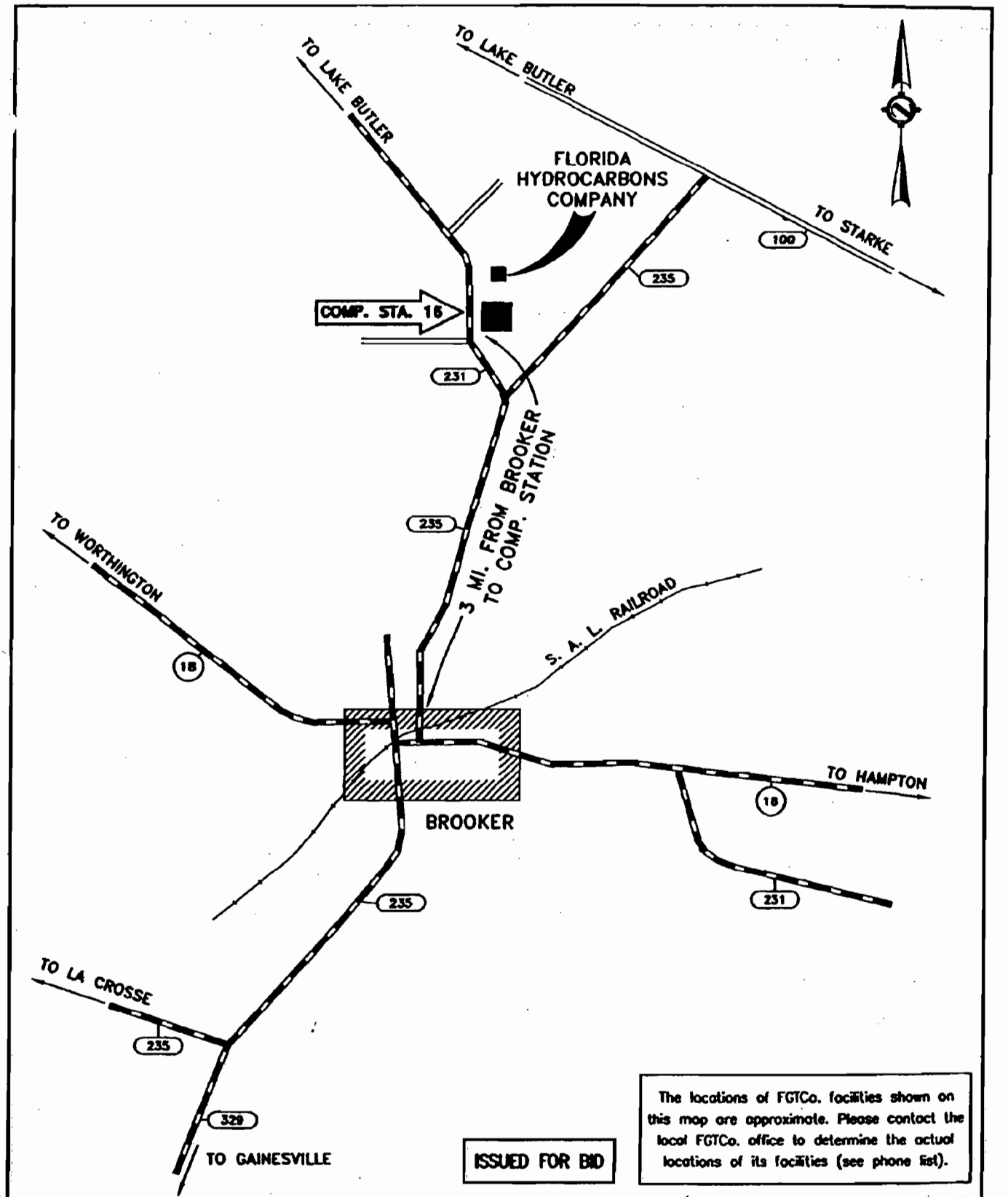
The proposed expansion at this location consists of the addition of one 7,009 brake horsepower (bhp), natural-gas-fired, turbine compressor engine and the replacement of two existing gas-fired emergency generators with a single 585 bhp natural gas fired emergency generator. The proposed compressor engine will be used solely for transporting natural gas by pipeline for distribution to markets in Florida. The proposed new engine is a Cooper-Rolls 501-KC7 DLE equipped with dry low NO_X (oxides of nitrogen) combustion. Under current federal and state air quality regulations, the proposed modification will constitute a minor modification of an existing major source. Based on the projected annual emission rates, there will be no PSD (Prevention of Significant Deterioration) 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 narrative contains three additional sections. Descriptions of the existing operation at FGT's Compressor Station No.16 and the proposed 7,009 bhp engine addition and the emergency generator replacement are presented in Section 2.0. The air quality review requirements and applicability of state and federal regulations are discussed in Section 3.0.

References are included in Section 4.0.

FDEP permit application forms are presented in Attachment A. Attachment B contains a plot plan of the facility. Attachment C contains vendor information and Attachment D contains emission calculations.



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).

ISSUED FOR BID

NO.	BY	DATE	CHK'D	APP'D
A	TG	10/27/99		

PLOT DATE: 04/26/2000 — 08:04
FILE NAME: 465STA16.DWG

P.I./STA.
ACCT. NO.

CONSTRUCTION YR 2000	BY	DATE
DESIGN		
DRAWN	GDS	10/11/99
ASSEMBLY		
FILE NO.		
SCALE	NONE	

Enron Engineering & Construction Co.
Florida Gas Transmission Co.
Houston, Texas

COMPRESSOR STATION NO. 16
FGT PHASE V EXPANSION
VICINITY MAP

BRADFORD COUNTY, FLORIDA .

S99941

STA. 16

SHEET 1 OF 1 | REV. NO. A

2.0 PROJECT DESCRIPTION

A plot plan of FGT's Compressor Station No. 16, showing the location of the plant boundaries, the existing emission sources, and the location of the proposed engine addition, is presented in Attachment B. The following sections provide a description of the existing operations at this location, as well as a description of the proposed project.

2.1 Existing Operations

FGT's existing Compressor Station No. 16 consists of five 2,000 bhp and one 4,000 bhp natural-gas-fired reciprocating internal combustion (IC) engines. Table 2-1 summarizes engine manufacturer, model, and the date of installation for each of the existing engines. The original installation was made in 1958 (Compressor Engines 1601 through 1603). Other engines were added in 1966 and 1968 (Compressor Engines 1604 and 1605). These engines were installed before the CAA Amendments of 1977. An addition referred to as Phase II was constructed in 1991 (Compressor Engine 1606) and was subject to PSD review. These existing engines are not being modified as part of this expansion project.

The existing facility also has supporting equipment including lube and used oil storage tanks, air compressors and emergency generators.

2.2 Proposed Compressor Station Addition

FGT proposes to increase the horsepower capacity of Compressor Station No. 16, as part of the Phase V Expansion Project. This will involve adding one new gas-fired turbine (Compressor Engine 1607). The proposed new 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 engine, 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 New Compressor Engine Addition

FGT proposes to install one natural gas-fired turbine engine compressor unit and associated support equipment at Compressor Station No. 16. The turbine engine will be a Cooper-Rolls 501-KC7 DLE engine compressor unit rated at 7,009 bhp ISO. Fuel will be exclusively natural gas from the FGT's natural gas pipeline. Engine specifications and stack parameters for the proposed engine are presented in Table 2-2.

