

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

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

Air Permit No. 0571279-001-AC
New Compressor Station No. 27
Hillsborough County, Florida

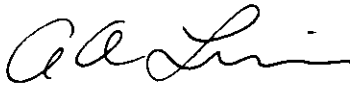
Authorized Representative:

Mr. Rick Craig, V.P. of Southeastern Operations

Enclosed is Final Air Permit No. 0571279-001-AC, which authorizes the construction of a new compressor station for Florida Gas Transmission Company's existing natural gas pipeline. The new facility will be located approximately two miles south of U.S. Highway 301 on County Road 579 near the city of Thonotosassa in Hillsborough County, Florida. As noted in the Final Determination (attached), only minor changes to correct typographical errors were made. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.


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

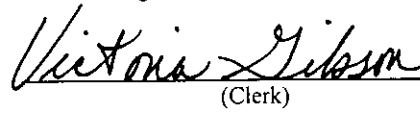
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 8/12/02 to the persons listed:

Mr. Rick Craig, FGTC*
Mr. Jim Thompson, FGTC
Mr. Kevin McGlynn, McGlynn Consulting Co.
Mr. V. Duane Pierce, AQMcS
Mr. Jerry Campbell, EPC of HC
Mr. Gerry Kissel, SWD

Clerk Stamp

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


(Clerk) August 12, 2002 (Date)

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Mr. Rick Craig V.P. of Southeastern Operations Florida Gas Transmission Company PO Box 1188 Houston, TX 77251	3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article	4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
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FINAL DETERMINATION

PERMITTEE

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

PERMITTING AUTHORITY

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

PROJECT

Air Permit No. 0571279-001-AC
Hillsborough Compressor Station No. 27

Florida Gas Transmission Company proposes to construct a new compressor station for their existing natural gas pipeline. It will consist of two 7200 bhp gas turbine compressor engines and miscellaneous support equipment including a 585 bhp emergency generator, storage tanks, buildings and ancillary equipment. The compressor engines and emergency generator will fire only natural gas. The new facility will be located approximately two miles south of U.S. Highway 301 on County Road 579 near the city of Thonotosassa in Hillsborough County, Florida.

NOTICE, PUBLICATION, AND ADMINISTRATIVE PROCEDURES

The Department distributed an "Intent to Issue Permit" package on March 4, 2002. The applicant published the "Public Notice of Intent to Issue" in The Tampa Tribune on March 12, 2002. The Department received the proof of publication on March 20, 2002. An extension of time in which to file a petition was filed by a third party and later withdrawn. A third party filed a petition and an administrative hearing held on July 18th and 19th. Before presenting a case, the petitioners withdrew their petition. The hearing officer closed the administrative case on July 23, 2002. The Department attended an informational meeting held by U.S. Congressman Bilirakis on August 6th.

COMMENTS

No comments on the Draft Permit were received from the Department's Southwest District Office or the applicant. The Department received approximately 350 comment letters and several neighborhood petitions with perhaps hundreds of more signatures. The following discussion generally summarizes the types of comments received from the public.

1. *Comment:* The applicant did not file the proper notification.

Response: An applicant for a state air permit is only required to publish a notice of the Department's intent to issue a permit in a newspaper of general circulation in the area of the project. By law, the notice must be published for one day only. Affected parties have 14 days to provide comments on the draft permit, to petition the project by seeking an administrative hearing, or to file for an extension of time in which to decide whether or not to petition the project. For this project, Florida Gas Transmission Company (FGTC) published the Public Notice in The Tampa Tribune on March 12, 2002 and provided proof of publication to the Department. As a result of the publication, the Department received approximately 350 comment letters, an extension of time was filed (later withdrawn), and an administrative hearing was held (petition ultimately withdrawn). Accordingly, the Department's requirements for notification were met.

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2. *Comment:* The proposed station would be too close to nearby schools, churches, lakes, homes, cattle, and crops. Pollution from the proposed project would threaten nearby people, animals, and crops. Pollution from the proposed station would adversely affect people with existing illnesses.

