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

See for Instructions



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 19, 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. 0390029-003-AC  
Gadsden Compressor Station No. 14  
Phase V Modifications


Dear Mr. Pribble:

Enclosed is one copy of the draft permit to construct a new 15,700 bhp gas turbine compressor engine, up-rate an existing gas turbine compressor engine to 13,000 bhp, and modify one existing reciprocating internal combustion compressor engine. The new equipment will be installed at existing Compressor Station No. 14, which is located at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden County, Florida. The engine modifications result in emissions decreases for carbon monoxide and nitrogen oxides, which allow this project to net out of PSD. The Department's "Technical Evaluation and Preliminary Determination", "Intent to Issue Permit", and the "Public Notice of Intent to Issue Permit" are also included.

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

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

Sincerely,

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

CHF/AAL/jfk

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

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. 14  
Draft Air Permit No. 0390029-003-AC  
Phase V Modifications  
Gadsden 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 March 26, 2001 to the Department for a permit to construct a new 15,700 bhp gas turbine compressor engine, up-rate an existing gas turbine compressor engine, and modify one existing reciprocating internal combustion compressor engine. The new equipment will be installed at the existing Compressor Station No. 14, which is located at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden 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 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

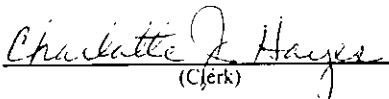
**CERTIFICATE OF SERVICE**

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 7/20/01 to the person(s) listed:

Mr. Danny Pribble, FGT\*  
Mr. Jim Thompson, FGT  
Mr. Kevin McGlynn, McGlynn Consulting Co.  
Mr. V. Duane Pierce, AQMcS  
Ms. Sandra Veazey, NWD  
Greg Worley, EPA Region 4

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.

  
Charlette J. Hayes  
(Clerk)

7/20/01  
(Date)

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

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 0390029-003-AC

Florida Gas Transmission Company  
Gadsden Compressor Station No. 14  
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 15,700 bhp gas turbine compressor engine, up-rate an existing gas turbine compressor engine to 13,000 bhp, and modify one existing reciprocating internal combustion compressor engine. The new equipment will be installed at the existing Compressor Station No. 14, which is located at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden County, Florida. The proposed project is part of the Florida Gas Transmission Company's overall Phase V Expansion Project intended to increase the supply of natural gas to 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 addition of a new 15,700 bhp gas turbine compressor engine and the up-rating of an existing gas turbine compressor engine will result in potential emission increases. However, modifications to an existing reciprocating internal combustion compressor engine will result in emissions decreases of carbon monoxide and nitrogen oxides. Each engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions. Each control system will then be readjusted to include the new engine performance parameters and operating set points. In addition, a new silencer/oxidation catalyst will be installed on the modified engine to reduce emissions of carbon monoxide and volatile organic compounds.

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. The existing station is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). Therefore, the new project is subject to a PSD applicability review. The proposed project will result in the following net emissions increases: 94 tons of carbon monoxide per year; 34 tons of nitrogen oxides per year; 7 tons of particulate matter per year; 31 tons of sulfur dioxide per year; and 5 tons of volatile organic compounds per year. Therefore, this project is not subject to PSD preconstruction review because the net emissions increases from the project are less than each of the corresponding PSD significant emissions rates.

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

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

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.

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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  
Northwest District Office  
Air Resources Section  
160 Governmental Center  
Pensacola, FL 32501-5794  
Telephone: 850/595-8300  
Fax: 850/595-4417

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. 0390029-003-AC  
Phase V Compressor Station Modifications

**COUNTY**

Gadsden County

**APPLICANT**

Florida Gas Transmission Company  
ARMS Facility ID No. 0390029  
Existing Gadsden Compressor Station No. 14

**PERMITTING  
AUTHORITY**

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



July 19, 2001

*{Filename: FTG 14V TEPD.DOC}*



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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## 1. GENERAL PROJECT INFORMATION

### 1.1 Applicant Name and Address

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

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

### 1.2 Processing Schedule

03-26-01 Received the application for a minor source air pollution construction permit.  
04-18-01 Department requested additional information.  
05-14-01 Department received additional information; application complete.

### 1.3 Facility Description and Location

Florida Gas Transmission Company operates the existing facility as a compressor station for the natural gas pipeline serving Florida. Compressor Station No. 14 is located at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden County, Florida. Upon completion of the proposed project, the compressor station will consist of five 2000 bhp reciprocating compressor engines, one 2700 bhp reciprocating compressor engine, one 13,000 bhp gas turbine compressor engine, one 15,700 bhp gas turbine compressor engine, and miscellaneous support equipment. The UTM coordinates are Zone 16, 719.97 km East, and 3377.39 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

### 1.4 Standard Industrial Classification Code (SIC)

SIC No. 4922 – Natural Gas Transmission

### 1.5 Regulatory Categories

**Title III:** The existing facility is identified as a potential major source of hazardous air pollutants (HAP).

**Title IV:** The facility has no units 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<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), 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 and up-rated gas turbine are subject to the New Source Performance Standards in 40 CFR 60, Subpart GG.

### 1.6 Project Description

The existing facility serves as a compressor station for the natural gas pipeline serving Florida. It consists of three 2000 bhp reciprocating compressor engines installed in 1958, one 2000 bhp reciprocating compressor engine installed in 1966, one 2000 bhp reciprocating compressor engine installed in 1968, one 2700 bhp reciprocating compressor engine installed in 1991 (subject to PSD), one 10,350 bhp gas turbine compressor

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

engine installed in February of 2001, and miscellaneous support equipment. The applicant proposes the following project:

- Modify one existing reciprocating internal combustion compressor engine (FGT No. 1404). The engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions. Also, the control system will be readjusted to include the new engine performance parameters and operating set points. To control CO and VOC emissions, a new silencer/oxidation catalyst will be installed on the modified engine.
- Up-rate the 10,350 bhp gas turbine compressor engine (FGT No. 1407) installed in February of 2001 to 13,000 bhp (Phase IV). This unit employs dry low-NOx combustion technology to minimize NOx emissions.
- Install a new 15,700 bhp gas turbine compressor engine (FGT No. 1408) with dry low-NOx combustion technology. The applicant requests the following restricted operating schedule for this unit: 876 hours per year for operation between 50% and 60% of base load; 1314 hours per year for operation between 60% and 90% of base load; and 6570 hours per year for operation between 90% and 100% of base load.

All units fire natural gas exclusively. A new compressor building will be constructed to house the new gas turbine compressor engine.

## 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.

<u>Chapter</u>	<u>Description</u>
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).

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

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### 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 Gadsden County, 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. Potential NO<sub>x</sub> emissions from the addition of the new gas turbine (FGT No. 1408) and the up-rated gas turbine (FGT No. 1407) exceed the PSD significant emissions rate of 40 tons per year. Therefore, the applicant proposed modifications to an existing compressor engine (FGT No. 1404) to secure a NO<sub>x</sub> emission decrease that would allow the project to remain minor with respect to PSD. Because the engine modifications would result in increased CO emissions, the applicant also proposes to install a new silencer/oxidation catalyst on the engine. The following table summarizes PSD applicability for this project based on the applicant's requested restrictions and the conditions of the draft permit.

**Table 1A. Potential Emissions (Tons Per Year) and PSD Applicability**

Pollutant	Future Potential Emissions (TPY) <sup>a</sup>	Past Actual Emissions (TPY) <sup>b</sup>	Net Emissions Increase (TPY)	Significant Emissions Rate (TPY)	Subject To PSD?
CO	108	14	94	100	No
NO <sub>x</sub>	284	250	34	40	No
PM/PM <sub>10</sub>	8	1	7	25/15	No
SO <sub>2</sub>	32	1	31	40	No
VOC	6	1	5	40	No

<sup>a</sup> Potential emissions include the modified reciprocating compressor engine (FGT No. 1404), the up-rated gas turbine (FGT No. 1407), and the new gas turbine (FGT No. 1408). Annual emissions are based on the permitted capacity of each unit, the proposed emissions standards, and the operational restrictions requested by the applicant. The Department's analysis did not consider emissions from the 637 bhp emergency generator (FGT GEN03) that were permitted during the Phase IV modifications to replace two 200 bhp emergency generators. Pursuant to Rule 62-210.300(3)(a)20, F.A.C., all such units are considered categorically exempt from air permitting requirements if fuel consumption is less than 4.4 million standard cubic feet per year of natural gas. {Note: Actual emissions are not useful for such an analysis because these generators are used only in

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

emergencies to provide backup electrical power. Potential emissions would be based on the rule limit of "4.4 million standard cubic feet per year of natural gas".}

- <sup>b</sup> The past actual emissions of the modified reciprocating compressor engine (FGT No. 1404) are based on the average hours of operation for 1999 and 2000. Pre-modification emission rates are based on actual engine tests performed on each unit on April 27, 2000. Although installed in February of 2001, the past actual emissions for the up-rated gas turbine (FGT No. 1407) are assumed to be "zero". The applicant estimated VOC emissions from fugitive leaks from new natural gas fuel and pipeline components to be less than 0.5 ton per year.

The Department's full netting analysis and calculations are provided in Attachment A. The analysis included all emissions increases and decreases at the compressor station for the contemporaneous period defined as July 14, 1996 through October 14, 2001. It focused on the actual emissions increases related to the new gas turbine, the up-rated gas turbine, and the modified reciprocating compressor engine. The operating history indicates that operation of the compressor engines at this station have generally increased over the last 5 years. Compressor station operation is directly a function of demand for natural gas placed on the pipeline. FGT Unit No. 1404 and 1405 are typically brought on line before FGT Unit Nos. 1401, 1402, and 1403 because they have larger compressor cylinders and will build compressor spread faster. Also, the older reciprocating units require more attention and maintenance. For these reasons, the Department determines that the project is not likely to increase operation of the other units at the compressor station. In fact, operation of FGT Unit Nos. 1401, 1402, and 1403 are more likely to be substantially reduced after completion of the project.