Table 2-1 Summary of Existing Compressor Engines

Engine #	Date of Installation	Type	Manufacturer	Model #	Brake Horse Power (bhp)
1601	1958	Reciprocating	Worthington	SEHG-8	2000
1602	1958	Reciprocating	Worthington	SEHG-8	2000
1603	1958	Reciprocating	Worthington	SEHG-8	2000
1604	1966	Reciprocating	Worthington	SEHG-8	2000
1605	1968	Reciprocating	Worthington	SEHG-8	2000
1606	1991	Reciprocating	Cooper - Bessemer	8W-330-C2	4000

Table 2-2 Proposed Compressor Engine 1607 Specifications and Stack Parameters

Parameter	Design
Compressor Engine	1607
Type	Gas Turbine
Manufacturer	Cooper-Rolls
Model	501-KC7 DLE
Unit Size	7,009 bhp
Specific Heat Input	8,054 Btu/hp-hr
Maximum Fuel Consumption [a]	0.0597 MMscf/hr
Speed	13,600 rpm
Stack Parameters	
Stack Height	61.17 ft
Stack Diameter	6.0 ft
Exhaust Gas Flow	96,903 acfm
Exhaust Temperature	965 °F
Exhaust Gas Velocity	40.04 ft/sec

NOTE:

acfm	=	actual cubic feet per minute.
bhp	=	brake horsepower.
Btu/bhp-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 provided heat input value plus 10% and a 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 2-3. Emissions of oxides of nitrogen (NO_X, carbon monoxide (CO) and non-methane hydrocarbons (NMHC) are based on the engine manufacturer's supplied data (See Attachment C).

Typically, turbine vendors do not provide information on particulate matter (PM) or sulfur dioxide (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.

2.2.2 Support Equipment Additions and Changes

In addition to the compressor engines, some support equipment will be installed at the site. They include:

- A new compressor building
- A new control building
- One new, emergency generator to replace two existing gas-fired generators.

The location of new on-site structures is shown on the facility plot plan contained in Attachment B. The new compressor building, housing the turbine, has approximate dimensions of 40 feet wide by 60 feet long by 30 feet high. The new control building will be located south of the new compressor building. The approximate dimensions of the control building will be 11 feet wide by 40 feet long by 12 feet high. Due to the size of this building and its distance from the new exhaust stack, it will not influence dispersion of compressor engine emissions.

The new generator will be powered by a natural gas fueled, lean burn Waukesha Model H24GL rated at 440 kW (585 bhp). Engine specifications and stack parameters for the proposed engine are presented in Table 2-4 and emissions are presented in Table 2-5.

2.2.3 Fugitive Emissions

Potential new emissions from Compressor Station No. 16 also include fugitive emissions from the new valves and flanges that will be in gas service. These fugitive emissions have been estimated using USEPA factors for components in gas service at oil and gas facilities (EPA

Table 2-3 Emissions from FGT's Proposed Turbine Engine No. 1607

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	5.60 lb/hr	Manufacturer Data	5.60	24.5
Carbon Monoxide	6.86 lb/hr	Manufacturer Data	6.86	30.1
Volatile Organic Compounds (non methane)	0.196 lb/hr	Manufacturer Data	0.20	0.9
Particulate Matter	0.0066 lb/MMBtu	AP-42, Table 3.1-2a	0.41	1.8
Sulfur Dioxide	10 grains/100 scf	FERC Limit	1.71	7.5
HAPs	Various see Attachment D	GRI HapCalc 3.0	0.34	1.5

Table 2-4 Proposed Emergency Generator Engine Specifications and Stack Parameters

Parameter	Design
Compressor Engine	Gen 03
Type	Natural Gas, Lean Burn Reciprocating
Manufacturer	Waukesha
Model	H24GL
Unit Size	585 bhp
Heat Input	4.11 MM Btu/hr
Fuel Consumption [a]	0.00395 MMscf/h
Speed	1800 rpm
Stack Parameters	
Stack Height	20 ft
Stack Diameter	0.67 ft
Exhaust Gas Flow	5,300 lb/hr
Exhaust Gas Flow	2,911 acfm
Exhaust Temperature	842 °F
Exhaust Gas Velocity	138.85 ft/sec

NOTE:

acfm	=	actual cubic feel per minute.
bhp	=	brake horsepower.
Btu/hr	=	British thermal units per hour.
°F	=	degrees Fahrenheit.
ft	=	feet.
ft/sec	=	feet per second.
Lb/hr	=	pound per hour
rpm	=	revolutions per minute.

[a] Based on heating value for natural gas of 1040 British thermal units per standard cubic foot (Btu/scf).

Table 2-5 Emissions from FGT's Proposed Generator Engine

Pollutant	Emission Factor	Reference	lb/hr	TPY
Nitrogen Oxides	2.1 g/hp-hr	Manufacturer Data	2.71	0.68
Carbon Monoxide	1.4 g/hp-hr	Manufacturer Data	1.81	0.45
Volatile Organic Compounds (non methane)	0.24 g/hp-hr	Manufacturer Data	0.31	0.08
Particulate Matter	0.00999 lb/MMBtu	AP-42, Table 3.2-2	0.04	0.01
Sulfur Dioxide	10 grains/100 scf	FERC Limit	0.11	0.03

* based on 500 hours of operation per year

publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"). Table 2-6 lists the quantities of existing and new components to be added as part of the Phase V Expansion Project and an estimate of the fugitive emissions from these sources.

2.2.4 Emissions Summary

The total changes in emissions resulting from the project are listed on Table 2-7. 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 2-6 VOC Fugitive Emission Calculations and Summary

Component	Service	Component Count	Emissions Factor (ton/yr)	NM/NE Fraction	Emissions (ton/yr)
Valves	Gas	249	0.0434606	0.05	0.54
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	189	0.0037666	0.05	0.04
Open-Ended Line	Gas	74	0.0193158	0.05	0.07
Pumps	Gas	1	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	16	0.0241448	1.00	0.39
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light Oil	38	0.0010624	1.00	0.04
Open-Ended Line	Light Oil	2	0.0135211	1.00	0.03
Pumps	Light Oil	1	0.1255527	1.00	0.13
Other	Light Oil	0	0.0724343	1.00	0.00
Valves	Heavy Oil	6	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	14	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	2	0.0013521	1.00	0.00
Other	Heavy Oil	0	0.0002994	1.00	0.00
				TOTAL:	**1.23**

* 'EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"

Table 2-7 Potential Annual Emissions (tpy) Summary

SOURCE ID	DESCRIPTION	NO_x	CO	VOC[a]	SO_2	PM
	EXISTING FACILITY					
1601	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1602	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1603	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1604	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1605	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1606	4000 bhp Recip. Engine	77.3	96.6	38.6	3.8	0.7
GEN01	200 bhp Recip. Engine	2.3	0.2	0.1	0.0	0.0
GEN02	220 bhp Recip. Engine	2.7	0.2	0.1	0.0	0.0
Air Comp. No. 1	80 bhp Recip. Engine	0.6	0.2	0.0	0.0	0.0
	OTHER SOURCES: [b]	0.0	0.0	1.5	0.0	0.0
EXISTING ANNUAL POTENTIALTOTALS:		**1221.9**	**251.7**	**109.8**	**12.8**	**2.2**
	PROPOSED MODIFIED FACILITY					
1601	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1602	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1603	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1604	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1605	2000 bhp Recip. Engine	227.8	30.9	13.9	1.8	0.3
1606	4000 bhp Recip. Engine	77.3	96.6	38.6	3.8	0.7
1607	7,009 bhp Turbine Engine –new	24.5	30.1	0.9	7.5	1.8
GEN03	585 bhp Recip. Engine – new	0.7	0.5	0.1	0.0	0.0
Air Comp. No. 1	80 bhp Recip. Engine	0.6	0.2	0.0	0.0	0.0
	OTHER SOURCES: [b]	0.0	0.0	2.7	0.0	0.0
PROPOSED ANNUAL POTENTIAL TOTALS:		**1242.1**	**281.9**	**111.8**	**20.3**	**4**
NET CHANGES IN POTENTIAL EMISSIONS:		**20.2**	**30.2**	**2**	**7.5**	**1.8**

(a) VOC = Non-methane/non-ethane HC
(b) Other Sources Includes ancillary equipment, storage tanks and equipment leaks
(c) Based on test data for a similar unit

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. 16.

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 operations and proposed modifications at Compressor Station No. 16.

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). The federally promulgated standards and additional state standards are presented on Table 3-1.