Response: Based on the potential maximum emissions from the proposed compressor station, the project is considered a minor source of air pollution. In general, gas turbines provide excellent dispersion of any pollutants emitted due to the high temperature and velocity of the exhaust. It is expected to have little impact on the existing ambient air quality. The Department does not generally require an ambient air impact analysis for minor sources of air pollution. However, screening models indicate that the maximum predicted ambient impacts are well below the state and federal Ambient Air Quality Standards (AAQS). These standards were designed to protect the public health while providing an adequate margin of safety.

3. *Comment:* The Department should ensure that the gas turbines have the most stringent controls.

Response: Major sources of air pollution that will be located in areas not currently meeting the state or federal Ambient Air Quality Standards are required to undergo new source nonattainment area preconstruction review. This process requires installation of the most stringent pollution controls, which would result in emission levels meeting the Lowest Achievable Emission Rate (LAER). LAER determinations are common in other regions, such as California. However, this process is not applicable because the project is a minor source of air pollution and Florida is currently in attainment with all Ambient Air Quality Standards.

Major sources of air pollution that will be located in areas that currently meet the state and federal Ambient Air Quality Standards are required to undergo new source preconstruction review for the prevention of significant deterioration (PSD). This process requires the installation of the Best Available Control Technology (BACT) to reduce emissions. BACT technology must be proven, commercially available, and cost effective. In addition, these projects must also provide a detailed ambient air impact analysis. Because this project is a minor source of air pollution, this process is not applicable.

As mentioned above, the compressor station project is considered a minor source of air pollution. However, the design incorporates lean premix combustion, which is the same technology used for much larger units that are subject to the more extensive PSD review. In addition, the units will exclusively fire natural gas, which is typically determined to represent the Best Available Control Technology for emissions of particulate matter and sulfur dioxide with regard to the much larger gas turbine projects.

The applicable requirements for gas turbines are the federal New Source Performance Standards in Subpart GG of the Code of Federal Regulations, which Florida adopts by reference into the state rules. The federal requirements specify emissions standards for emissions of nitrogen oxides (NO_x) and sulfur dioxide (SO₂). The draft permit establishes standards that are 1/7 of the federal NO_x standard and 1/25 of the federal SO₂ standard. In addition, the draft permit specifies limits for plume opacity and emissions of carbon monoxide. The Department has concluded that the project complies with the regulatory requirements.

4. *Comment:* The local topography was not considered in any analysis of ambient impacts.

Response: The Department does not generally require an ambient air impact analysis for minor sources of air pollution. However, even for large major sources of air pollution, the Department does not typically consider topography in modeling scenarios. For purposes of air dispersion modeling, Florida is generally flat with some rolling hills and slight changes in elevation. Topography is considered in other states having geographical features such as mountains and valleys. The applicant provided additional information at the administrative hearing that, even considering topography, impacts from the project remain well below the ambient air quality standards. Given the surrounding terrain, the compressor station is located on one of the higher properties, which will aid in the dispersion of any pollutants.

5. *Comment:* The project would be located on one of the highest points in Hillsborough County and would have very high visibility.

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Response: The project site is approximately 20 acres with the gas turbines located on about 1-2 acres near the center of the property. The Department understands that FGTC typically plants trees and other landscape specifically to reduce visibility of their compressor stations. Gas turbines firing only natural gas are expected to have no visible plume from the exhaust stack.

6. *Comment:* The proposed station would be noisy and cause objectionable odors.

Response: The project site provides a buffer that will reduce potential offsite noise impacts. FGTC proposes to add exhaust silencers to the compressor engines and place them in enclosed, sound-attenuated buildings. The Department does not regulate noise, but local entities can impose noise ordinances. The Federal Energy Regulatory Commission (FERC) specifies maximum permissible noise levels (≤ 55 dB L_{DN}) as conditions of the federal certification. For this certification, FGTC performed background noise monitoring and modeled noise impacts to confirm that the project could meet this requirement. The federal certification also requires FGTC to monitor offsite noise levels after completion of the project and to mitigate noise levels above this limit. In addition, Hillsborough County has a noise ordinance that will be enforced by the Environmental Protection Commission of Hillsborough County.