As shown in Table 1A, potential emissions from the proposed project do 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) from the new gas turbines will be about 6 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

**Stationary Gas Turbines** - The following text is an excerpt from Section 3.1 of EPA's AP-42 emission factor document.

*"The primary pollutants from gas turbine engines are nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and to a lesser extent, volatile organic compounds (VOC). Particulate matter (PM) is also a primary pollutant for gas turbines using liquid fuels. Nitrogen oxide formation is strongly dependent on the high temperatures developed in the combustor. Carbon monoxide, VOC, hazardous air pollutants (HAP), and PM are primarily the result of incomplete combustion. Trace to low amounts of HAP and sulfur dioxide (SO<sub>2</sub>) are emitted from gas turbines. Ash and metallic additives in the fuel may also contribute to PM in the exhaust. Oxides of sulfur (SO<sub>x</sub>) will only appear in a significant quantity if heavy oils are fired in the turbine. Emissions of sulfur compounds, mainly SO<sub>2</sub>, 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 ... "*

**Natural Gas-Fired Reciprocating Engines** - The following text is an excerpt is from Section 3.2 of EPA's AP-42 emission factor document.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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*"The primary criteria pollutants from natural gas-fired reciprocating engines are oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC). The formation of nitrogen oxides is exponentially related to combustion temperature in the engine cylinder. The other pollutants, CO and VOC species, are primarily the result of incomplete combustion. Particulate matter (PM) emissions include trace amounts of metals, non-combustible inorganic material, and condensable, semi-volatile organics which result from volatilized lubricating oil, engine wear, or from products of incomplete combustion. Sulfur oxides are very low since sulfur compounds are removed from natural gas at processing plants. However, trace amounts of sulfur containing odorant are added to natural gas at city gates prior to distribution for the purpose of leak detection."*

### 3.2 NSPS Subpart GG Requirements

The up-rated and new gas turbines (FGT Nos. 1407 and 1408) are 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 NO<sub>x</sub> and SO<sub>2</sub> as well as testing and monitoring requirements. In general, the emissions standards are:

- NO<sub>x</sub> emissions for FGT No. 1407 ≤ 195 ppmvd corrected to 15% oxygen
- NO<sub>x</sub> emissions for FGT No. 1408 ≤ 196 ppmvd corrected to 15% oxygen
- SO<sub>2</sub> emissions from both units 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 Permit Requirements

The draft permit, issued simultaneously with this report, contains emissions standards and monitoring requirements to ensure that the project remains minor with respect to PSD. In addition, the gas turbines are subject to the applicable New Source Performance Standards of Subpart GG. The following provides a general summary of these requirements.

#### **Modified Reciprocating Internal Combustion Compressor Engine (FGT No. 1404)**

The draft permit authorizes physical modification of the engine's turbocharger to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture and decrease in the cylinder temperatures. The decreased temperatures result in lower NO<sub>x</sub> emissions. Also, the control system will be readjusted to include the new engine performance parameters and operating set points. The draft permit establishes a NO<sub>x</sub> emissions standard for the engine based on the modifications and to ensure that the project remains minor with respect to PSD.

The draft permit requires installation of a new silencer/oxidation catalyst on the modified engine to reduce CO emissions. A CO emission standard is established to ensure that the project remains minor with respect to PSD. According to the vendor, the catalyst has an expected life of 5 to 7 years. Actual in-field use suggests a life expectancy of perhaps 10 years. Potential controlled CO emissions from the engine are very low, approximately 16 tons per year.

Emissions of particulate matter, sulfur dioxide, and volatile organic compounds are all minimized by the efficient combustion of natural gas. Fuel is limited to only pipeline-quality natural gas meeting the FERC limit of 10 grains per 100 SCF of natural gas. As an indicator of overall efficient combustion, the draft permit establishes a visible emissions limit of 10% opacity. The engine shall be tested initially for emissions of CO, NO<sub>x</sub>, and visible emissions. At least quarterly, a trained engine analyst shall inspect the modified engine, estimate the NO<sub>x</sub> emissions concentration with a portable analyzer, and adjust engine performance as necessary. The engine shall be tested annually for emissions of NO<sub>x</sub> and visible emissions.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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The engine shall be tested initially for CO emissions and then during the year prior to renewal of the operation permit. No tests are required for particulate matter, sulfur dioxide, or volatile organic compounds.

### **Up-Rated Gas Turbine Compressor Engine (FGT No. 1407)**

The draft permit authorizes the recently installed Solar Model No. Mars 90-T-13000S gas turbine to be up-rated from 10,350 bhp to 13,000 bhp. The unit may operate continuously (8760 hours per year). Except for startup and shutdown, operation below 50% base load is prohibited. Emissions standards are established for CO and NO<sub>x</sub> to ensure that the project remains minor with respect to PSD. Emissions of particulate matter, sulfur dioxide, and volatile organic compounds are all minimized by the efficient combustion of natural gas. Fuel is limited to only pipeline-quality natural gas meeting the FERC limit of 10 grains per 100 SCF of natural gas. As an indicator of overall efficient combustion, the draft permit establishes a visible emissions limit of 10% opacity. Emissions standards for NO<sub>x</sub> and SO<sub>2</sub> are much more stringent than the NSPS Subpart GG requirements. Initial and annual tests are required for CO, NO<sub>x</sub>, and visible emissions. Due to the low emission rates, no tests are required for particulate matter, sulfur dioxide, or volatile organic compounds.

### **New Gas Turbine Compressor Engine (FGT No. 1408)**

The draft permit authorizes installation of the new Pignone Model No. PGT-10B gas turbine as a compressor engine with a capacity of 15,700 bhp. Although the unit may operate continuously (8760 hours per year), low-load operation is restricted to the following levels:

- Operation between 50% and 90% of base load shall not exceed 2190 hours during any consecutive 12 months.
- Of this authorized low-load operation, operation between 50% and 60% of base load shall not exceed 876 hours during any consecutive 12 months.
- Except for startup and shutdown, operation below 50% base load is prohibited.

Emissions standards are established for CO and NO<sub>x</sub> to ensure that the project remains minor with respect to PSD. Emissions of particulate matter, sulfur dioxide, and volatile organic compounds are all minimized by the efficient combustion of natural gas. Fuel is limited to only pipeline-quality natural gas meeting the FERC limit of 10 grains per 100 SCF of natural gas. As an indicator of overall efficient combustion, the draft permit establishes a visible emissions limit of 10% opacity. Emissions standards for NO<sub>x</sub> and SO<sub>2</sub> are much more stringent than the NSPS Subpart GG requirements. Initial and annual tests are required for CO, NO<sub>x</sub>, and visible emissions. Due to the low emission rates, no tests are required for particulate matter, sulfur dioxide, or volatile organic compounds.

## **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 conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a PSD significant increase in emissions. 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.

**ATTACHMENT A**  
**FGT Compressor Station No. 14**  
**Phase V Modifications**

**Future Potential Emissions, Tons Per Year**

Pollutant	1404	1407	1408	Leaks	Total
CO	15.50	54.20	38.20	0.00	107.90
NOx	177.70	44.50	61.80	0.00	284.00
PM	0.70	3.20	3.90	0.00	7.80
SO <sub>2</sub>	2.00	13.60	16.20	0.00	31.80
VOC	1.90	1.60	2.40	0.37	6.27

**Past Actual Emissions, Tons Per Year**

Pollutant	1404	1407	1408	Leaks	Total
CO	13.70	0.00	0.00	0.00	13.70
NOx	250.10	0.00	0.00	0.00	250.10
PM	0.50	0.00	0.00	0.00	0.50
SO <sub>2</sub>	1.40	0.00	0.00	0.00	1.40
VOC	1.40	0.00	0.00	0.00	1.40

**Net Emissions Change for Project, Tons Per Year**

Pollutant	Project	SER	PSD?
CO	94.20	100	No
NOx	33.90	40	No
PM	7.30	15	No
SO <sub>2</sub>	30.40	40	No
VOC	4.87	40	No

**FGT Station No. 14  
Phase V Modifications  
Modified Engine**

**Past Actual Emissions**

Unit	Pollutant	Emissions Factor	Reference	lb/hour	hour/year	TPY
1404	CO	0.91 g/bhp-hr	Test Data	4.01	6835.5	13.70
	NOx	16.6 g/bhp-hr	Test Data	73.19	6835.5	250.10
	PM	0.00999 lb/mmSCF	AP-42, Table 3.2-2	0.15	6835.5	0.50
	SO2	10 grains/100 scf	FERC Limit	0.41	6835.5	1.40
	VOC	0.09 g/bhp-hr	Test Data	0.40	6835.5	1.40

**Future Potential Emissions**

Unit	Pollutant	Emissions Factor	Reference	lb/hour	hour/year	TPY
1404	CO	0.8 g/bhp-hr	Test Data	3.53	8760.0	15.50
	NOx	9.2 g/bhp-hr	Test Data	40.56	8760.0	177.70
	PM	0.00999 lb/mmSCF	AP-42, Table 3.2-2	0.16	8760.0	0.70
	SO2	10 grains/100 scf	FERC Limit	0.45	8760.0	2.00
	VOC	0.1 g/bhp-hr	Test Data	0.44	8760.0	1.90



**FGT Station No. 14  
Phase V Modifications  
Up-rated Gas Turbine**

**Past Actual Emissions**

Unit	Pollutant	Emissions Factor	Reference	lb/hour	hour/year	TPY
1407	CO	NA	NA	0.00	0.00	0.00
	NOx	NA	NA	0.00	0.00	0.00
	PM	NA	NA	0.00	0.00	0.00
	SO <sub>2</sub>	NA	NA	0.00	0.00	0.00
	VOC	NA	NA	0.00	0.00	0.00

*Note: Although installed in January of 2001, the applicant properly identified past actual emissions as "zero".*

**Future Potential Emissions**

Unit	Pollutant	Emissions Factor	Reference	lb/hour	hour/year	TPY
1407	CO	50 ppmvd @ 15% O <sub>2</sub>	Vendor Data	12.38	8760.0	54.20
	NOx	25 ppmvd @ 15% O <sub>2</sub>	Vendor Data	10.17	8760.0	44.50
	PM	0.00999 lb/mmSCF	AP-42, Table 3.1-2a	0.74	8760.0	3.20
	SO <sub>2</sub>	10 grains/100 scf	FERC Limit	3.10	8760.0	13.60
	VOC	2.5 ppmvd @ 15% O <sub>2</sub>	Vendor Data	0.36	8760.0	1.60

**FGT Station No. 14  
Phase V Modifications  
New Gas Turbine**

**Future Potential Emissions**

Unit	Pollutant	Emissions Factor	Reference	lb/hour	hour/year	TPY
1408	CO	Total	NA	NA	NA	38.20
	50-60% load	75 ppmvd @ 15% O2	Vendor Data	22.50	876.0	9.90
	60-90% load	55 ppmvd @ 15% O2	Vendor Data	17.34	1314.0	11.40
	90-100% load	15 ppmvd @ 15% O2	Vendor Data	5.14	6570.0	16.90
	NOx	25 ppmvd @ 15% O2	Vendor Data	14.10	8760.0	61.80
	PM	0.0066 lb/mmSCF	AP-42, Table 3.1-2a	0.89	8760.0	3.90
	SO2	10 grains/100 scf	FERC Limit	3.70	8760.0	16.20
	VOC	Total	NA	NA	NA	2.40
	50-60% load	1.46 lb/hr	Vendor Data	1.46	876.0	0.60
	60-90% load	1.15 lb/hr	Vendor Data	1.15	1314.0	0.80
	90-100% load	0.29 lb/hr	Vendor Data	0.29	6570.0	1.00

**FGT Station No. 14  
Phase V Modifications  
Fugitive Leaks**

**Future Potential Emissions**

	VOC, TPY
<b>Fugitive Equipment Leaks</b>	0.37

Note: The applicant estimated increased VOC emissions due to leaks from new components that will be added as part of the Phase V expansion project. New components include valves, flanges, pumps, connectors etc. Emissions estimates were based on the EPA publication, "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017, November 1995).