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. Bradford County in designated as 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 National and State Ambient Air Quality Standards ($\mu g/m^3$)

POLLUTANT	AVERAGING PERIOD	EPA STANDARDS		FLORIDA STANDARDS
		PRIMARY	SECONDARY	
PM_{10}	24-hour[1]	150	150	150
	annual[2]	50	50	50
SO_2	3-hour[1]	---	1,300	1,300
	24-hour[1]	365	---	260
	Annual[2]	80	---	60
CO	1-hour[1]	---	40,000	40,000
	8-hour[1]	10,000	---	10,000
NO_2	Annaul[2]	100	100	100
O_3	1-hour[3]	235	235	235

1) Not to be exceeded more than once per year.
2) Never to be exceeded.
3) Not to be exceeded on more than 3 days over 3 years.

Sources: 40 CFR 50; 36FR22384; Chap. 17-2.300.

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. Bradford 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 3-3.

By these definitions, and based on the emissions presented in Section 2.0, the action proposed for Compressor Station No. 16 is a minor modification of an existing major stationary source. Since Compressor Station No. 16 is not one of the 28 named source categories, but does emit >250 TPY of at least one regulated pollutant, it is considered a major source. The increase in emissions resulting from the proposed action will not exceed the PSD significant rate; therefore, Compressor Station No. 16 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
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. 16 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 to be installed at Compressor Station No. 16 is subject to Subpart GG, Standards of Performance for Stationary Gas Turbines, because it will have a maximum heat input at peak load of >10.7 gigajoules/hour (10 MMBtu/hr) based on the lower heating value of the natural gas fuel. This regulation establishes emission limits for NO_X and SO_2 and requires performance testing and daily monitoring of fuel nitrogen and sulfur. The applicable emission standards are provided in Table 3-4.

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

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

STD = Allowable NO_x emissions

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

F = NO_x emission allowance

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

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

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

= 8,054 Btu/bhp-hr x 1.055 Kj/Btu x hp-hr/745.7 watt-hour

= 11.4 Kj/watt-hr

STD = 0.0150 (14.4/11.4) + 0

= 0.0190 %

= 190 ppm_v

Table 3-8 summarizes the NSPS applicability for the proposed gas engines.
2
The turbine at this facility will meet the NSPS for NO_X of 190 ppmv (i.e., manufacturer's estimation of 25 ppmv), and for SO_2 of 150 ppmv (estimated for this turbine to be 4 ppmv).

3.1.2.6 Good Engineering Practice (GEP) Stack Height Analysis

The 1977 CAA Amendments require that the emission limitation required for control of any pollutant not be affected by a stack that exceeds GEP height. Further, no dispersion credit is given during air quality modeling for stacks that exceed GEP. GEP stack height is defined as the highest of:

- 65 meters; or
- a height established by applying the formula

  HGEP = H + 1.5 L

  Where:

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. 1607 Gas Turbine	Gas	NO_2	>10 MM Btu/hr	56.45 MMBtu/hr	190 ppm_v	25 ppm_v
GG	60.333(a)	Engine No. 1607 Gas Turbine	Gas	SO_2	>10 MM Btu/hr	56.45 MMBtu/hr	150 ppm_v	4 ppm_v

Design maximum based on vendor data.

HGEP = GEP Stack Height,
H = Height of the structure or nearby structure, and
L = Lesser dimension (height or projected width) of the nearby structure; or

- a height demonstrated by fluid modeling or field study.

A structure or terrain feature is considered nearby if a stack is within a distance of five times the structure's height or maximum projected width. Only the smaller value of the height or projected width is used and the distance to the structure cannot be greater than 0.8 kilometers. Although GEP stack height regulations require that the stack height used in modeling for determining compliance with National AAQS and PSD increments not exceed GEP stack height, the actual stack height may be greater.

The stack height regulations also increase GEP stack height beyond that resulting from the formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or modeled to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula. Because terrain in the vicinity of the project site is generally flat, plume impaction was not considered in determining the GEP stack height.

The proposed stack at Compressor Station No. 16 will be 61.17 feet (18.64 meters) tall. Based on the proposed building dimensions, the calculated GEP stack height is less than 65 meters; therefore, GEP stack height is 65 meters. Since the stack is less than GEP stack height, it complies with the regulatory requirement.

3.2 Florida State Air Quality Regulations

Compressor Station No. 16 is currently operating under Permit No. 0070012-002-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. 16 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 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.

4.0 REFERENCES

Gas Research institute, 1999. GRI-HAPCalc Software Version 3.0, Radian International, LLC.

U.S. Environmental Protection Agency (USEPA). 1980. PSD Workshop Manual. Research Triangle Park, NC.

U.S. Environmental Protection Agency (USEPA). 2000. Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (5th Ed.) AP-42. Supplement E, Research Triangle Park, NC.

Attachment A

DEP Forms

Department of
Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

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

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Florida Gas Transmission Company	
2. Site Name: Compressor Station No. 16	
3. Facility Identification Number: 0070012 [ ] Unknown	
4. Facility Location: Street Address or Other Locator: P.O. Box 8 City: Brooker County: Bradford Zip Code: 32622-0008	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

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

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	4-13-01
2. Permit Number:	0070012-004-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

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

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[X] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:____0070012-002-AV_____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

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 or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Danny Pribble, Vice President Operations

2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: Florida Gas Transmission Company
   Street Address: 1400 Smith Street
   City: Houston State: TX Zip Code: 77002

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (713)345-7162 Fax: (713) 646-3201

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative(check here [ ], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. 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.*

   Signature Date 4/6/01

* 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)380-5035 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 a Title V source air operation permit (check here [X], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is 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. McLaughlin, P.E.
Signature

March 30, 2001
Date

(Seal)

Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
	Cooper-Rolls 501-KC7 DLE Turbine rated at 7,200 bhp, Engine 1607	AC1D	$0.00
	New Emergency generator, 585 bhp Waukesha H24GL Reciprocating engine, engine GEN03		
	New fugitive emissions from equipment leaks		

Application Processing Fee

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

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Installation of a new gas fired Cooper-Rolls 501-KC7 DLE Turbine rated at 7,009 bhp,

Replacement of two existing gas fired emergency generators rated at 200 hp and 235 hp with a new gas fired 440 kW (585 hp) Waukesha Model H24GL

2. Projected or Actual Date of Commencement of Construction:	07/20/01
3. Projected Date of Completion of Construction:	10/20/01

Application Comment

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 existing facility is currently operating under Permit No.0070012-002-AV.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17	East (km): 371.98	North (km): 3310.57	
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 29/55/16	Longitude (DD/MM/SS): 82/19/34		
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4922

7. Facility Comment (limit to 500 characters):

Compressor Station No. 16 is an existing natural gas pipeline compressor station with six existing compressor engines. It is classified as a major source under New Source Review and Title V definitions.

Facility Contact

1. Name and Title of Facility Contact: Abe Kattawar, Team Environmental Leader			
2. Facility Contact Mailing Address: Organization/Firm: Florida Gas Transmission Company			
Street Address: P.O. Box 8			
City: Brooker	State: FL	Zip Code: 32622-0008	
3. Facility Contact Telephone Numbers: Telephone: (850) 350-5350	Fax: (850) 350-5351		

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [X] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [X] One or More Emissions Units Subject to NSPS?	
7. [ ] One or More Emission Units Subject to NESHAP?	
8. [ ] Title V Source by EPA Designation?	

I. Facility Regulatory Classifications Comment (limit to 200 characters):

Facility is a major source for PSD and Title V purposes. New turbine will be subject to NSPS Subpart GG. The project is not subject to PSD since the increases in emissions are less than the significant levels.