At various locations, the natural gas pipeline is odorized with mercapton as a safety precaution. In this way, fugitive leaks may be more easily detected. According to FGTC, there will be no noticeable odors from the station during normal operations. However, occasional odors may be noticeable in the immediate vicinity during periods of maintenance or repair. The Department's regulations prohibit objectionable odors and this requirement is included in the draft permit.

7. *Comment:* The project should be located elsewhere. The Department should direct Florida Gas Transmission to pursue an alternate site.

Response: The Department does not select project sites and, in most cases, the siting of projects is at the discretion of local planning and zoning officials. However, the Federal Energy Regulatory Commission (FERC) authorizes the siting of gas transmission projects. For review of the air construction permit application, the Department must determine whether the project meets the state regulatory requirements regarding air pollution. The Department has concluded that the project will comply with its rules.

The following comments were received by the Environmental Protection Commission of Hillsborough County (EPC).

1. *Comment:* EPC requests a reference of the FERC requirements for noise in the project description. EPC also requests that FGTC be notified that Rules of EPC Chapter 1-10 include a nighttime noise standard that must be met from day one of operation.

Response: As previously mentioned, the Department does not regulate noise, but local authorities may impose noise ordinances. This document shall serve as notice to FGTC of a local noise ordinance in Hillsborough County. No changes were made to the draft permit.

2. *Comment:* EPC recommends that the Department include a requirement in the air construction permit for FGTC to provide a Preventive Maintenance and Inspection Plan as part of the application for an air operation permit. The plan should address potential sources of odor and should be designed to minimize fugitive leaks. The plan would be reviewed and approved as part of the application for an operation permit.

Response: The Department notes that EPC will be the delegated permitting authority for reviewing FGTC's application for an air operation permit. EPC may request, review, and approve such a plan as part of the application process for the air operation permit. No changes were made to the draft permit.

On August 6th, the Department also attended a community meeting in Thonotosassa to answer questions regarding the proposed project. The meeting was hosted by U.S. Congressman Bilirakis. In addition to about a hundred local citizens, representatives from Florida Gas Transmission Company and the Federal Energy Regulatory Commissions (FERC) also attended. The majority of concerns expressed at the meeting were

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directed to FERC and related to the siting of the compressor station. The following summarizes the main points discussed at this meeting that were directed to the Department.

1. *Question:* Has the Department considered alternative sites for this project?

Response: The Department has no authority to select specific sites for air construction permit projects. In general, local planning and zoning departments are responsible for the approval of project site selections with appropriate local input. However, for pipeline transmission projects, the Federal Energy Regulatory Commission is ultimately responsible for reviewing available project sites, gathering public input, and selecting a final suitable site.

2. *Question:* Has the Department made a final decision on the air construction permit application?

Response: At the time of the meeting, the Department had not issued a final action. However, the Department explained that it is at the end of the permitting process and expected to issue a final air construction permit very soon.

3. *Question:* Is the Department requiring the Best Available Control Technology?

Response: As discussed previously in this document, minor sources of air pollution are not subject to a determination of the Best Available Control Technology. The gas turbines for this project are subject to the federal New Source Performance Standards, which are adopted by reference in our state rules. However, the air construction permit includes a nitrogen oxides limit that is 1/7 of the federal standard and a sulfur dioxide limit that is equivalent to 1/25 of the federal standard. Based on the actual sulfur content of natural gas, actual sulfur dioxide emissions are expected to be less than 1/250 of the federal standard. In addition, the gas turbines utilize lean premix combustion technology, which has been determined to represent the Best Available Control Technology for large simple cycle gas turbine projects. Although the permitted emission levels are not as low as those for the larger units, actual performance tests indicate emissions of about 1/2 of the NOx permit limit and about 1/10 of the carbon monoxide limit.

4. *Question:* Has the Department considered electrically driven compressor engines?

Response: Although electrically driven compressor engines are a viable alternative for certain projects, so are gas turbines, which are used extensively in pipeline systems throughout the United States. Florida Gas Transmission Company indicated that the existing electrical transmission lines might not be suitable for the amount of energy required (about 5 MW per compressor engine). Florida Gas Transmission Company believes that gas turbines will provide greater reliability than electrically driven units will because they control the natural gas supply.