**FGT Station No. 14  
Phase V Modifications  
Operating History**

**FGT Compressor Station No. 14  
Annual Hours of Operation**

Unit	1996	1997	1998	1999	2000
1401	3356	5124	4053	5811	5494
1402	3604	4717	3658	5377	5578
1403	4278	5715	4180	5889	6586
1404	4258	5295	3906	6879	6792
1405	4305	5194	5184	6412	6882
1406	5437	6301	5710	7544	7349

# DRAFT PERMIT

## PERMITTEE:

Florida Gas Transmission Company  
1400 Smith Street  
Houston, TX 77002

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

Gadsden Compressor Station No. 14 Air Permit No. 0390029-003-AC Facility ID No. 0390029 SIC No. 4922 Permit Expires: June 1, 2002
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## PROJECT AND LOCATION

This permit authorizes the construction of a new 15,700 bhp gas turbine compressor engine (No. 1408), the up-rating of an existing gas turbine compressor engine (No. 1407) to 13,000 bhp, and modification of one existing reciprocating internal combustion compressor engine (No. 1404). The new equipment will be installed at Compressor Station No. 14, which is at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden County, Florida. The UTM coordinates are Zone 16, 719.97 km East, and 3377.39 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

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

(DRAFT)

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Howard L. Rhodes, Director  
Division of Air Resources Management

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(Date)

## SECTION 1. GENERAL INFORMATION (DRAFT)

### FACILITY AND PROJECT DESCRIPTION

The existing facility operates as a compressor station in Gadsden County for the Florida Gas Transmission Company's natural gas pipeline. The project will add a new 15,700 bhp gas turbine compressor engine (No. 1408), up-rate existing gas turbine compressor engine (No. 1407) to 13,000 bhp, and modify one existing reciprocating internal combustion compressor engine (No. 1404). After the project is complete, the facility will consist of the following emissions units.

ID	Emission Unit Description
004	<b>FGT No. 1404:</b> One modified 2000 bhp natural gas-fired reciprocating internal combustion engine (Worthington Model No. SEHG-8) was installed as a compressor engine in 1966.
006	<b>FGT No. 1406:</b> One 2700 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. GMVR-12C) was installed as a compressor engine in 1991.
007	<b>FGT Nos. 1401, 1402, 1403, and 1405:</b> Four 2000 bhp natural gas-fired reciprocating internal combustion engines (Worthington Model No. SEHG-8) installed as compressor engines. FGT Nos. 1401, 1402, and 1403 were installed in 1958 and FGT No. 1405 was installed in 1968.
008	<b>FGT No. 1407:</b> One 13,000 bhp gas turbine (Solar Model No. Mars 90-T-13000S) was originally installed as a compressor engine in February 2001 and up-rated later in 2001.
009	<b>Miscellaneous Unregulated Emissions Units</b>
010	<b>FGT No. 1408:</b> A new 15,700 bhp gas turbine (Nuovo Pignone Model No. PGT-10B) to be installed as a compressor engine in 2001.

{Note: Emissions units 001, 002, 003 and 005 are "inactive".}

### REGULATORY CLASSIFICATION

**Title III:** The existing facility is identified as a potential major source of hazardous air pollutants (HAP).

**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<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), 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 the net actual emissions increase 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 and the existing gas turbine are subject to the New Source Performance Standards of 40 CFR 60, Subpart GG.

### RELEVANT DOCUMENTS

The permit application and additional information received to make it complete are not a part of this permit; however, the information is specifically related to this permitting action and is on file with the Department.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

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1. Permitting Authority: All documents related to applications for permits to construct or modify emissions units regulated by this permit 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 Northwest District Office at 160 Governmental Center, Pensacola, Florida 32501-5794 and phone number 850/595-8364.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Northwest District Office at 160 Governmental Center, Pensacola, Florida 32501-5794 and phone number 850/595-8364.
3. Appendices: The following Appendices are attached as part of this permit.
  - Appendix CF: Citation Format
  - Appendix FM: Custom Fuel Monitoring Plan for Gas Turbines Subject to NSPS Subpart GG
  - Appendix GC: General Conditions [Rule 62-4.160, F.A.C.]
  - Appendix GG: NSPS Subpart GG Requirements for Gas Turbines
  - Appendix SC: Standard Conditions [applicable requirements 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: The permittee shall notify the Compliance Authority upon commencement of construction. 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 (DRAFT)

### A. EU-004: FGT No. 1404, Modified Reciprocating Compressor Engine

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

#### Emissions Unit No. 004 (FGT No. 1404) Modified Reciprocating Compressor Engine

*Description:* The modified reciprocating internal combustion engine is a Worthington Model No. SEHG-8 that is used as a compressor engine for the natural gas pipeline. Engine No. 1404 was installed in 1966.

*Fuel:* The engine fires pipeline-quality natural gas (SCC No 2-02-002-54). The maximum natural gas firing rate is approximately 15,900 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas.

*Capacity:* At 16.5 mmBTU per hour of heat input, each engine produces approximately 2000 bhp. After initial startup, the engine is intended to operate at or near capacity.

*Controls:* The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of PM/PM<sub>10</sub>, SO<sub>2</sub>, and VOC. A catalytic converter reduces emissions of CO and VOC. Modifications to the engine turbocharger increase the air manifold pressure and airflow to each cylinder, which reduces NO<sub>x</sub> emissions.

*Stack Parameters:* When operating at capacity, exhaust gases exit a 28 feet tall stack that is 1.44 feet in diameter with a flow rate of approximately 11,600 acfm at 700° F.

*{Permitting Note: The existing natural gas compressor station is a major source with respect to the PSD preconstruction review program. The compressor engine was installed prior to implementation of the PSD program. However, specific modifications are being made in this project to obtain actual emissions decreases for use in a netting analysis that shows the total project to be minor with respect PSD. Therefore, the control systems, fuel specifications, operational restrictions, emissions standards, monitoring provisions, and reporting requirements of this section are established in accordance with Rule 62-212.400, F.A.C.}*

#### EQUIPMENT

1. Engine Turbocharger Modifications: The permittee is authorized to physically modify the turbocharger of the reciprocating compressor engine in order to increase the air manifold pressure and airflow to each cylinder. The purpose of this modification is to increase the air-to-fuel mixture and decrease the cylinder temperatures, which will result in lower NO<sub>x</sub> emissions. Each control system shall be readjusted to include the new engine performance parameters and operating set points. The permittee shall tune, maintain, and operate the modified engine and control system to preserve the reduced NO<sub>x</sub> emissions. [Applicant Request]

#### PERFORMANCE RESTRICTIONS

2. Permitted Capacity: The maximum heat input rate to the modified reciprocating compressor engine shall not exceed 16.5 mmBTU per hour while producing approximately 2000 bhp based on a higher heating value (HHV) of 1040 BTU per SCF for natural gas. [Rule 62-210.200(PTE), F.A.C.]
3. Authorized Fuel: The modified reciprocating compressor engine shall fire only pipeline-quality natural gas with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. The custom fuel monitoring plan for the gas turbines (FGT Unit Nos. 1407 and 1408) shall serve as the compliance demonstration for the fuel sulfur limit. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]
4. Restricted Operation: The hours of operation of the modified reciprocating compressor engine are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]



**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**A. EU-004: FGT No. 1404, Modified Reciprocating Compressor Engine**

**EMISSIONS STANDARDS**

5. Emissions Standards: Emissions from the modified reciprocating compressor engine shall not exceed the following limits for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC).

Pollutant	Standards	Equivalent Maximum Emissions <sup>f</sup>		Rule Basis <sup>g</sup>
		lb/hour	TPY	
CO <sup>a</sup>	0.8 gram/bhp-hour	3.5	15.33	Avoid Rule 62-212.400, F.A.C.
NOx <sup>b</sup>	9.2 gram/bhp-hour	40.6	177.83	Avoid Rule 62-212.400, F.A.C.
SO <sub>2</sub> <sup>c</sup>	10 grains of sulfur per 100 SCF of gas	0.5	2.19	Avoid Rule 62-212.400, F.A.C.
Opacity <sup>d</sup>	10% opacity, 6-minute average	Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM <sup>e</sup>	Good combustion practices (Factor: 0.00999 lb/mmBTU)	0.2	0.88	Avoid Rule 62-212.400, F.A.C.
VOC <sup>e</sup>	Good combustion practices (Factor: 0.1 gram/bhp-hour)	0.4	1.75	Avoid Rule 62-212.400, F.A.C.

- The CO standards are based on a 3-hour test average as determined by EPA Method 10.
- The NOx standards are based on a 3-hour test averages as determined EPA Method 7E.
- The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO<sub>2</sub> emissions. Expected fuel sulfur levels are less than 1 grain per 100 SCF of natural gas from the pipeline. Compliance by record keeping.
- The opacity standard is based on a 6-minute average, as determined by EPA Method 9.
- For both PM and VOC, the efficient combustion of clean fuels is indicated by compliance with opacity and CO standards. Equivalent maximum PM emissions are based on data in Table 3.2-2 of AP-42. Equivalent maximum VOC emissions are based on test data. No testing required.
- Equivalent maximum emissions are based on the maximum expected emissions (or the emissions standard) at permitted capacity and 8760 hours of operation per year.
- 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**

- Initial Compliance Tests: The modified reciprocating compressor engine shall be tested to demonstrate initial compliance with the emissions 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 modified engine. CO and NOx performance tests shall be conducted concurrently at permitted capacity. SO<sub>2</sub> emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.]
- Annual Compliance Tests: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the modified reciprocating compressor engine shall be tested to demonstrate compliance with the emissions standards for

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**A. EU-004: FGT No. 1404, Modified Reciprocating Compressor Engine**

NOx and visible emissions. SO2 emissions shall be calculated based on fuel flow and 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.]