List of Applicable Regulations

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	A				
CO	A				
VOC	B				
SO_2	B				
PM	B				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID: Narrative Fig. 1-1[ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID:_Att. B_ [ ] Not Applicable [ ] 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. Fugitive Emissions Identification: [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID:_Attachment C[ ] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [X] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [X] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [X] Not Applicable

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [X] Not Applicable

13. Risk Management Plan Verification:
    [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [X] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [X] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J 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
(All Emissions Units)

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. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

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

7,009 bhp natural gas fired turbine compressor unit

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

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	10/20/01	49	[ ]

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

The proposed turbine engine will be a Cooper-Rolls 501-KC7 DLE engine compressor unit ISO rated at 7,200 bhp and site rated at 7,009 bhp. Fuel will be exclusively natural gas from the FGT's gas pipeline. The proposed engine will incorporate 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: Cooper-Rolls Model Number: 501-KC7 DLE
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	62.10	mmBtu/hr
2. Maximum Incineration Rate:		lb/hr
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 62.10 MM Btu/hr based on vendor specifications of 8,054 Btu/Bhp-hr plus 10% and 7,009 bhp.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

62-296.320(4)(b)1 General Visible Emissions Standards	
40 CFR 60, Subpart GG Standards of Performance for Stationary Gas-fired	
FDEP Title V Core List	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? 1607		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: 61.16 feet	7. Exit Diameter: 7.17 feet
8. Exit Temperature: 965 °F	9. Actual Volumetric Flow Rate: 96,903 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): 371.98 North (km): 3310.57		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment __1__ of __1__

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired turbine engine driving a natural gas compressor, operating full time.		
2. Source Classification Code (SCC): 2-02-002-01	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 0.0597	5. Maximum Annual Rate: 523.07	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1040
10. Segment Comment (limit to 200 characters): Based on fuel rate of 62.10 MMBtu/hr. 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):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX	099		EL
CO			NS
VOC			NS
SO2			EL
PM			NS
PM10			NS
HAPS			NS

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 5.6 lb/hour 24.53 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 5.6 lb/hr Reference: Vendor's data	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): (5.60 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 24.53 tons/year	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.	

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: 5.6 lb/hour 25.53 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(3) limits NOX emissions to 190 ppmv.	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 6.86 lb/hour 30.1 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 6.86 lb/hr Reference: Vendor's data	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): (6.86 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 30.05 tons/year	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Based on vendor's data. See Attachment C.	

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):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:

3. Potential Emissions: 0.196 lb/hour 0.9 tons/year	4. Synthetically Limited? [ ]

5. Range of Estimated Fugitive Emissions:
[ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year

6. Emission Factor: 1.96 lb/hr THC Reference: Vendor's data	7. Emissions Method Code: 5

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

Vendor factor for total hydrocarbons (THC) = 1.96 lb/hr.
Assume 10% is VOC.
(0.196 lb/hr)(1 ton/2000 lb)(8760 hr/1 yr) = 0.86 tons/year

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Based on vendor's data. See Attachment C.

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):

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.71 lb/hour 7.5 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 10 gr/100scf Reference: Vendor's fuel use	7. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.0597 MMscf/hr)(1 lb/7000 gr) = 0.85 lb S/hr
(0.85 lb S/hr)(2 lb SO2/lb S) = 1.71 lb SO2/hr
(1.71 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.47 ton/yr

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

SO2 emission factor is based on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.

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: 4 ppmv	4. Equivalent Allowable Emissions: 1.71 lb/hour 7.5 tons/year

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

Initial performance test and fuel monitoring.

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

40 CFR 60.332(3) limits SO2 emissions to 150 ppmv.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.41 lb/hour 1.80 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.0066 lb/MM Btu Reference: Table 3.1-2a, AP-42 4/00, Supplement E	7. Emissions Method Code: 4
8. Calculation of Emissions (limit to 600 characters): (0.0066 lb/MM Btu)(62.1 MM Btu/hr) = 0.41 lb/hr (0.41 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.80 ton/yr	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Based on vendor's fuel use data 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):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: HAPS	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.34 lb/hour 1.5 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.0217 g/hp-hr Reference: GRI-HAPCalc 3.0	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): (0.0217g/hp-hr)(7,009 hp)(1 lb/453.6 g) = 0.335 lb/hr (0.335/lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.47 ton/yr	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission calculations based on Gas Research Institute's software GRI-HAPCALC. Emissions based on factors prioritized by field test data, USEPA factors and literature.	

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):	

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

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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:	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated 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):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID:_Narrative [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Process flow diagrams and fuel analyses have been previously submitted. Supplemental information is provided in the narrative description accompanying these forms.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [X] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required) NA

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J 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
(All Emissions Units)

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. Regulated or Unregulated Emissions Unit? (Check one)

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[X] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

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

Emergency generator Waukesha Model H24GL rated at 585 bhp

4. Emissions Unit Identification Number:
[ ] ID: [X] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	10/20/01	49	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)
The proposed generator engine will be a Waukesha Model H24GL reciprocating engine rated at 440 kW (585 bhp). Fuel will be exclusively natural gas from the FGT's gas pipeline. The unit will be operated no more than 500 hours per year. This unit will replace an existing Waukesha Model 6WAK, 235 bhp emergency generator and a Ford LSG-875R, 200 bhp emergency generator.

Emissions Unit Control Equipment

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

   NA

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

Emissions Unit Details

1. Package Unit:
   Manufacturer: Waukesha Model Number: H24GL
2. Generator Nameplate Rating: 0.440 MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	4.11	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:				
	hours/day			days/week
	weeks/year		500	hours/year

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

Heat input is 4.11 MM Btu/hr based on vendor specifications.

Schedule will be limited to 500 hours per year.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

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

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? GEN 03	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: 20 feet	7. Exit Diameter: 0.67 feet
8. Exit Temperature: 846 °F	9. Actual Volumetric Flow Rate: 2911 acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: 16 East (km): 371.98 North (km): 3310.57		
14. Emission Point Comment (limit to 200 characters): This 585 bhp emergency generator will replace two existing emergency generators rated at 235 and 200 bhp. The unit will not be operated more than 500 hours per year.		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment __1__ of __1__

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Natural gas fired reciprocating engine driving a 440 Kw generator, operating no more than 500 hours per year.		
2. Source Classification Code (SCC): 2-02-002-54	3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 0.00395	5. Maximum Annual Rate: 1.98	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1040
10. Segment Comment (limit to 200 characters): Based on vendor supplied heat rate of 4.11 MM Btu/hr and a fuel heat value of 1040 Btu/scf. Percent sulfur is base on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.		

Segment Description and Rate: Segment _NA_ of __NA_

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
NA		
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):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NOX			NS
CO			NS
VOC			NS
SO2			NS
PM10			NS
PM25			NS

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 2.70 lb/hour 11.8 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 2.1 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5

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

(2.1 g/hp-hr)(585 hp)/453.6 g/lb) = 2.70 lb/hr
(2.70 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 11.82 tpy

(2.70 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.68 tpy

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.68 tons/year

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

Maintain record of hours of operation.

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

Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.81 lb/hour 7.93 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 1.4 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5

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

(1.4 g/hp-hr)(585 hp)/453.6 g/lb) = 1.81 lb/hr
(1.81 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 7.93 tpy

(1.81 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.45 tpy

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.

Allowable Emissions Allowable Emissions __1_ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.45 tons/year

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

Maintain record of hours of operation.

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

Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:

3. Potential Emissions: 0.31 lb/hour 1.36 tons/year	4. Synthetically Limited? [X]

5. Range of Estimated Fugitive Emissions:
[ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year

6. Emission Factor: 0.24 g/hp-hr Reference: Vendor's data	7. Emissions Method Code: 5

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

Vendor factor for non-methane hydrocarbons (NMHC) = 0.24 g/hp-hr. Assume all is VOC.

(0.24 g/hp-hr)(585 hp)/453.6 g/lb) = 0.31 lb/hr
(0.31 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 1.36 tpy

(0.31 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.08 tpy

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.

Allowable Emissions Allowable Emissions ___1_ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.08 tons/year

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

Maintain record of hours of operation.

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

Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.11 lb/hour 0.49 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 82 scfm natural gas fuel Reference: Vendor's data	7. Emissions Method Code: 2

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

(10 gr S/100 scf)(0.00395 MMscf/hr)(1 lb/7000 gr) = 0.056 lb S/hr
(0.056 lb S/hr)(2 lb SO2/lb S) = 0.11 lb SO2/hr
(0.11 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.49 ton/yr

(0.11 lb SO2/hr)(500 hr/yr)(1 ton/2000 lb) = 0.03 ton/yr

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.
SO2 emission factor is based on maximum Federal Energy Regulatory Commission (FERC) limit of 10 gr S/100 scf and gas density of 0.0455 lb/scf.