CONCLUSION

The final action of the Department is to issue the permit with only minor revisions to correct typographical errors. In addition, the permit expiration date was extended until August 1, 2003 due to account for the delay in issuance of the final permit.



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

PERMITTEE:

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

Authorized Representative:

Mr. Rick Craig, V.P. of Southeastern Operations

Hillsborough Compressor Station No. 27
Air Permit No. 0571279-001-AC
Facility ID No. 0571279
SIC No. 4922
Permit Expires: May 1, 2003

PROJECT AND LOCATION

This permit authorizes the construction of a new compressor station to be located approximately two miles south of U.S. Highway 301 on County Road 579 near the city of Thonotosassa in Hillsborough County, Florida. The new station will consist of two 7222 bhp gas turbine compressor engines and miscellaneous support equipment including a 585 bhp emergency generator, storage tanks, buildings and ancillary equipment. The UTM coordinates are Zone 17, 372.16 km East, and 3102.41 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

Howard L. Rhodes, Director
Division of Air Resources Management

(Date)

SECTION 1. GENERAL INFORMATION

FACILITY AND PROJECT DESCRIPTION

The proposed project will create a new compressor station in Hillsborough County for Florida Gas Transmission Company's existing natural gas pipeline. The new facility will consist of the following emissions units.

ID	Emission Unit Description
001	FGT Unit No. 2701: One 7200 bhp (ISO) gas turbine compressor engine firing natural gas (63 MMBtu/hour) consisting of a Cooper-Rolls Royce Model No. 501-KC7 DLE.
002	FGT Unit No. 2702: One 7200 bhp (ISO) gas turbine compressor engine firing natural gas (63 MMBtu/hour) consisting of a Cooper-Rolls Royce Model No. 501-KC7 DLE.
003	Miscellaneous Support Equipment: One 585 bhp emergency generator, storage tanks, buildings, and ancillary support equipment.

REGULATORY CLASSIFICATION

Title III: The facility is not classified as a 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 not classified as a Title V major source of air pollution.

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

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

RELEVANT DOCUMENTS

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

- Permit application received on 01/28/02, complete.
- Draft permit package issued on March 4, 2002.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct or modify a PSD-major source 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 construct or modify minor sources or for operation permits shall be submitted to the Environmental Protection Commission of Hillsborough County at 1410 North 21st Street in Tampa, Florida 33605 and phone number 813/727-5530.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Environmental Protection Commission of Hillsborough County at 1410 North 21st Street in Tampa, Florida 33605 and phone number 813/727-5530. Copies of all such documents shall be submitted to the Department's Southwest District Office at 3804 Coconut Palm Drive in Tampa, Florida 33619-8218 and phone number 813/744-6100.
3. Appendices: The following Appendices are attached as part of this permit.
 - Appendix CF describes the format used to cite applicable rules and regulations as well as previous permitting actions.
 - Appendix FM describes the Custom Fuel Monitoring Plan for NSPS Gas Turbines.
 - Appendix GC specifies the general conditions applicable to all facilities. The general conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
 - Appendix GG identifies the applicable NSPS requirements for gas turbines in 40 CFR 60, Subpart GG.
 - Appendix SC lists standard conditions applicable to air pollution sources compiled from Chapters 62-4, 62-210, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and Title 40, Part 60 of the Code of Federal Regulations (CFR), adopted by reference in Rule 62-204.800, F.A.C. The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Operation Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. The permittee shall apply for a minor source air operation permit at least sixty (60) days before the expiration of this construction permit, but no later than ninety (90) days after commencing operation. To apply for an operation permit, the applicant shall submit the appropriate application form, any required compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Environmental Protection Commission of Hillsborough County at the address listed above. [Rules 62-4.030, 62-4.050, and 62-4.220, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. FGT UNITS 2701 AND 2702, GAS TURBINE COMPRESSOR ENGINES

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

Emissions Unit Nos. 001 and 002 (FGT Nos. 2701 and 2702): Gas Turbine Compressor Engines

Description: Each new 7200 bhp (ISO) gas turbine compressor engine consists of a Cooper-Rolls Royce Model No. 501-KC7 DLE with lean premix combustor design.