8. Tests Prior to Renewal: Within the 12-month period prior to expiration of the operation permit, the modified reciprocating compressor engine shall be tested to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. CO and NOx performance tests shall be conducted concurrently at permitted capacity. SO2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)3, F.A.C.]
9. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. [Rule 62-297.310(7)(a)9, F.A.C.]
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
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)

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. For each test run, the report shall also indicate the natural gas firing rate (cubic feet per hour), heat input rate (mmBTU per hour), and the power output (bhp). [Rule 62-297.310(8), F.A.C.]
12. Operational Data: The permittee shall adequately monitor the fuel consumption rate and hours of operation for use in submittal of the required Annual Operating Report. At least once per calendar quarter, a trained engine analyst shall inspect each modified engine, estimate the exhaust NOx concentration with a portable analyzer, and adjust engine performance as necessary. These inspections shall be recorded in a permanent log and made available for inspection upon request of the Department. [Rule 62-4.070(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

### B. EU-008: FGT No. 1407, Up-Rated Gas Turbine Compressor Engine

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

#### Emissions Unit No. 008 (FGT No. 1407): Up-Rated Gas Turbine Compressor Engine

**Description:** The up-rated 13,000 bhp gas turbine is a Solar Model No. Mars 90-T-13000S that is used as a compressor engine for the natural gas pipeline. Engine No. 1407 was originally installed in early 2001.

**Fuel:** The gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01). The maximum natural gas firing rate is approximately 108,470 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas.

**Capacity:** At 112.8 mmBTU per hour of heat input, the gas turbine produces approximately 13,000 bhp. After initial startup, the gas turbine is intended to operate at or near capacity.

**Controls:** The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, and VOC. NO<sub>x</sub> emissions are reduced with dry low-NO<sub>x</sub> combustion technology.

**Stack Parameters:** When operating at capacity, exhaust gases exit a rectangular stack (7.5 feet by 8 feet) that is 58 feet tall with a flow rate of approximately 179,500 acfm at 870° F.

*{Permitting Note: The existing natural gas compressor station is a major source with respect to the PSD preconstruction review program. The project includes up-rating the existing gas turbine (FGT No. 1407) installed in early 2001. As such, it is part of the netting analysis that shows the project to be minor with respect to PSD. Therefore, the control systems, fuel specifications, operational restrictions, emissions standards, monitoring provisions, and reporting requirements of this section are established in accordance with Rule 62-212.400, F.A.C.}*

#### APPLICABLE STANDARDS AND REGULATIONS

1. **NSPS Requirements:** The 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. **Up-Rated Gas Turbine (FGT No. 1407):** The permittee is authorized to up-rate the recently installed Solar Model No. Mars 90-T-13000S gas turbine from 10,350 bhp to 13,000 bhp. The permittee shall tune, operate and maintain the gas turbine's dry low-NO<sub>x</sub> combustion system to reduce emissions of nitrogen oxides below the permitted limits. Ancillary equipment includes the automated Solar Turbotronic gas turbine control system, an inlet air filtration system, and a rectangular stack (7.5 feet by 8.0 feet) that is 58 feet tall. [Applicant Request]

#### PERFORMANCE RESTRICTIONS

3. **Permitted Capacities:** The maximum heat input rate to the gas turbine shall not exceed 112.8 mmBTU per hour while producing approximately 13,078 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. For each gas turbine, the permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial testing. Performance data shall be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**B. EU-008: FGT No. 1407, Up-Rated Gas Turbine Compressor Engine**

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 each gas turbine shall not exceed the following limits for carbon monoxide (CO), nitrogen oxides (NOx), opacity, particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC).

Pollutant	Standards	Equivalent Maximum Emissions <sup>f</sup>		Rule Basis <sup>g</sup>
		lb/hour	TPY	
CO <sup>a</sup>	50.0 ppmvd @ 15% O <sub>2</sub>	12.4	54.31	Avoid Rule 62-212.400, F.A.C.
NOx <sup>b</sup>	25.0 ppmvd @ 15% O <sub>2</sub>	10.2	44.68	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO <sub>2</sub> <sup>c</sup>	10.0 grains of sulfur per 100 SCF of gas	3.1	13.58	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
Opacity <sup>d</sup>	10% opacity, 6-minute average	Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM <sup>e</sup>	Good combustion practices (Factor: 0.00999 lb/mmBTU)	0.7	3.3	Avoid Rule 62-212.400, F.A.C.
VOC <sup>e</sup>	Good combustion practices (Factor: 2.5 ppmvd @ 15% O <sub>2</sub> )	0.4	1.75	Avoid Rule 62-212.400, F.A.C.

- a. The CO standards are based on a 3-hour test average as determined by EPA Method 10.
- b. The NOx standard are based a 3-hour test average 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<sub>2</sub> 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 are based on vendor data. Equivalent maximum VOC emissions were conservatively assumed to be 10% of the vendor's data for total unburned hydrocarbon. No testing required.
- f. Equivalent maximum emissions are based on the maximum expected emissions, permitted capacity, a compressor inlet air temperature of 59° F, and 8760 hours of operation per year. 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<sub>2</sub>. Mass emission rates for SO<sub>2</sub> 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,

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

#### B. EU-008: FGT No. 1407, Up-Rated Gas Turbine Compressor Engine

measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on compressor inlet temperatures.

- g. The emissions standards of this permit ensure that the 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<sub>2</sub> emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]
8. Annual Compliance Tests: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), 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<sub>2</sub> emissions shall be calculated based on fuel flow and 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 {Note: The method shall be based on a continuous sampling train.}
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines

Tests shall also be conducted in accordance with the requirements specified in Section 4, Appendix SC of this permit. The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing unless prior written approval is received from the administrator of the Department's Emissions Monitoring Section in accordance with an alternate sampling procedure pursuant to 62-297.620, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**B. EU-008: FGT No. 1407, Up-Rated Gas Turbine Compressor Engine**

**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, NO<sub>x</sub> 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 also 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: In lieu of the NSPS fuel monitoring requirements of 40 CFR 60.334 of Subpart GG, the Department approves the custom fuel-monitoring schedule specified in Appendix FM of this permit. [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. Within the first 10 days of each month, the permittee shall summarize the following information: average heat input (mmBTU per hour); average power output (bhp); and total hours of gas turbine operation. The average heat input for the month shall be based on the contracted heat content (mmBTU per SCF) of the natural gas for the given month. This information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

### C. EU-010: FGT No. 1408, New Gas Turbine Compressor Engine

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

#### Emissions Unit No. 010 (FGT No. 1408): New Gas Turbine Compressor Engine

**Description:** The new 15,700 bhp gas turbine is a Pignone Model No. PGT-10B to 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 129,600 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas.

**Capacity:** At 134.8 mmBTU per hour of heat input, the gas turbine produces approximately 15,700 bhp. After initial startup, the gas turbine is intended to operate between 50% and 100% of base load.

**Controls:** The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of carbon monoxide (CO), particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC). NO<sub>x</sub> emissions are reduced with dry low-NO<sub>x</sub> combustion technology.

**Stack Parameters:** When operating at capacity, exhaust gases exit a 7.6 feet diameter stack that is 61.5 feet tall with a flow rate of approximately 215,200 acfm at 910° 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 project includes adding a new gas turbine (FGT No. 1408) to increase the compressor station capacity. As such, it is part of the netting analysis that shows the project to be minor with respect to PSD. Therefore, the control systems, fuel specifications, operational restrictions, emissions standards, monitoring provisions, and reporting requirements of this section are established in accordance with 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. **New Gas Turbine (FGT No. 1408):** The permittee is authorized to install, tune, operate, and maintain a new Pignone Model No. PGT-10B gas turbine to be used as a compressor engine for the natural gas pipeline. The gas turbine design shall incorporate dry low-NO<sub>x</sub> 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 7.6 feet diameter stack that is 61.5 feet tall. The permittee identifies the new gas turbine compressor engine as FGT No. 1408. [Applicant Request; Design]

#### PERFORMANCE RESTRICTIONS

3. **Permitted Capacity:** The maximum heat input rate to the gas turbine shall not exceed 134.8 mmBTU per hour while producing approximately 15,700 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.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**C. EU-010: FGT No. 1408, New Gas Turbine Compressor Engine**

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 total 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. Operation between 50% and 90% of base load shall not exceed 2190 hours during any consecutive 12 months. Of this authorized low-load operation, operation between 50% and 60% of base load shall not exceed 876 hours during any consecutive 12 months. [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<sub>2</sub>), and volatile organic compounds (VOC).

Pollutant	Standards		Equivalent Maximum Emissions <sup>f</sup>		Rule Basis <sup>b</sup>
	Load	Standards	lb/hour	TPY	
CO <sup>a</sup>	90-100%	15.0 ppmvd @ 15% O <sub>2</sub>	5.1	37.97	Avoid Rule 62-212.400, F.A.C.
	60-90%	55.0 ppmvd @ 15% O <sub>2</sub>	17.3		
	50-60%	75.0 ppmvd @ 15% O <sub>2</sub>	22.5		
NOx <sup>b</sup>	50-100%	25.0 ppmvd @ 15% O <sub>2</sub>	14.1	61.76	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO <sub>2</sub> <sup>c</sup>	50-100%	10.0 grains of sulfur per 100 SCF of natural gas	3.7	16.21	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
Opacity <sup>d</sup>	50-100%	10% opacity, 6-minute average	Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM <sup>e</sup>	50-100%	Good combustion practices	0.9	3.94	Avoid Rule 62-212.400, F.A.C.
VOC <sup>e</sup>	90-100%	Good combustion practices	0.3	2.43	Avoid Rule 62-212.400, F.A.C.
	60-90%	Good combustion practices	1.2		
	50-60%	Good combustion practices	1.5		

- a. The CO standards are based on 3-hour test average as determined by EPA Method 10. Annual CO emissions were based on emissions standards and restricted hours of operation.
- b. The NOx standards are based 3-hour test average 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<sub>2</sub> 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 are based on data in Table 3.1-2a in AP-42. Equivalent maximum VOC emissions are based on vendor data. Annual VOC emissions were based on the vendor data and restricted hours of operation. No testing required.



### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

#### C. EU-010: FGT No. 1408, New Gas Turbine Compressor Engine

- f. Equivalent maximum hourly emissions 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<sub>2</sub>. Mass emission rates for SO<sub>2</sub> 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 CO and 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 CO and NOx performance tests shall consist of three, 20-minute test runs. The peak load CO and NOx performance test shall consist of three, 1-hour test runs. The CO performance tests shall be conducted concurrently with the NOx performance tests. SO<sub>2</sub> emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)1, F.A.C.; 40 CFR 60.8 and 60.335]
- 8. **Annual Compliance Tests:** During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), 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<sub>2</sub> emissions shall be calculated based on fuel flow and 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 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 {Note: The method shall be based on a continuous sampling train.}
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Gas Turbines

Tests shall also be conducted in accordance with the requirements specified in Section 4, Appendix SC of this permit. The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used for compliance testing unless prior written approval is

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

#### C. EU-010: FGT No. 1408, New Gas Turbine Compressor Engine

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]

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

#### RECORDS AND REPORTS

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 also 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: In lieu of the NSPS fuel monitoring requirements of 40 CFR 60.334 of Subpart GG, the Department approves the custom fuel-monitoring schedule specified in Appendix FM of this permit. [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 gas turbine operation within each of the following load ranges: 50% to 60% load, 60% to 90% load; and 90% to 100% load. Within the first 10 days of each month, the permittee shall summarize the following information: average heat input (mmBTU per hour); average power output (bhp); total hours of gas turbine operation; hours of gas turbine operation between 50% to 60% load; hours of gas turbine operation between 60% to 90% load; and hours of gas turbine operation between and 90% to 100% load. The average heat input for the month shall be based on the contracted heat content (mmBTU per SCF) of the natural gas for the given month. This information shall also be used for submittal of the required Annual Operating Report. [Rule 62-4.070(3), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)**

**D. EU-009: Miscellaneous Unregulated Emissions Units**

This permit recognizes the following unregulated emissions units.

<b>Emissions Unit No. 009: Miscellaneous Unregulated Emissions Units</b>	
004	Support equipment includes: <ul style="list-style-type: none"><li>• One Caterpillar Model 3412 emergency generator (637 bhp) fired exclusively with natural gas and identified by the permittee as "GEN03";</li><li>• Lube oil storage tanks;</li><li>• Used oil storage tanks;</li><li>• Blowdown stacks; and</li><li>• Miscellaneous fugitive emission leaks from valves, flanges, etc.</li></ul>

The emergency generator is exempt from air 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.

**SECTION 4. APPENDICES**  
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**SECTION 4. APPENDIX CF**  
**CITATION FORMAT**

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

**REFERENCES TO PREVIOUS PERMITTING ACTIONS**

Old Permit Numbers

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

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

New Permit Numbers

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

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

PSD Permit Numbers

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

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

**RULE CITATION FORMATS**

Florida Administrative Code (F.A.C.)

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

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

Code of Federal Regulations (CFR)

*Example:* [40 CFR 60.7]

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

## SECTION 4. APPENDIX GC

### CUSTOM FUEL MONITORING PLAN FOR NSPS GAS TURBINES

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

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

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

**SECTION 4. APPENDIX GC**  
**GENERAL CONDITIONS**

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

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy and records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

**SECTION 4. APPENDIX GC**  
**GENERAL CONDITIONS**

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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).

**SECTION 4. APPENDIX GG**

**NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES**

- 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

**SECTION 4. APPENDIX GG**  
**NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES**

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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 NO<sub>x</sub> emissions reporting requirements do not apply. The gas turbine uses dry low-NO<sub>x</sub> combustion technology and not wet injection to control NO<sub>x</sub> emissions. Also, NO<sub>x</sub> 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 (NO<sub>x</sub>) shall be computed for each run using the following equation:

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

where:

- NO<sub>x</sub> = emission rate of NO<sub>x</sub> at 15 percent O<sub>2</sub> and ISO standard ambient conditions, volume percent.
- NO<sub>x0</sub> = observed NO<sub>x</sub> 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 H<sub>2</sub>O/g air.
- e = transcendental constant, 2.718.
- Ta = ambient temperature, °K.

**Department requirement:** The permittee is required to correct NO<sub>x</sub> emissions to ISO ambient atmospheric conditions for each required emissions performance test and compare to the NO<sub>x</sub> 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 NO<sub>x</sub> 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-NO<sub>x</sub> controls are only effective above a minimum load, which will be identified during initial testing.}

**SECTION 4. APPENDIX GG**  
**NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES**

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- (3) Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO<sub>x</sub> 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 NO<sub>x</sub> 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**

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*{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 permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
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. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(203), 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.]

**SECTION 4. APPENDIX SC**  
**STANDARD CONDITIONS**

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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

**SECTION 4. APPENDIX SC**  
**STANDARD CONDITIONS**

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

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

**RECORDS AND REPORTS**

19. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
20. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

Florida Department of  
Environmental Protection

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Memorandum

TO: Clair Fancy  
THROUGH: Al Linero *aal*  
FROM: Jeff Koerner *JK*  
DATE: July 19, 2001  
SUBJECT: Draft Air Construction Permit No. 0390029-003-AC  
Florida Gas Transmission Company  
Gadsden Compressor Station No. 14  
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

The draft permit authorizes the construction of a new 15,700 bhp gas turbine compressor engine, the up-rating of an existing gas turbine compressor engine from 10,350 bhp to 13,000 bhp, and the modification of one existing reciprocating internal combustion compressor engine. The new equipment will be installed at existing Compressor Station No. 14, which is located at Route 3, Box 3390, on Highway 65 South near Quincy in Gadsden County, Florida. The engine modifications result in CO and NOx emissions decreases, which allow this project to net out of PSD.

The Technical Evaluation and Preliminary Determination provides a detailed description of the project, rule applicability, and emissions standards. The PE certification briefly summarizes the proposed project. Day #74 is July 26, 2001. I recommend your approval of the attached Draft Permit for this project.

CHF/AAL/jfk

Attachments



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

**P.E. CERTIFICATION STATEMENT**

**PERMITTEE**

Florida Gas Transmission Company  
1400 Smith Street  
Houston, TX 77002

Draft Air Permit No. 0390029-003-AC  
Gadsden Compressor Station No. 14  
Phase V Modifications

**PROJECT DESCRIPTION**

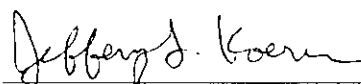
The existing facility operates as a compressor station in Gadsden County for Florida Gas Transmission Company's natural gas pipeline. It consists of five reciprocating internal combustion engines and a small emergency generator. Three 2000 bhp engines were installed in 1958, one 2000 bhp engine was installed in 1966, one 2000 bhp engine was installed in 1968, and one 2700 bhp engine was installed in 1991. All units fire natural gas. The proposed project will add a Nuovo Pignone Model No. PGT-10B gas turbine with a capacity of 15,700 bhp as a new compressor engine. An existing Solar Model No. Mars 90-T-13000S gas turbine will be up-rated from 10,350 bhp to 13,000 bhp. In addition, one existing 2000 bhp reciprocating internal combustion engine will be physically modified to reduce emissions of carbon monoxide and nitrogen oxides. All 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. The existing station is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). Therefore, the new project is subject to a PSD applicability review.

The addition of a new 15,700 bhp gas turbine compressor engine and the up-rating of an existing gas turbine compressor engine will result in potential emission increases. However, modifications to an existing reciprocating internal combustion compressor engine will result in emissions decreases of carbon monoxide and nitrogen oxides. Each engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions. Each control system will then be readjusted to include the new engine performance parameters and operating set points. In addition, a new silencer/oxidation catalyst will be installed on the modified engine to reduce emissions of carbon monoxide and volatile organic compounds. The proposed project will result in the following net emissions increases: 94 tons of carbon monoxide per year; 34 tons of nitrogen oxides per year; 7 tons of particulate matter per year; 31 tons of sulfur dioxide per year; and 5 tons of volatile organic compounds per year. Therefore, this project is not subject to PSD preconstruction review because the net emissions increases from the project are less than each of the corresponding PSD significant emissions rates.

The gas turbines are also 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 SO2 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 turbines will readily comply with the NSPS requirements. Emissions of hazardous air pollutants from the new gas turbines are well below the thresholds requiring a case-by-case MACT analysis.

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

7-19-01

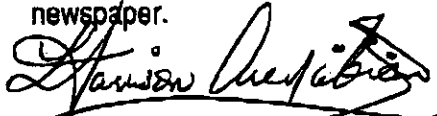
(Date)

# NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

in the Second Judicial Circuit Court was published in said newspaper in the issues of:


JULY 26, 2001

Affiant further says that the said Tallahassee Democrat is a newspaper published at Tallahassee, in the said Leon County, Florida, and that the said newspaper has heretofore been continuously published in said Leon County, Florida, each day and has been entered as second class mail matter at the post office in Tallahassee, in said Leon 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, rebate, commission or refund for the purpose of securing this publication in the said newspaper.

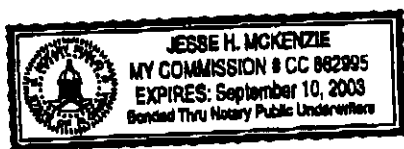


**HARRISON ARENCIBIAN  
LEGAL ADVERTISING REPRESENTATIVE**

Sworn To And Subscribed Before Me This  
26th Day of July A.D. 2001

  
Notary Public  
Jesse H. McKenzie

(SEAL)



# RECEIVED

AUG 03 2001

BUREAU OF AIR REGULATION

TURN IN NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Draft Air Permit No. 030029-003-AC

Florida Gas Transmission Company  
Gulfcan Compressor Station No. 14  
Phase V Modifications

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit for the Florida Gas Transmission Company to construct a new 15,700 bhp gas turbine compressor engine, upgrade an existing gas turbine compressor engine to 13,000 bhp, and modify one existing reciprocating internal combustion compressor engine. The new equipment will be installed at the existing Compressor Station No. 14, which is located at Route 1 Box 2996, on Highway 65 South near Quines in Gadsden County, Florida. The proposed project is part of the Florida Gas Transmission Company's overall Phase V Expansion Project intended to increase the supply of natural gas to Florida. The applicant's authorized representative is Mr. Danny Fribble, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX, 77002.

The addition of a new 15,700 bhp gas turbine compressor engine and the upgrading of an existing gas turbine compressor engine will result in potential emission increases. However, modifications to an existing reciprocating internal combustion compressor engine will result in emissions decreases of carbon monoxide and nitrogen oxides. Each engine will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions. Each control system will then be re-tuned to include the new engine performance parameters and operating set-points. In addition, a new nitrocompensation analyser will be installed on the modified engine to reduce emissions of carbon monoxide and nitrogen organic compounds.

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 61-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. The existing station is in an area that is in attainment for designated (or unclassified) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). Therefore, the new project is subject to a PSD applicability review. The proposed project will result in the following air emissions increases: 94 tons of carbon monoxide per year; 26 tons of nitrogen oxides per year; 7 tons of particulate matter per year; 13 tons of sulphur dioxide per year; and 2 tons of volatile organic compounds per year. Therefore, this project is not subject to PSD preconstruction review because the air emissions increases from the project are less than each of the corresponding PSD significant emissions rates.