Allowable Emissions Allowable Emissions ___1__ of __1___

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.03 tons/year

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

Maintain record of hours of operation.

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

Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.04 lb/hour 0.18 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.00999 lb/MM Btu Reference: AP-42 Section 3.2 Table 3.2-2, 4/00 Supplement E	7. Emissions Method Code: 4

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

(0.00999 lb/MM Btu)(4.11 MM Btu/hr) = 0.04 lb/hr
(0.04 lb/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.18 ton/y

(0.04 lb/hr)(500 hr/yr)(1 ton/2000 lb) = 0.01 ton/y

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Operation limited to 500 hours per year.
Based on vendor's fuel use data.

Allowable Emissions Allowable Emissions __1__ of __1__

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: NA lb/hour 0.01 tons/year

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

Maintain record of hours of operation.

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

Limitation on hours to 500 hrs/yr meets US EPA's definition of an emergency generator as insignificant source for Title V purposes.

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated 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:	
5. Visible Emissions Comment (limit to 200 characters): Subject to 62-296-320(4)(b)1 General Visible Emissions Standards.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated 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):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: *Attach. C* [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Process flow diagrams and fuel analyses have been previously submitted. Supplemental information is provided in the narrative description accompanying these forms.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [X] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J 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
(All Emissions Units)

Emissions Unit Description and Status

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

[ ] 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.

[X] 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. Regulated or Unregulated Emissions Unit? (Check one)

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[X] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

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

Fugitive emissions from component leaks.

4. Emissions Unit Identification Number:
[ ] ID: [X] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	10/20/01	49	[ ]

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

These are new fugitive leak emissions from new components (valves, flanges, etc.)

Emissions Unit Control Equipment

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

   NA

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

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		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):				

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

None	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? FUGITIVE	2. Emission Point Type Code: 4	
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: F	6. Stack Height: NA feet	7. Exit Diameter: NA feet
8. Exit Temperature: 77 °F	9. Actual Volumetric Flow Rate: NA acfm	10. Water Vapor: NA %
11. Maximum Dry Standard Flow Rate: NA dscfm	12. Nonstack Emission Point Height: 0 feet	
13. Emission Point UTM Coordinates: Zone: 17 East (km): 371.98 North (km): 3310.57		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment __1__ of __1__

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Fugitive emissions from component leaks.		
2. Source Classification Code (SCC): 3-10-888-11	3. SCC Units: MM cubic feet produced	
4. Maximum Hourly Rate: 0	5. Maximum Annual Rate: 0	6. Estimated Annual Activity Factor: component count
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): Based on count of new components and USEPA emission factors provided in EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak Emission Estimates"		

Segment Description and Rate: Segment _NA__ of __NA_

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):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC			NS

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.28 lb/hour 1.23 tons/year	4. Synthetically Limited? [Y]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: lb/hr/component Reference: EPA-453/R-95-017, Protocol for Equipment Leak EmissionEstimates"	7. Emissions Method Code: 5
8. Calculation of Emissions (limit to 600 characters): (EPA factor for specific component type) (number of components of specific type) = tpy. Assume non-methane/non-ethane fraction is 5%. (tons/year)(2000 lb/ton)(1 yr/8760 hr) = lb/hr See Attachment D for details.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Factors vary by component type. See Attachment D for specific factors and calculations.	

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):	

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

Visible Emissions Limitation: Visible Emissions Limitation ___NA__ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated 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):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID:_Narrative [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment: Process flow diagrams and fuel analyses have been previously submitted. Supplemental information is provided in the narrative description accompanying these forms.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [X] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

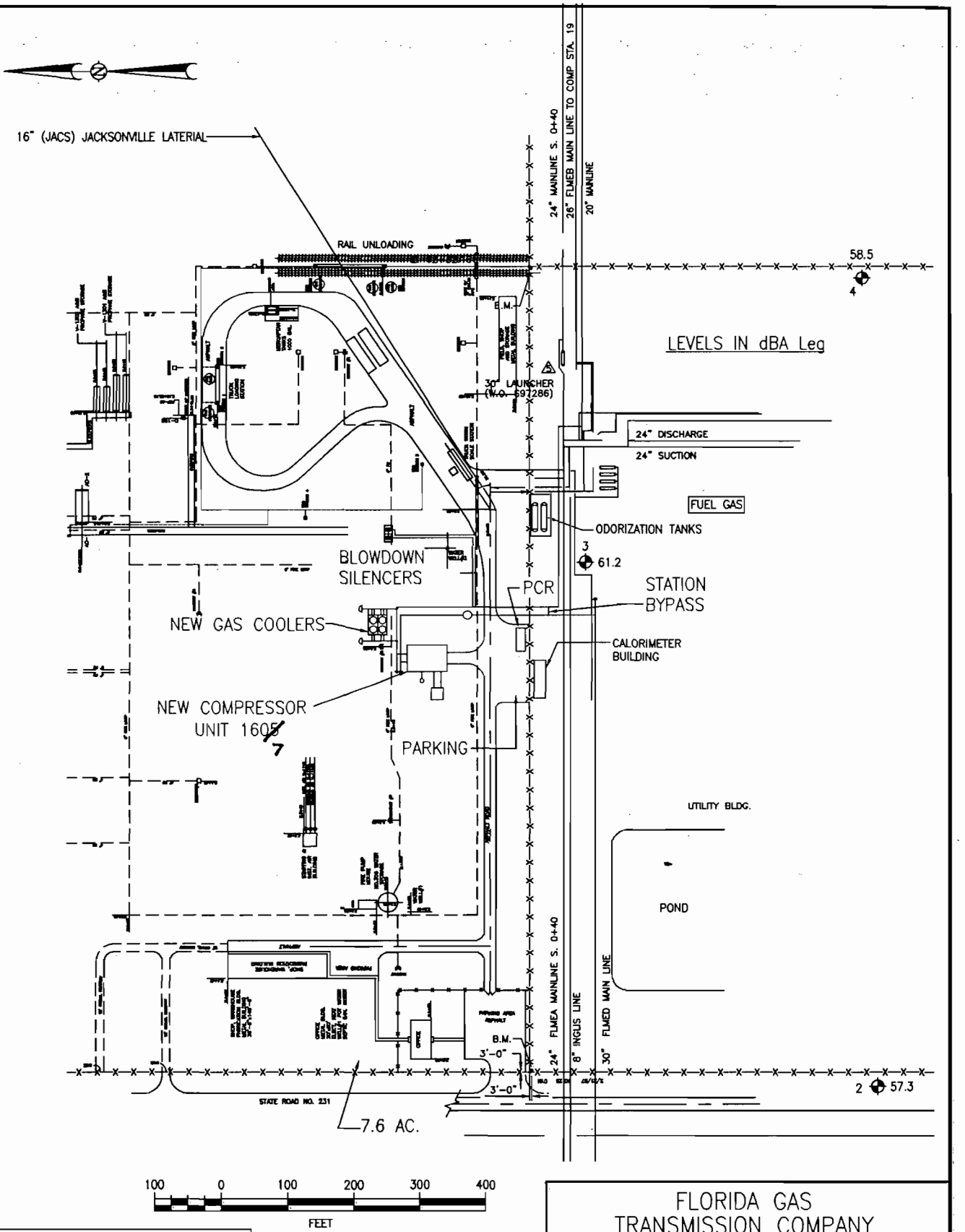
[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

Attachment B

Plot Plan



NOISE DATA:

Avg. 3–15 Sec.
LEQ taken 3:30 p.m. 1/24/91
Temp. 50°F
Wind: 6–12 MPH N

FLORIDA GAS
TRANSMISSION COMPANY

PROPOSED FGT PHASE V
COMPRESSOR STATION NO. 16
PLOT PLAN

DWG. NO. NV-6 10/24/00

NV6.DWG - 06/21/2000 - 14:44

Attachment C

Vendor Information

Cooper-Rolls 501 KC-7 Turbine

Waukesha Model H24GL Natural Gas-fired Reciprocating Engine

Cooper-Rolls 501 KC-7 Turbine

Allison Industrial Engine Performance & Emissions Estimate (EDR 17933A)