Fuel: Each gas turbine fires pipeline-quality natural gas (SCC No 2-02-002-01) at a maximum firing rate of approximately 60,500 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas.

Capacity: At 63 mmBTU per hour of heat input, each gas turbine produces approximately 7222 bhp (ISO). The gas turbines are intended to operate at or near capacity.

Controls: The lean premix combustor design minimizes NOx emissions. The efficient combustion of natural gas at high temperatures minimizes emissions of CO, PM/PM10, SO2, and VOC.

Stack Parameters: When operating at capacity, exhaust gases exit a rectangular stack (7.33 feet by 5.50 feet) that is 61.2 feet tall at 960° F with a flow rate of approximately 98,200 acfm.

APPLICABLE STANDARDS AND REGULATIONS

1. NSPS Requirements: Each gas turbine shall comply with the New Source Performance Standards (NSPS) of Subpart GG in 40 CFR 60. The applicable NSPS requirements are provided in Appendix GG of this permit. The Department believes 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 Turbines (FGT Nos. 2701 and 2702): The permittee is authorized to install two nominal 7200 bhp (ISO) gas turbine compressor engines, each consisting of a Cooper-Rolls Royce Model No. 501-KC7 DLE. The permittee shall tune, operate and maintain each gas turbine's lean premix combustion system to reduce emissions of nitrogen oxides below the permitted limits. Ancillary equipment for each gas turbine includes the automated gas turbine control system, an inlet air filtration system, and a rectangular stack (7.33 feet by 7.50 feet) that is 61.2 feet tall. [Applicant Request; Design]

PERFORMANCE RESTRICTIONS

3. Permitted Capacities: The maximum heat input rate to each gas turbine shall not exceed 63 MMBtu per hour while producing approximately 7222 bhp (ISO) 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.]
4. Authorized Fuel: Each gas turbine shall fire only natural gas with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. [Applicant Request; Rule 62-210.200(PTE), F.A.C.]
5. Restricted Operation: The hours of operation for each 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.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. FGT UNITS 2701 AND 2702, GAS TURBINE COMPRESSOR ENGINES

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 (SO₂), and volatile organic compounds (VOC).

Pollutant	Standards	Equivalent Maximum Emissions ^f		Rule Basis ^g
		lb/hour	TPY	
CO ^a	50.0 ppmvd @ 15% O ₂	7.0	30.66	Synthetic minor source
NOx ^b	25.0 ppmvd @ 15% O ₂	5.7	24.97	Synthetic minor source 40 CFR 60.332
SO ₂ ^c	10.0 grains of sulfur per 100 SCF of gas	1.7	7.45	Synthetic minor source 40 CFR 60.333
Opacity ^d	10% opacity, 6-minute average	Not Applicable		Synthetic minor source
PM ^e	Good combustion practices (Factor: 0.0066 lb/mmBTU)	0.4	1.75	Synthetic minor source
VOC ^e	Good combustion practices (Factor: 10 ppmvd @ 15% O ₂)	1.5	6.57	Synthetic minor source

- a. The CO standards are based on the average of three test runs as determined by EPA Method 10.
- b. The NOx standards are based on the average of three test runs as determined EPA Method 20.
- c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO₂ emissions. Expected fuel sulfur levels are less than 1 grain per 100 SCF of natural gas from the pipeline.
- d. The opacity standard is based on a 6-minute average, as determined by EPA Method 9.
- e. 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 AP-42, Table 3.1-2a. Equivalent maximum VOC emissions were based on available vendor data. 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 SO₂. Mass emission rates for SO₂ shall be calculated based on actual fuel sulfur content and fuel flow rate. For tests conducted at 59° F or greater, measured mass emission rates shall be compared to the equivalent maximum emissions above. For tests conducted below 59° F, measured mass emission rates shall be compared to the tabled mass emission rates provided by the manufacturer based on compressor inlet temperatures.
- g. The emissions standards of this permit ensure that the facility remains a minor source of air pollution with respect to both PSD and Title V air permit programs.