The Department will issue the Final Permit with the attached conditions unless a request is 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 25305, 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 procedure for petitioning for a hearing are set forth below. Modification 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 355, Tallahassee, Florida, 32399-0000. Petitions filed by the permit applicant or any of the parties listed below must be filed within seven (7) days of receipt of this notice of intent. Petitions filed by any person other than those entitled to written notice under Section 120.569, 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 120.569, 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 this notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant to 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 participation as a party to it. Any subsequent intervention will be only with the approval of the presiding officer upon the filing of a motion in compliance with Rule 21-106.201, 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 material facts; if there are none, the petition must so indicate; (e) A concise statement of the alleged 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 21-106.201, 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 37  
2400 Blair Stone Road, B15-3303  
Tallahassee, Florida, 32399-2400  
Telephone: 904/488-0114  
Fax: 904/221-6979

Department of Environmental Protection  
Northwest District Office  
Air Resources Section  
140 Governmental Center  
Panama City, FL 32301-5794  
Telephone: 904/981-6700  
Fax: 904/985-4617

The complete project file includes the application, Technical Evaluation and Preliminary Determination, Draft Permit, and information submitted by the responsible party, including all comments received. Section 207.13, F.S. Interested persons may contact the Department's reviewing engineer for a project file, for additional information see the project file number listed above.

TALLAHASSEE DEMOCRAT  
PUBLISHED DAILY  
TALLAHASSEE - LEON - FLORIDA

Tallahassee Dem

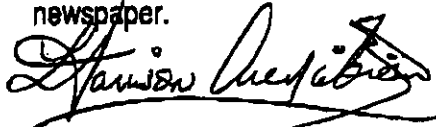
STATE OF FLORIDA COUNTY OF LEON:  
Before the undersigned authority personally  
appeared Harrison Arencibian who on oath  
says that he is Legal Advertising  
Representative of the Tallahassee Democrat,  
a daily newspaper published at Tallahassee in  
Leon County, Florida; that the attached copy  
of advertising being a Legal Ad in the matter of

NOTICE OF INTENT  
TO ISSUE AIR CONSTRUCTION PERMIT

in the Second Judicial Circuit Court was  
published in said newspaper in the issues of:

JULY 26, 2001

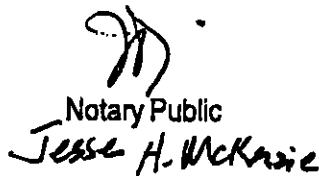
Affiant further says that the said Tallahassee  
Democrat is a newspaper published at  
Tallahassee, in the said Leon County, Florida,  
and that the said newspaper has heretofore  
been continuously published in said Leon  
County, Florida, each day and has been  
entered as second class mail matter at the  
post office in Tallahassee, in said Leon  
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,  
rebate, commission or refund for the purpose  
of securing this publication in the said  
newspaper.



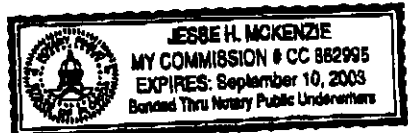
HARRISON ARENCIBIAN  
LEGAL ADVERTISING REPRESENTATIVE

Sworn To And Subscribed Before Me This  
26th Day of July A.D. 2001

(SEAL)



Notary Public  
Jesse H. McKenzie



JESSE H. MCKENZIE  
MY COMMISSION # CC 882995  
EXPIRES: September 10, 2003  
Bonded Thru Notary Public Underwriters

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Drift Air Permit No. 0290075-003-AC

Florida Gas Transmission Company  
Gadsden Compressor Station No. 1  
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 15,700 bhp gas turbine compressor engine, upgrade an existing gas turbine compressor engine to 13,000 bhp, and modify one existing reciprocating internal combustion compressor engine. The new equipment will be installed at the existing Compressor Station No. 14, which is located at Route 1, Box 2396, on Highway 65, South near Quincy in Gadsden County, Florida. The proposed project is part of the Florida Gas Transmission Company's overall Phase V Expansion Project intended to increase the supply of natural gas to Florida. The applicant's authorized representative is Mr. Danny Fribble, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The addition of a new 15,700-bhp gas turbine compressor engine and the upgrading of an existing gas turbine compressor engine will result in potential emission increases. However, modifications to an existing reciprocating internal combustion compressor engine will result in emissions decreases of carbon monoxide and nitrogen oxides. Each engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase the air-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions. Each control system will then be readjusted to include the new engine performance parameters and operating set points. In addition, a new nitrate reduction catalyst will be installed on the modified engine to reduce emissions of carbon monoxide and volatile organic compounds.

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 12-212.400, F.A.C., the Prevention of Significant Deterioration (PSD) of Air Quality. The existing stationary air source that is in attainment (or potential attainment) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). Therefore, the new project is subject to a PSD applicability review. The proposed project will result in the following air emissions increases: 94 tons of carbon monoxide per year, 24 tons of nitrogen oxides per year, 7 tons of particulates matter per year, 33 tons of sulfur dioxide per year, and 4 tons of volatile organic compounds per year. Therefore, this project is not subject to PSD preconstruction review because the net emissions increases from the project are less than each of the corresponding PSD (preconstruction) emission rates.

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 addressed to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #2505, Tallahassee, FL 32399-2505. 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 republish, 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 120.545 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 120.550 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 2600 Commercial Boulevard, Mail Station #35, Tallahassee, Florida, 32399-2000. 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 120.550(1), 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 120.550(1), F.S. however, any person who talked 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 petitioner at the address indicated above at the time of filing. The failure of any person to file a petition within the applicable time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.550 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent determination will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 22-106.20, F.A.C.

A person 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 affecting 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, including specifically 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 22-106.20, 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 will be different from the petition upon which it is 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.

Before the undersigned authority personally appeared Harrison Arencibian who on oath says that he is Legal Advertising Representative of the Tallahassee Democrat, a daily newspaper published at Tallahassee in Leon County, Florida; that the attached copy of advertising being a Legal Ad in the matter of

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

in the Second Judicial Circuit Court was published in said newspaper in the issues of:

**JULY 26, 2001**

Affiant further says that the said Tallahassee Democrat is a newspaper published at Tallahassee, in the said Leon County, Florida, and that the said newspaper has heretofore been continuously published in said Leon County, Florida, each day and has been entered as second class mail matter at the post office in Tallahassee, in said Leon 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, rebate, commission or refund for the purpose of securing this publication in the said newspaper.

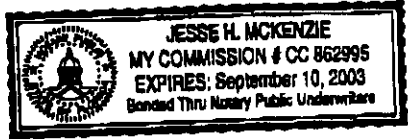
*Harrison Arencibian*

**HARRISON ARENCIBIAN  
LEGAL ADVERTISING REPRESENTATIVE**

Sworn To And Subscribed Before Me This 26th Day of July A.D. 2001

(SEAL)

*Jesse H. McKenzie*  
Notary Public  
**Jesse H. McKenzie**



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

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Disc Air Permit No. 0390019-007-AC  
Florida Gas Transmission Company  
Gaussian Compressor Station No. 14  
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 13,700 bhp gas turbine compressor engine, upgrade existing gas turbine compressor engine to 13,000 bhp, and modify one existing pre-processing internal combustion compressor engine. The new equipment will be installed at the existing Compressor Station No. 14, which is located at Route 1, Box 1190, on Highway 65 South near Quincy in Gadsden County, Florida. The proposed project is part of the Florida Gas Transmission Company's overall Phase V Expansion Project intended to increase the supply of natural gas in Florida. The applicant's authorized representative is Mr. Danny Friddle, Vice President of Operations. The applicant's mailing address is Florida Gas Transmission Company, 1400 Smith Street, Houston, TX 77002.

The addition of a new 13,700 bhp gas turbine compressor engine and the upgrading of an existing gas turbine compressor engine will result in potential emission increases. However, modifications to an existing pre-processing internal combustion compressor engine will result in emission decreases of carbon monoxide and nitrogen oxides. Each engine will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase the air-fuel mixture with a corresponding decrease in the cylinder temperature. The decreased temperature will result in lower NOx emissions. Each control system will then be reprogrammed to include the new engine performance parameters and operating set points. In addition, a new nitrogen reduction catalyst will be installed on the modified engine to reduce emissions of carbon monoxide and volatile organic compounds.

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. The existing facility is in an area that is in attainment for designated (unpolluted) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS). Therefore, the new project is subject to PSD applicability review. The proposed project will result in the following net emissions increases: 94 tons of carbon monoxide per year, 24 tons of nitrogen oxides per year, 7 tons of particulate matter per year, 31 tons of sulfur dioxide per year, and 1 tons of volatile organic compounds per year. Therefore, this project is not subject to PSD preconstruction review because the net emissions increases from the project are less than each of the corresponding PSD significant emission rates.

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 43405, 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 notify the proposed permit applicant, if applicable, another Public Notice.

The Department will issue the 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 43405, 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 notify the proposed permit applicant, if applicable, another Public Notice.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing (hearing) under Sections 120.369 and 120.37, 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 2600 Commercial Boulevard, Mail Station 415, Tallahassee, Florida, 32399-2000. Petitions filed by the permit applicant or any of the designated below must be filed within fourteen (14) days of receipt of this notice of intent. Petitions filed by any person other than the permit applicant or any of the designated below must be filed within fourteen (14) days of receipt of this notice of intent, whichever occurs first. Under Section 120.369(1), 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 applicable time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.369 and 120.37, F.S., or to intervene in that proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer and the filing of a motion in compliance with Rule 28-1.04(2)(a), 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 claims asserted, 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 28-1.04(2)(a), 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, 9:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
1112 Magnolia Drive, Suite 417  
2600 Blair Stone Road, MS 43405  
Tallahassee, Florida, 32399-2400  
Telephone: 850/482-0114  
Fax: 850/421-6879

Department of Environmental Protection  
Northwest District Office  
Air Resources Section  
168 Governmental Center  
Panama, FL 32301-3794  
Telephone: 850/593-3100  
Fax: 850/393-4477

The complete project file includes the application, Technical Evaluation and Preliminary Determination, Draft Permit, and the information submitted by any person who has filed a petition, including comments received during the public hearing. Interested persons may contact the Department of Environmental Protection for the address for additional information on the project.