Date: July 17, 2000

Project: FGT Phase V Winter

Engine Configuration: 501-KC7

Parameter\Data Pt. No.	1	2	3	4	5	6
Altitude (feet)	295	295	295	296	295	295
Ambient Press. (psia)	14.54	14.54	14.54	14.54	14.54	14.54
Relative Humidity	100	100	100	100	100	100
Specific Humidity	0.010778	0.010778	0.010778	0.010778	0.010778	0.010778
Inlet Loss ("H2O)	4	4	4	4	4	4
Exhaust Loss ("H2O)	4	3	3	3	3	3
Inlet Pressure - CIP (psia)	14.395	14.395	14.395	14.396	14.395	14.395
Inlet Temperature-CIT (° F)	59	59	59	59	59	59
Inlet Flow (lb/sec)	44.332	42.921	41.601	40.946	40.127	39.525
CDT (° F)	747	724	703	681	659	645
MGT t/c (° F)	1376	1312	1313	1312	1311	1310
Control Temp. (° F)	1935	1859	1860	1880	1860	1860
BOT f/a (° F)	2012	1936	1937	1937	1937	1937
Fuel Flow (MMBTU/hr)	56.4511	51.9133	49.48	48.904	44.2873	42.6415
Fuel Flow (lb/hr)	2711.05	2493.12	2376.27	2252.55	2126.89	2047.85
Output Shaft Speed (rpm)	13600	12756	11912	11068	10224	9380
Gas Generator Speed (rpm)	14693	14364	14127	13916	13732	13631
Shaft Power (hp)	7009.2	6300.8	5606.3	4906.5	4209.3	3749.9
% of Full Load	100	90	80	70	60	50
SFC [lb/(hp*hr)]	0.3868	0.3957	0.4239	0.4591	0.6053	0.5461
HeatRate[Shaft] BTU/(shp*hr)	8054	8239	8826	9560	10521	11371
TOT t/c (° F)	965	933	953	9756	1000	1020
Exhaust Flow (lb/sec)	44.779	43.316	40.672	38.011	35.387	33.787
Exh. Temp. f/a ((° F)	965	932	952	974	999	1018
Exhaust P (psia)	14.648	14.648	14.648	14.648	14.648	14.648
Fuel	FGT Phas	Alt Ga.	Alt Gas	Alt Gas	Alt Gas	Alt Gas
Fuel LHV (BTU/lb)	20822.6	20822.6	20822.6	20822.6	20822.6	20822.6
H/C (wt ratio)	0.3221	0.3221	0.3221	0.3221	0.3221	0.3221
Fuel Molecular Weight	16.217	16.217	16.217	16.217	16.217	16.217
Fuel Specific Gravity	0.59792	0.59792	0.59792	0.59792	0.59792	0.59792
Emissions @ 15% O2						
NOx ppm	25	25	25	25	25	26
CO ppm	50	50	50	50	50	50
Emissions (lb/eng-hr)						
NOx	5.6	6.2	4.9	4.5	4.2	4.0
CO	6.86	6.30	5.97	5.53	5.09	4.84
HC	1.96	1.80	1.71	1.58	1.45	1.38

Waukesha Model H24GL Natural Gas-fired Reciprocating Engine

DRESSER Waukesha

SAA No. 2001- 89

CERTIFICATION OF ENGINEERING APPROVAL

Are Special Codes or Equipment Required for this Approval? Y

List Code 1100: Power of 175 psi continuous duty.

Engineering Approval:

Ignition Timing 13 °BTDC Carb Setting (Lambda or MAFR) 7.8% O2

When operating per the site conditions listed and per the attached fuel analysis, WED approves a maximum continuous rating of 585 BHP @1800 RPM with no overload allowed.

For the site conditions listed and per the attached fuel analysis with the engine operating at the stated loads @1800 RPM, the following exhaust emissions are guaranteed not to exceed:

	- Guaranteed -		- Estimated -
BHP:	585	439	293
*NOx: (g/bhp-hr)	2.1	2.0	2.0
CO: (g/bhp-hr)	1.4	1.5	1.6
NMHC: (g/bhp-hr)	0.24	0.28	0.32

* NOx emission at absolute humidity of 75 grains H2O/lb dry air.

Fuel must conform to WED "Gaseous Fuel Specification" S7884-7.

Signed: Mark J. Helgren — Date: 03/15/2001

Signed: Joe Langa — Date: 03/15/2001

1.1 HEAT REJECTION AND OPERATING DATA
MODEL H24GL/GLD
130° F (54° C) AUX. WATER TEMPERATURE
180° F (82° C) JACKET WATER TEMP.

	BMEP (PSI)	2.0 ENGINE SPEED - RPM				
		1400	1500	1600	1700	1800
POWER (BHP)	185	–	515	545	580	615
	176	455	490	520	555	***585***
	160	415	445	475	505	530
	150	388	415	443	471	498
	125	323	346	369	392	415
	100	258	277	295	314	332
	75	194	208	222	235	249
	50	129	138	148	157	166
BRAKE SPEC FUEL CONS. (BTU/BHP-HR)	185	–	6786	6882	6933	6978
	176	6814	6831	6928	6980	***7026***
	160	6902	6923	7021	7076	7126
	150	6967	6991	7089	7147	7199
	125	7174	7208	7308	7374	7433
	100	7484	7533	7636	7714	7784
	75	8002	8076	8182	8281	8369
	50	9037	9161	9275	9414	9539
FUEL CONSUMPTION (BTU/HR) x 1000	185	–	3475	3760	4025	4290
	176	3100	3330	3600	3855	***4110***
	160	2855	3065	3320	3555	3790
	150	2700	2905	3140	3365	3590
	125	2315	2495	2700	2895	3085
	100	1935	2085	2255	2420	2585
	75	1550	1675	1810	1950	2085
	50	1168	1268	1370	1477	1585
HEAT TO JACKET WATER (BTU/HR) x 1000	185	–	912	972	1024	1077
	176	832	882	939	991	***1042***
	160	781	830	881	931	981
	150	749	798	845	893	942
	125	669	716	754	800	846
	100	590	634	663	707	750
	75	510	553	573	613	654
	50	430	471	482	520	557
HEAT TO LUBE OIL (BTU/HR) x 1000	185	–	94	110	121	131
	176	82	93	108	119	***129***
	160	79.5	90.5	106	116	126
	150	78	89	104	114	124
	125	74.5	85	100	110	120
	100	71	81.5	95.5	105	115
	75	67.5	77.5	91.5	101	110
	50	64	73.5	87	96	105
HEAT TO INTERCOOLER (BTU/HR) x 1000	185	–	185	213	243	273
	176	151	173	199	228	***256***
	160	132	152	175	201	227
	150	120	138	160	184	208
	125	89.5	104	123	142	162
	100	58.5	70	86	101	115
	75	28	36	49	59	68.5
	50	-2	2	12	17	22

2.1 HEAT REJECTION AND OPERATING DATA

MODEL H24GL/GLD

130° F (54° C) AUX. WATER TEMPERATURE

3.0 180° F (82° C) JACKET WATER TEMP.