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. FGT UNITS 2701 AND 2702, GAS TURBINE COMPRESSOR ENGINES

EMISSIONS PERFORMANCE TESTING

7. **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]

8. **Initial Tests:** Each gas turbine shall be tested to demonstrate initial compliance with the emission standards for CO, NOx, and visible emissions. The initial tests shall be conducted within 60 days after achieving 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. SO2 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]
9. **Annual Tests:** During each federal fiscal year (October 1 - September 30), each gas turbine shall be tested to demonstrate compliance with the visible emissions standard. In addition to the test results, each report shall include the following: a report on any non-routine maintenance conducted on each unit, a vendor analysis of the fuel sulfur content, and a general description of the activities and operation of this facility since the last test. [Rule 62-297.310(7)(a)4, F.A.C.]
10. **Tests Prior to Renewal of Operation Permit:** During the 12-month period prior to renewal of the air operation permit, each gas turbine shall be tested to demonstrate compliance with the emission standards for CO, NOx, and visible emissions. CO and NOx emissions shall be tested concurrently at permitted capacity. SO2 emissions shall be calculated based on fuel flow and vendor analysis of fuel sulfur content. [Rule 62-297.310(7)(a)3, F.A.C.]
11. **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]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. FGT UNITS 2701 AND 2702, GAS TURBINE COMPRESSOR ENGINES

RECORDS AND REPORTS

12. 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_x 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 60.334]
13. 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), F.A.C.; 40 CFR 60.334]
14. Operational Data: Using the automated gas turbine control system, the permittee shall monitor and record heat input (MMBtu), power output (bhp), and hours of operation for each gas turbine. Within the 10 days of a request by the Department or the Compliance Authority, the permittee shall be able to summarize the following information: average heat input (MMBtu per hour); average power output (bhp); and hours of gas turbine operation. 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

B. MISCELLANEOUS SUPPORT EQUIPMENT

This permit recognizes the following additional activities at this facility.

Emissions Unit No. 003: Miscellaneous Support Equipment	
004	Miscellaneous support equipment including: <ul style="list-style-type: none">• One Waukesha Model No. HG24GL reciprocating internal combustion engine and emergency generator (585 bhp) fired exclusively with natural gas and identified as FGT No. GEN01;• One 4200 gallon vertical fixed roof pipeline condensate storage tank;• One 4200 gallon vertical oily water storage tank; and• Miscellaneous buildings and pipeline equipment such as pumps, valves, flanges, etc.

Note: The emergency generator is expected to operate much less than 500 hours per year.

SECTION 4. APPENDICES

CONTENTS

- Appendix CF. Citation Format
- Appendix FM. Custom Fuel Monitoring Plan for NSPS Gas Turbines
- Appendix GC. General Conditions
- Appendix GG. NSPS Subpart GG Requirements for Gas Turbines
- Appendix SC. Standard Conditions

SECTION 4. APPENDIX CF
CITATION FORMAT

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

REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

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

Where: "AC" identifies the permit as an Air Construction Permit

"AO" identifies the permit as an Air Operation Permit

"123456" identifies the specific permit project number

New Permit Numbers

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

Where: "099" represents the specific county ID number in which the project is located

"2222" represents the specific facility ID number

"001" identifies the specific permit project

"AC" identifies the permit as an air construction permit

"AF" identifies the permit as a minor federally enforceable state operation permit

"AO" identifies the permit as a minor source air operation permit

"AV" identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the Prevention of Significant Deterioration of Air Quality

"FL" means that the permit was issued by the State of Florida

"317" identifies the specific permit project

RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

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

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

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

SECTION 4. APPENDIX GC

CUSTOM FUEL MONITORING PLAN FOR NSPS GAS TURBINES

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

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

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.

001	FGT Unit No. 2701: One 7200 bhp (ISO) gas turbine compressor engine firing natural gas (63 MMBtu/hour); Cooper-Rolls Royce Model No. 501-KC7 DLE
002	FGT Unit No. 2702: One 7200 bhp (ISO) gas turbine compressor engine firing natural gas (63 MMBtu/hour); Cooper-Rolls Royce Model No. 501-KC7 DLE

NSPS GENERAL PROVISIONS

In addition to the specific conditions of the permit and NSPS Subpart GG, 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 NO_x 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 when firing natural gas as provided by the manufacturer is approximately "12.35". The equivalent emission standard is 175 ppmvd at 15% oxygen. The emissions standards in Section 3 of this permit are much more stringent than this requirement.}

(c) Stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired, shall comply with the provisions of paragraph (a)(2) of this section.