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Received by (Please Print Clearly) <i>J. W. York</i> B. Date of Delivery <i>APR 23 2001</i></p> <p>C. Signature <i>J. W. York</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p>
<p>1. Article Addressed to:</p> <p>Mr. Danny Pribble Vice President of Operations Florida Gas Transmission Co. PO Box 1188 Houston, TX 77251</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Copy from service label) 7099 3400 0000 1450 2859</p>	
<p>PS Form 3811, July 1999 Domestic Return Receipt 102595-00-M-0952</p>	

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

7099 3400 0000 1450 2859

Article Sent To:  
Mr. Danny Pribble

Postage	\$	Gadsden County  Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
<b>Total Postage &amp; Fees</b>	<b>\$</b>	

Name (Please Print Clearly) (to be completed by mailer)  
Mr. Danny Pribble

Street, Apt. No., or PO Box No.  
PO Box 1188

City, State, ZIP+4  
Houston, TX 77251

PS Form 3800, July 1999 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

April 18, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Re: **Request for Additional Information**  
Project No. 0390029-003-AC  
FGTC Compressor Station No. 14 - Gadsden County, Florida  
Phase V Modification

Dear Mr. Pribble:

On March 26, 2001, the Department received your application for an air construction permit to increase the capacity of Compressor Station No. 14 located in Gadsden County. The project is part of the overall Phase V Expansion Project aimed at boosting the capacity of FGTC's natural gas pipeline for Florida customers. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The netting analysis presented assumes that operation of existing Units 1401, 1402, 1403 and 1405 will not increase as a result of this project. Please discuss the typical operation of these units as related to demands from the natural gas pipeline placed on Compressor Station No. 14. Does FGTC predict that these units will increase operation as a result of this project? How does FGTC determine which units are dispatched first or most frequently? Does FGTC tend to run each engine approximately the same amount of hours for purposes of scheduled maintenance? Does FGTC expect dispatching to change as a result of this project? As supporting information, please provide the individual engine operating hours from 1996 through 2000 for Units 1401, 1401, 1403, 1404, 1405, and 1406.
2. Please identify any other emissions increases or decreases that occurred during the contemporaneous period defined as July 14, 1996 through October 14, 2001. Did FGTC obtain any air construction permits during this period? If so, please describe the projects and the associated emissions. Please identify the make and model of "GEN03". What is the function of this unit? Is it an emergency generator? Was it permitted or exempt from permitting requirements? If permitted, does the permit contain restrictions on operation? Is it fired with natural gas?
3. Page D-4 states that the maximum hours of operation for Unit 1408 represent 75% operation (6570 hour/year) at full load, 15% operation (1314 hour/year) at 60% load, and 10% operation (876 hour/year) at 50% load. The Phase V application for FGT Station No. 12 requested 75% operation at full load (6570 hour/year), 20% operation at 70% load (1752 hour/year), and 5% operation (438 hour/year) at 50% load. Please explain request for different limits at low load operations and why Station No. 14 needs 2190 hours per year below 60% load?
4. Summarizing, the proposed modifications to Unit 1404 includes:
  - The engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions.
  - The control system will be readjusted to include the new engine performance parameters and operating set points.
  - A new silencer/oxidation catalyst will be installed to reduce CO and VOC emissions.

*"More Protection, Less Process"*

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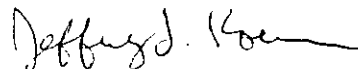
Is this an accurate general description of the proposed modifications? What will be the new "target" air manifold pressure (psig) and cylinder temperature ( $^{\circ}$  F)? Will the ignition timing change from the current  $27^{\circ}$  to  $30^{\circ}$  BTDC? If the turbocharger modifications were made without installing the oxidation catalyst, what would the CO emissions be (lb/hour)? What are the total equipment and installation costs of the turbocharger modification and the silencer/oxidation catalyst? How does FGTC propose to monitor the CO and NOx emission performance improvements? How frequently does FGTC currently perform thorough maintenance inspections for this engine? Will the frequency of inspections change as a result of these modifications? What types and frequencies of inspections does FGTC propose to ensure that the engine remains "in tune" for the improved emission performance levels?

5. The potential emissions from new Unit 1408 are based on 6570 hours per year at full load, 1314 hours per year at 60% load, and 876 hours per year at 50% load. To be federally enforceable and creditable, the maximum hours of operation must be included as permit limits. How does FGTC currently monitor the engine operating hours? How does FGTC propose to conservatively monitor the engine operating hours at each given load condition to ensure that operation (and emissions) does not exceed these levels?
6. The pre-modification test report summarized in Table 2 of Attachment E indicates a NOx emission rate of 68.2 lb/hour. Table 2-7 in the Project Description indicates a pre-modification NOx emission rate of 73.2 lb/hour. In fact, Table 3 of Attachment E indicates a NOx emission rate of 66.1 lb/hour for Unit 1405, an identical engine. Please explain the discrepancy or correct the PSD applicability analysis. The application was missing the post-modification test report summary for similar Unit 1504. Please submit.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information.

If you have any questions regarding this matter, please call me at 850/921-9536.

Sincerely,



Jeff Koerner, P.E.  
New Source Review Section

AAL/jfk

cc: Mr. Jim Thompson, FGTC  
Mr. Kevin McGlynn, McGlynn Consulting Co.  
Mr. Duane Pierce, AQMcS

Ms. Sandra Veazey, NWD Office  
Mr. Gregg Worley, EPA Region 4 Office  
Mr. John Bunyak, NPS



## Florida Gas Transmission Company

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

May 11, 2001

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

RECEIVED

MAY 14 2001

BUREAU OF AIR REGULATION

Re: **Request for Additional Information**  
Project No. 0390029-003-AC  
FGTC Compressor Station No. 14 - Gadsden County, Florida  
Phase V Modification

Dear Mr. Koerner:

The following is being sent in response to the above referenced Request for Additional Information.

- The netting analysis presented assumes that operation of existing Units 1401, 1402, 1403 and 1405 will not increase as a result of this project. Please discuss the typical operation of these units as related to demands from the natural gas pipeline placed on Compressor Station No. 14. Does FGTC predict that these units will increase operation as a result of this project? How does FGTC determine which units are dispatched first or most frequently? Does FGTC tend to run each engine approximately the same amount of hours for purposes of scheduled maintenance? Does FGTC expect dispatching to change as a result of this project? As supporting information, please provide the individual engine operating hours from 1996 through 2000 for Units 1401, 1401, 1403, 1404, 1405, and 1406.*

**Response:**

FGT does not expect the use of units 1401, 1402, 1403, and 1405 to increase as a result of this project. On the contrary, given similar pipeline demand conditions, FGT expects that the use of the reciprocating compressors will diminish with the installation of the new turbines. The reciprocating compressors require more attention and maintenance, so from an operational management perspective, it is in the best interest of FGT to operate them less.

There are two major factors evaluated in choosing which compressors will be dispatched first. These are, the unit's capacity to move gas and the number of operating hours on the unit since the last overhaul.

Generally when a station comes on line, gas control requests that the largest units come on line first. Gas control typically asks for 3-4 units. The first unit asked for is 1406 because it has the largest Hp rating. Then, units 1404 and 1405 are put on line because they have larger compressor cylinders and will build compressor spread faster. The remaining choice is usually left to the station personnel. Station personnel will generally try and balance the number of operating hours on each unit between overhauls.

It should be noted that the operating hours of the whole station and the reciprocating units as a whole are primarily a function of pipeline demand. While the turbines are expected to create less dependency on the reciprocating units, the demands of the pipeline as a whole can increase resulting in increased usage of all the station compressors.

There is no known reason for FGT to change dispatching order as a result of the project

Additionally, there are three separate pipelines, a 20", a 24" and a 36." The proposed new turbine will be operating on the 36" pipeline while Units 1401, 1402, 1403, and 1405 operate on the smaller pipelines.



Crossovers have been added between the lines, but these have been added with the intent to allow the turbines to assist with compression on the smaller pipelines that use Units 1401, 1402, 1403, and 1405.

Annual operating hours for the years 1996 through 2000 for Units 1401, 1401, 1403, 1404, 1405, and 1406 have been attached as Attachment A.

2. *Please identify any other emissions increases or decreases that occurred during the contemporaneous period defined as July 14, 1996 through October 14, 2001. Did FGTC obtain any air construction permits during this period? If so, please describe the projects and the associated emissions. Please identify the make and model of "GEN03". What is the function of this unit? Is it an emergency generator? Was it permitted or exempt from permitting requirements? If permitted, does the permit contain restrictions on operation? Is it fired with natural gas?*

**Response:** All contemporaneous changes have been listed in Table 3-4, page 23 of the application narrative. This includes the Phase IV Expansion Project changes. There are no other emission increases or decreases that have occurred during the contemporaneous period defined as July 14, 1996 through October 14, 2001. Additionally, FGTC has not obtained any other air construction permits during this period other than for the changes listed in Table 3-4.

"GEN03" is an emergency generator that has been constructed under Permit No. 0390029-002-AC as part of the Phase IV Expansion Project. It is listed in Appendix I-1 of the permit as Item No. 1 and is limited to 500 hours of operation per year. It replaced two existing emergency generators. A gas-fired Caterpillar Model 3412 reciprocating engine rated at 637 bhp powers the emergency generator. Please refer to the Application for Air Construction Permit dated November 1999 for more details.

3. *Page D-4 states that the maximum hours of operation for Unit 1408 represent 75% operation (6570 hour/year) at full load, 15% operation (1314 hour/year) at 60% load, and 10% operation (876 hour/year) at 50% load. The Phase V application for FGT Station No. 12 requested 75% operation at full load (6570 hour/year), 20% operation at 70% load (1752 hour/year), and 5% operation (438 hour/year) at 50% load. Please explain request for different limits at low load operations and why Station No. 14 needs 2190 hours per year below 60% load?*

**Response:** FGTC desires to both maximize the operational flexibility of the proposed PGT-10B turbines at Stations 12 and 14 and to also avoid triggering the requirement for a PSD permit. Ideally, FGTC would prefer to operate the PGT-10B units without any load restrictions; however, this is not possible without triggering PSD review. FGTC is, therefore, willing to accept restrictions on the load schedule in order to avoid triggering PSD review. In both cases load schedules have been requested for the maximum PGT-10B operating flexibility that can be obtained without triggering PSD requirements for CO. There are differences due to variations in hours of operation for the past actual hours of operation for the modified engines (1204, 1205 and 1404) and also for the past actual emission rates as determined by emissions testing. Load schedules have been adjusted so that netting calculations result in levels below the PSD CO trigger.

Past actual emissions for Unit 1404 have been higher compared to Units 1204 and 1205 based on hours of operation and past actual emission rates. This resulted in a larger difference in the future potential to emit minus past actual value calculation which in turn allowed more flexibility, i.e. lower loads, in the load schedule for the PGT-10B.