	BMEP (PSI)	4.0 ENGINE SPEED - RPM				
		1400	5.0 1500	1600	1700	1800
HEAT TO RADIATION (BTU/HR) x 1000	185	–	73	79.5	83.5	87.5
	176	72	73	79	83	***87.5***
	160	71	72.5	78.5	82.5	87
	150	71	72.5	78	82.5	86.5
	125	70	72	77.5	81.5	86
	100	69	71.5	76.5	81	85
	75	68	70.5	76	80	84
	50	67.5	69.5	75	79	83
TOTAL ENERGY IN EXHAUST (BTU/HR) x 1000	185	–	942	1030	1112	1196
	176	831	897	983	1061	***1142***
	160	756	818	898	970	1045
	150	709	769	844	913	984
	125	594	647	712	772	833
	100	483	527	581	632	684
	75	376	412	454	495	538
	50	275	302	332	364	397
EXHAUST TEMP AFTER TURBINE (+/- 50 °F)	185	–	810	823	834	844
	176	799	808	821	831	***842***
	160	794	804	816	827	838
	150	791	801	814	824	835
	125	783	795	807	818	829
	100	775	789	800	812	823
	75	768	782	793	805	817
	50	760	776	786	798	811
INDUCTION AIR FLOW (SCFM)	185	–	990	1065	1140	1215
	176	880	945	1020	1090	***1160***
	160	805	865	935	1000	1065
	150	760	815	885	945	1005
	125	640	690	750	800	855
	100	525	565	615	660	705
	75	410	445	485	520	555
	50	300	325	355	385	410
EXHAUST GAS FLOW (LBS/HR)	185	–	4520	4875	5205	5540
	176	4015	4315	4660	4980	***5300***
	160	3675	3955	4275	4575	4870
	150	3465	3725	4035	4315	4600
	125	2930	3155	3420	3670	3915
	100	2400	2585	2810	3020	3230
	75	1885	2030	2210	2380	2550
	50	1380	1495	1625	1755	1890

5.1 HEAT REJECTION AND OPERATING DATA

MODEL H24GL/GLD

130° F (54° C) AUX. WATER TEMPERATURE

6.0 180° F (82° C) JACKET WATER TEMP.

	BMEP (PSI)	Engine Speed - RPM				
		1400	1500	1600	1700	1800
NOx Emissions (g/bhp-hr)	185	–	2.66	2.66	2.54	2.42
	176	2.53	2.48	2.38	2.22	***2.06***
	160	2.50	2.42	2.35	2.18	2.00
	150	2.47	2.39	2.32	2.17	2.01
	125	2.40	2.33	2.26	2.12	1.99
	100	2.34	2.26	2.17	2.08	1.98
	75	2.26	2.19	2.12	2.03	1.94
	50	2.10	2.02	1.94	1.90	1.86
CO Emissions (g/bhp-hr)	185	–	1.25	1.24	1.25	1.27
	176	1.34	1.28	1.29	1.31	***1.34***
	160	1.32	1.40	1.35	1.34	1.32
	150	1.38	1.42	1.39	1.31	1.23
	125	1.43	1.45	1.42	1.42	1.43
	100	1.52	1.51	1.51	1.51	1.52
	75	1.66	1.62	1.61	1.63	1.66
	50	1.85	1.88	1.87	1.86	1.85
NMHC Emissions (g/bhp-hr)	185	–	0.30	0.28	0.26	0.24
	176	0.36	0.30	0.28	0.26	***0.24***
	160	0.33	0.31	0.30	0.28	0.25
	150	0.35	0.32	0.31	0.29	0.27
	125	0.36	0.32	0.32	0.30	0.29
	100	0.38	0.35	0.35	0.32	0.30
	75	0.44	0.39	0.38	0.36	0.35
	50	0.51	0.47	0.45	0.44	0.44
THC Emissions (g/bhp-hr)	185	–	1.99	1.84	1.60	1.53
	176	2.38	1.99	1.84	1.73	***1.61***
	160	2.22	2.07	1.99	1.84	1.69
	150	2.30	2.11	2.07	1.94	1.80
	125	2.38	2.15	2.15	2.03	1.92
	100	2.53	2.30	2.30	2.15	1.99
	75	2.91	2.61	2.53	2.42	2.30
	50	3.37	3.14	2.99	2.95	2.91

HEAT REJECTION 3

NOTES:

1. *All data are based on ISO standard conditions of 29.54 inches Hg. (100 kPa) barometric pressure, 77° F (25° C) ambient and induction air temperature, 30% relative humidity (0.3 inches Hg. /1 kPa water vapor pressure), 180° F (82° C) engine jacket water outlet temperature, and standard ignition timing per Note 5 for 11:1 compression ratio.*
2. *All data are average values at the standard conditions and will vary for individual engines and with operating and ambient conditions and with changes to ignition timing or air/fuel ratio. An adequate reserve should be used for cooling system or heat recovery calculations. See also Cooling System Guidelines, S-6699-7, latest version.*
3. *ISO Standard (continuous) power ratings conform to ISO 3046/1, latest version, with a mechanical efficiency of 90% and auxiliary water temperature, Tcra, of 130° F (54.5° C) limited to ± 10° F (± 5.5° C). ISO Standard power rating of 176 BMEP requires Price Book Option Code 1100.*
4. *Fuel standard: dry natural gas, 900 BTU/scf (35.38 MJ/m^3 [25, V (0; 101.325)]) saturated lower heating value (SLHV) with a minimum Waukesha Knock Index™ of 91. Refer to S-7884-6, latest version, for the full fuel specification.*
5. *Standard ignition timing is 13° BTDC with J-type 60999T or 60999W spark plugs and 15° BTDC with 4-ground 60999S spark plugs.*
6. *For heat rejection changes due to engine jacket water outlet temperature higher than standard (Note 1), refer to S-7613-3, latest version.*
7. *Total Exhaust Energy includes both recoverable and non-recoverable heat. For a procedure to calculate recoverable heat refer to S-8117-1, latest version.*
8. *Exhaust oxygen concentration set to 7.8% at rated speed and load at standard timing to provide 2 g/bhp-hr or less NOx. This oxygen level is measured at the port located in the exhaust manifold upstream of the turbocharger.*
9. *Low pressure (draw thru) fuel system on the GLD model.*
10. *Reference Engine Ratings and Fuel Consumption curve sheets C-1104-15 and C-1104-17.*
11. *Exhaust flow at nominal 29.54 inches Hg. (100 kPa) atmospheric pressure:*

$$\text{Flow rate (English): ACFM} = \frac{(\text{Exh. Flow, lb/hr}) \times (\text{Exh. Temp. } ^\circ\text{F} + 460^\circ)}{2275}$$

Attachment D

Emission Calculations

Engine Emissions

Engine HAP Emissions

Fugitive Leak Emissions

Engine Emissions

Engine No. 1607 EPN:

NOx Emissions: (Based on Vendor Data)

lb NOx/hr =5.60

tons NOx/yr =(lb NOx/hr)(hr/yr)(1 ton/2000 lb)
=(5.6 lb NOx/hr)(8760 hr/yr)(1 ton/2000 lb)
=24.53

CO Emissions: (Based on Vendor Data)

lb CO/hr =6.86

tons CO/yr =(lb CO/hr)(hr/yr)(1 ton/2000 lb)
=(6.9 lb CO/hr)(8760 hr/yr)(1 ton/2000 lb)
=30.05

VOC Emissions: (Based on Vendor Data)

lb VOC/hr =0.196

tons VOC/yr =(lb VOC/hr)(hr/yr)(1 ton/2000 lb)
=(0.196 lb VOC/hr)(8760 hr/yr)(1 ton/2000 lb)
=0.86

SO2 Emissions: (Based on FERC Limits)

lb S/hr =(gr S/100 scf)(MMscf/hr)(1 lb/7000 gr)
=(10 gr S/100 scf)(0.0597 MMscf/hr)(1 lb/7000 gr)
=0.85

lb SO2/hr =(lb S/hr)(2 lb SO2/lb S)
=(0.85 lb S/hr)(2 lb SO2/lb S)
=1.71

tons SO2/yr =(lb SO2/hr)(hr/yr)(1 ton/2000 lb)
=(1.71 lb SO2/hr)(8760 hr/yr)(1 ton/2000 lb)
=7.47

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)(0.0597 MMBtu/hr)
=0.4098

tons PM/yr =(lb PM/hr)(hr/yr)(1 ton/2000 lb)
=(0.41 lb PM/hr)(8760 hr/yr)(1 ton/2000 lb)
=1.79

Engine No. Gen 3

NOx Emissions: (Based on Vendor Data)

lb NOx/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) = lb/hr
=(2.1 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=2.71

tons NOx/yr =(lb NOx/hr)(hr/yr)(1 ton/2000 lb)
=(2.7 lb NOx/hr)(500 hr/yr)(1 ton/2000 lb)
=0.677

CO Emissions: (Based on Vendor Data)

2lb CO/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) = lb/hr
=(1.4 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=1.81

tons CO/yr =(lb CO/hr)(hr/yr)(1 ton/2000 lb)
=(1.8 lb CO/hr)(500 hr/yr)(1 ton/2000 lb)
=0.451