4. *Summarizing, the proposed modifications to Unit 1404 includes:*

- *The engine turbocharger will be physically modified to increase the air manifold pressure and airflow to each cylinder. This will increase in the air-to-fuel mixture with a corresponding decrease in the cylinder temperatures. The decreased temperatures result in lower NOx emissions.*

- *The control system will be readjusted to include the new engine performance parameters and operating set points.*
- *A new silencer/oxidation catalyst will be installed to reduce CO and VOC emissions.*

*Is this an accurate general description of the proposed modifications? What will be the new "target" air manifold pressure (psig) and cylinder temperature (° F)? Will the ignition timing change from the current 27° to 30° BTDC? If the turbocharger modifications were made without installing the oxidation catalyst, what would the CO emissions be (lb/hour)? What are the total equipment and installation costs of the turbocharger modification and the silencer/oxidation catalyst? How does FGTC propose to monitor the CO and NOx emission performance improvements? How frequently does FGTC currently perform thorough maintenance inspections for this engine? Will the frequency of inspections change as a result of these modifications? What types and frequencies of inspections does FGTC propose to ensure that the engine remains "in tune" for the improved emission performance levels?*

**Response:**

AMP and timing parameters have not yet been finalized. Final AMP is expected to increase to a value between 7-9" Hg. Final timing is expected to be from 16-20° BTDC. These parameters will be fine tuned to meet or be less than emission permit levels with a secondary consideration to fuel consumption.

The CO emissions without the oxidation catalyst would be 6.66 lb/hr (1.51 g/bhp-hr) for Unit 1404 based on testing of the modified unit.

The costs for the turbocharger modification, oxidation catalyst, platforms and testing are about \$90K per unit.

These new operating parameters (AMP, and timing) will be programmed into the unit controller. FGTC proposes to monitor CO and NOx emission performance semi-annually with a portable analyzer.

On a quarterly basis, an engine analyst will check the performance inspect each engine using an engine analyzer.

5. *The potential emissions from new Unit 1408 are based on 6570 hours per year at full load, 1314 hours per year at 60% load, and 876 hours per year at 50% load. To be federally enforceable and creditable, the maximum hours of operation must be included as permit limits. How does FGTC currently monitor the engine operating hours? How does FGTC propose to conservatively monitor the engine operating hours at each given load condition to ensure that operation (and emissions) does not exceed these levels?*

**Response:** For existing engines, FGTC only maintains monthly hours of operation. For the proposed new Unit 1408, the control system will maintain records of hours of operation and loads at which the turbine operated. The following is a description of what the control program will do on the new turbine.

The unit automation will calculate the thermal load based on actual conditions. This will be done in small intervals (30 seconds or a minute). It will then log the time operated in a load category (e.g. 50-60% load, 70-80%load). It will do this continuously while summing up hours that are operated in each category. A report, and feed information will be made sent to the station control panel that shows the year to date operating hours for each category. The station control panel will control the percent load budget based on the operating hours spent in order to prevent any operation that would exceed the permitted hours for lower loads. For example, it will increase the load on the PGT10B if it has already spent the allocated operating hours for 50-70% load. A report will be printed annually that will summarize the operating hours used for each load category.

6. *The pre-modification test report summarized in Table 2 of Attachment E indicates a NOx emission rate of 68.2 lb/hour. Table 2-7 in the Project Description indicates a pre-modification NOx emission rate of 73.2 lb/hour. In*

*fact, Table 3 of Attachment E indicates a NOx emission rate of 66.1 lb/hour for Unit 1405, an identical engine. Please explain the discrepancy or correct the PSD applicability analysis. The application was missing the post-modification test report summary for similar Unit 1504. Please submit.*

**Response:** The values in Tables 2 and 3 of Attachment E for NOx emission rates of 68.2 lb/hour for Unit 1404 and 66.1 lb/hour for Unit 1405, respectively, are based on emission rates of 16.6 g/bhp-hr for Unit 1404 and 15.4 g/bhp-hr for Unit 1405 and the engine loads during the test in bhp. While these engines are identical models, it would be unreasonable to expect two engines installed two years apart and subject to variations in operation that have occurred over more than thirty years and to the error inherent in any test method to have identical emissions. In fact it would be very surprising if they had identical emission rates even when new.

The value provided in Tables 2-7 in the Project Description indicates a pre-modification NOx emission rate of 473.2 lb/hour for Unit 1404 based on a bhp value of 2000 bhp.

Unit 1404:

Test:  $16.6 \text{ g/bhp-hr} \times 1865 \text{ bhp} \times 1 \text{ lb/453.6 g} = 68.2 \text{ lb/hr}$

Project:  $16.6 \text{ g/bhp-hr} \times 2000 \text{ bhp} \times 1 \text{ lb/453.6 g} = 73.2 \text{ lb/hr}$

Loads are not recorded during normal operation for Unit 1404 so that there are no records of the loads at which it was operated; however, it is normally operated at full load. Additionally, emissions for reciprocating engines are usually presented as g/bhp-hr values, e.g. in BACT analyses so that value was used as a basis.

The post-modification test report summary for Unit 1504 was inadvertently omitted from your copy. It has been attached as Attachment B.

FGTC believes that the above responses do not constitute material changes to the application; therefore, a new certification statement by the authorized responsible official has not been included.

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

Sincerely,



Jim Thompson  
Project Manager, Environmental

#### ATTACHMENTS

CC: Dan Pribble  
Allan Weatherford  
Jake Krautsch  
Frank Diemont  
Marcello Minotti  
Kevin McGlynn  
Duane Pierce  
*A. Albin, NWD*

**Attachment A**  
**Hours of Operation**

<b>FGT Compressor Station No. 14</b>					
<b>Unit</b>	<b>Hours of Operation</b>				
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<b>1401</b>	3356	5124	4053	5811	5494
<b>1402</b>	3604	4717	3658	5377	5578
<b>1403</b>	4278	5715	4180	5889	6586
<b>1404</b>	4258	5295	3906	6879	6792
<b>1405</b>	4305	5194	5184	6412	6882
<b>1406</b>	5437	6301	5710	7544	7349

**Attachment B**

**Summary of Modified 1504 Test Report**

**Table 5: Unit 1504 Post-Modification**

Florida Gas Transmission  
 Compressor Station No. 15  
 6 miles N of Perry, FL on C-361  
 Worthington SERG-8 Compressor Engine  
 Technician: J.B. RPO

2030 bhp @  
 345 rpm

Test Run No.	1504-CM-1	1504-CM-2	1504-CM-3	Averages
Date	4/28/00	4/28/00	4/28/00	
Start Time	13:15	14:34	15:52	
Stop Time	14:15	15:34	16:52	
<b>Engine/Compressor Operation</b>				
Engine Load (bhp, measured at the compressor)	2036	2017	2003	2019
Fuel Horsepower (bhp, based upon fuel torque)	2080	2064	2051	2063
Engine Speed (rpm)	344	345	345	345
Torque (% full load = 2030 bhp at 345 rpm)	102.7	101.7	101.1	101.8
Ignition Timing ("BTDC)	17.0	17.0	17.0	17.0
Air Manifold Pressure ("Hg)	10.6	10.7	10.7	10.7
Air Manifold Temperature (°F)	99	99	99	99
Fuel Manifold Pressure (psig)	32.1	32.1	32.2	32.1
Station Section Pressure (psig)	701	695	694	697
Station Section Temperature (°F)	66.0	66.0	66.0	66
Station Discharge Pressure (psig)	947	937	936	940
Station Discharge Temperature (°F)	112.7	112.0	112.0	112.2
Compressor Flow Rate (MMSCFD)	102	102	102	102.3
Loading Step Number	0	0	0	-
<b>Heating Fuel Data (Natural Gas)</b>				
Fuel Heating Value (Btu/SCF, HHV)	1037.0	1037.0	1037.0	1037.0
Fuel Specific Gravity	0.5851	0.5851	0.5851	0.5851
O <sub>2</sub> "F-factor" (DSCFex/MMBtu @ 0% excess air)	8639	8639	8639	8639
CO <sub>2</sub> "F-factor" (DSCFex/MMBtu @ 0% excess air)	1027	1027	1027	1027
Fuel Flow (SCFH)	15,216	15,133	15,061	15,137
Heat Input (MMBtu/hr)	15.78	15.69	15.62	15.70
Brake-specific Fuel Consumption (Btu/bhp-hr)	7,750	7,780	7,797	7776
<b>Ambient Conditions</b>				
Atmospheric Pressure ("Hg)	29.82	29.76	29.75	29.78
Temperature (°F): Dry bulb	73.1	82.3	82.3	79.2
(°F): Wet bulb	67.0	70.0	72.0	69.7
Humidity (lbs moisture/lb air)	0.0125	0.0126	0.0142	0.0131
<b>Measured Emissions</b>				
NO <sub>x</sub> (ppmv, dry basis)	481.7	446.9	453.9	460.8
CO (ppmv, dry basis)	282.4	281.3	278.6	280.8
THC (ppmv, wet basis)	1209.5	1146.5	1222.8	1192.9
Fuel VOC Fraction (% non-methane/non-ethane)	2.44	2.44	2.44	2.44
VOC (ppmv, wet basis)	29.5	28.0	29.8	29.1
O <sub>2</sub> (% volume, dry basis)	12.12	12.17	12.19	12.16
CO <sub>2</sub> (% volume, dry basis)	5.03	5.00	4.90	4.98
F <sub>o</sub> (fuel factor, range = 1.600-1.836 for NG)	1.75	1.75	1.78	1.76
<b>Stack Volumetric Flow Rates</b>				
via Pitot Tube (SCFH, dry basis)	3.36E+05	3.35E+05	3.36E+05	3.36E+05
via O <sub>2</sub> "F-factor" (SCFH, dry basis)	3.24E+05	3.25E+05	3.24E+05	3.24E+05
via CO <sub>2</sub> "F-factor" (SCFH, dry basis)	3.22E+05	3.22E+05	3.27E+05	3.24E+05
<b>Calculated Emission Rates (via pitot tube)</b>				
NO <sub>x</sub> (lbs/hr)	19.3	17.9	18.2	18.8
CO (lbs/hr)	6.90	6.85	6.80	6.85
VOC (lbs/hr, based on THC emissions and fuel VOC)	0.459	0.435	0.466	0.453
NO <sub>x</sub> (tons/yr)	84.7	78.3	79.7	80.9
CO (tons/yr)	30.2	30.0	29.8	30.0
VOC (tons/yr)	2.01	1.91	2.04	1.99
NO <sub>x</sub> (g/bhp-hr)	4.22	3.93	4.03	4.06
CO (g/bhp-hr)	1.51	1.51	1.50	1.51
CO (g/bhp-hr)	0.10	0.10	0.10	0.10