VOC Emissions: (Based on Vendor Data)

lb VOC/hr =(g/bhp-hr)(bhp)(1 lb/453.59 g) =88 lb/hr
=(0.24 g/bhp-hr)(585 bhp)(1 lb/453.59 g)
=0.31

Tons VOC/yr =(lb VOC/hr)(hr/yr)(1 ton/2000 lb)
=(0.31 lb VOC/hr)(500 hr/yr)(1 ton/2000 lb)
=0.08

SO2 Emissions: (Based on FERC Limits)

lb S/hr =(gr S/100 scf)(MMscf/hr)(1 lb/7000 gr)
=(10 gr S/100 scf)(0.0040 MMscf/hr)(1 lb/7000 gr)
=0.056

lb SO2/hr =(lb S/hr)(2 lb SO2/lb S)
=(0.056 lb S/hr)(2 lb SO2/lb S)
=0.11

tons SO2/yr =(lb SO2/hr)(hr/yr)(1 ton/2000 lb)
=(0.11 lb SO2/hr)(500 hr/yr)(1 ton/2000 lb)
=0.03

PM Emissions: (Based on AP-42 Table 3.2-2, 4/00)

lb PM/hr =(lb PM/MMBtu)(MMBtu/hr)
=(0.00999 MMBtu/hr)(4.1 MMBtu/hr)
=0.0411

tons PM/yr =(lb PM/hr)(hr/yr)(1 ton/2000 lb)
=(0.041 lb PM/hr)(500 hr/yr)(1 ton/2000 lb)
=0.01

Engine HAP Emissions

GRI-HAPCalc Version 3.0 is a personal computer-based database program that estimates emissions of hazardous air pollutants (HAPs) and criteria pollutants from natural gas industry operations. HAPCalc 3.0 estimates emissions from the following point sources: amine sweetening units, sulfur recovery units, reciprocating engines, combustion turbines, small external combustion devices, flares, liquid hydrocarbon storage tanks, truck loading, miscellaneous process vents, and fugitives.

Emissions are estimated with factors derived from data collected during various GRI Environment and Safety research programs or by the U.S. Environmental Protection Agency (EPA). The GRI Literature database, developed during Phase I of the Air Toxics Program (1990 to 1992), compiled available emission test results from 40 reciprocating engines, 2 gas turbines, and 1 steam generator. The GRI Field Test database, developed from 1994 to 1997, contains GRI test data from 26 engines, 9 gas turbines, and 8 external combustion devices operating at several natural gas transmission, storage, and processing facilities. EPA emission factors are obtained from AP-42, 5th Edition [U.S. Environmental Protection Agency].

Since data are not available for all pollutants for some of the emission factor sets, a hierarchical combination of EPA > GRI Field > GRI Literature was used. Emission factors are prioritized in the listed order.

Turbine 1607 HAP Emission Factors and Emissions

Chemical	Emis. Factor g/bhp-hr	tpy	lb/hr	Factor Set
Formaldehyde	0.0146323	0.99	0.22589822	EPA
Acetaldehyde	0.0003443	0.02	0.00531542	EPA
1,3-Butadiene	0.0000019	0.00	0.00002933	EPA
Acrolein	0.000034	0.00	0.0005249	EPA
Propional	0.000865	0.06	0.01335415	GRI Field
Propylene Oxide	0.0001248	0.01	0.0019267	EPA
n-Nitrosodimethylamine	0.000001	0.00	0.00001544	EPA
Benzene	0.0006025	0.04	0.00930159	EPA
Toluene	0.0005595	0.04	0.00863774	EPA
Ethylbenzene	0.0001033	0.01	0.00159478	EPA
Xylenes(m,p,o)	0.0001162	0.01	0.00179393	EPA
2,2,4-Trimethylpentane	0.0016053	0.11	0.02478314	GRI Field
n-Hexane	0.0015058	0.10	0.02324703	GRI Field
Phenol	0.0001101	0.01	0.00169976	GRI Field
n-Nitrosomorpholine	0.000001	0.00	0.00001544	EPA
Naphthalene	0.0006025	0.04	0.00930159	EPA
2-Methylnaphthalene	0.0000013	0.00	0.00002007	GRI Field
Biphenyl	0.0003305	0.02	0.00510237	GRI Field
Phenanthrene	0.0000005	0.00	0.00000772	GRI Field
Chrysene	0.000001	0.00	0.00001544	GRI Field
Beryllium	0.0000001	0.00	0.00000154	GRI Field
Phosphorous	0.0000652	0.00	0.00100658	GRI Field
Chromium	0.0000056	0.00	0.00008645	EPA
Chromium	0.0000082	0.00	0.00012659	GRI Field
Manganese	0.0000069	0.00	0.00010652	EPA
Nickel	0.0000061	0.00	0.00009417	GRI Field
Cobalt	0.0000016	0.00	0.0000247	GRI Field
Arsenic	0.0000002	0.00	0.00000309	EPA
Selenium	0.0000003	0.00	0.00000463	GRI Field
Cadmium	0.0000036	0.00	0.00005558	EPA
Mercury	0.0000019	0.00	0.00002933	EPA
Lead	0.0000689	0.00	0.0010637	EPA
TOTALS:	**0.0217114**	**1.47**	**0.33518764**	

Fugitive Leak Emissions

Fugitive Emissions Factors					
			Emissions *		
Component		Service	Factor tpy	Factor lb/hr	Factor kg/hr
Valves		Gas	0.0434606	0.00992251	0.00450085
Connector		Gas	0.0019316	0.00044100	0.00020004
Flanges		Gas	0.0037666	0.00085995	0.00039008
Open-Ended Line		Gas	0.0193158	0.00441000	0.00200038
Pumps		Gas	0.023179	0.00529201	0.00240046
Other		Gas	0.0849895	0.01940400	0.00880165
Valves		Light Oil	0.0241448	0.00551251	0.00250048
Connector		Light Oil	0.0020282	0.00046306	0.00021004
Flanges		Light Oil	0.0010624	0.00024256	0.00011002
Open-Ended Line		Light Oil	0.0135211	0.00308701	0.00140027
Pumps		Light Oil	0.1255527	0.02866500	0.01300244
Other		Light Oil	0.0724343	0.01653751	0.00750142
Valves		Heavy Oil	0.0000811	0.00001852	0.00000840
Connector		Heavy Oil	0.0000724	0.00001653	0.00000750
Flanges		Heavy Oil	0.0000038	0.00000087	0.00000039
Open-Ended Line		Heavy Oil	0.0013521	0.00030870	0.00014003
Pumps		Heavy Oil	NA	0.00529	NA
Other		Heavy Oil	0.0002994	0.00006836	0.00003101

*"EPA publication EPA-453/R-95-017, November 1995, "Protocol for Equipment Leak EmissionEstimates"

New Components

Component	Service	Component Count	Emissions * Factor (ton/yr)	NM/NE Fraction	Emissions (ton/yr)
Valves	Gas	249	0.0434606	0.05	0.54
Connector	Gas	0	0.0019316	0.05	0.00
Flanges	Gas	189	0.0037666	0.05	0.04
Open-Ended Line	Gas	74	0.0193158	0.05	0.07
Pumps	Gas	1	0.023179	0.05	0.00
Other	Gas	0	0.0849895	0.05	0.00
Valves	Light Oil	16	0.0241448	1.00	0.39
Connector	Light Oil	0	0.0020282	1.00	0.00
Flanges	Light O2il	38	0.0010624	1.00	0.04
Open-Ended Line	Light Oil	2	0.0135211	1.00	0.03
Pumps	Light Oil	1	0.1255527	1.00	0.13
Other	Light Oil	0	0.0724343	1.00	0.00
Valves	Heavy Oil	6	0.0000811	1.00	0.00
Connector	Heavy Oil	0	0.0000724	1.00	0.00
Flanges	Heavy Oil	14	0.0000038	1.00	0.00
Open-Ended Line	Heavy Oil	2	0.0013521	1.00	0.00
Other	Heavy Oil	0	0.0002994	1.00	0.00
				TOTAL:	1.2318