Section 60.333 Standard for sulfur dioxide.

On and after the date on which the performance test required to be conducted by Section 60.8 is completed, every owner or operator subject to the provision of this subpart shall comply with:

(b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.

Section 60.334 Monitoring of operations.

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

Department requirement: The requirement to monitor the nitrogen content of pipeline quality natural gas fired is waived because natural gas is the exclusive fuel and contains negligible amounts of nitrogen. For purposes of complying with the sulfur content monitoring requirements of this rule, the permittee shall comply with the custom fuel monitoring schedule specified in the Section 3 of the permit.

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

(c) For the purpose of reports required under Section 60.7(c), periods of excess emissions that shall be reported are defined as follows:

(1) Nitrogen oxides. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with Section 60.332 by the performance test required in Section 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in Section 60.8. Each report shall include the average water-to-fuel ratio, average fuel

SECTION 4. APPENDIX GG

NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under Section 60.335(a).

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

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

Department requirement: In accordance with the custom fuel monitoring schedule, any period between two consecutive fuel sulfur analyses shall be reported as excess emissions if the results of the second analysis indicates failure to comply with the fuel sulfur limit of the permit.

Section 60.335 Test methods and procedures.

- (a) To compute the nitrogen oxides emissions, the owner or operator shall use analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired.
- (b) In conducting the performance tests required in Section 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided for in Section 60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.
- (c) The owner or operator shall determine compliance with the nitrogen oxides and sulfur dioxide standards in Sections 60.332 and 60.333(a) as follows:

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

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

where:

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

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

- (2) The monitoring device of Section 60.334(a) shall be used to determine the fuel consumption and the water-to-fuel ratio necessary to comply with Section 60.332 at 30, 50, 75, and 100 percent of peak load or at four points in the normal operating range of the gas turbine, including the minimum point in the range and peak load. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer.

Department requirement: The initial NOx performance tests shall be conducted at approximately four evenly spaced points between the minimum normal operating load and 100% of peak load.

{Note: The dry low-NOx controls are only effective above a minimum load, which will be identified during initial testing.}

SECTION 4. APPENDIX GG

NSPS SUBPART GG REQUIREMENTS FOR GAS TURBINES

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

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

- (d) The owner or operator shall determine compliance with the sulfur content standard in Section 60.333(b) as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels (incorporated by reference--see Section 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator.

Department requirement: The natural gas shall be sampled and analyzed for the sulfur content as determined by ASTM methods D4084-82, D3246-81 or more recent versions.

- (e) To meet the requirements of Section 60.334(b), the owner or operator shall use the methods specified in paragraphs (a) and (d) of this section to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

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

SECTION 4. APPENDIX SC
STANDARD CONDITIONS

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

EMISSIONS AND CONTROLS

1. **Plant Operation - Problems**: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. **Circumvention**: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. **Excess Emissions Allowed**: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
4. **Excess Emissions Prohibited**: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. **Excess Emissions - Notification**: In case of excess emissions resulting from malfunctions, the 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

11. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]
12. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
13. Test Procedures: Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.
- a. Required Sampling Time. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.
 - b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.
 - c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.
- [Rule 62-297.310(4), F.A.C.]
14. Determination of Process Variables
- a. Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - b. Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
- [Rule 62-297.310(5), F.A.C.]
15. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.
16. Test Notification: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]
17. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]
18. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide

SECTION 4. APPENDIX SC
STANDARD CONDITIONS

sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

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

RECORDS AND REPORTS

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

Florida Department of Environmental Protection

Memorandum

TO: Howard Rhodes

THRU: Clair Fancy *ay 8/9*
Al Linero

FROM: Jeff Koerner *JK*

DATE: August 9, 2002

SUBJECT: Final Air Construction Permit No. 0571279-001-AC
Florida Gas Transmission Company
New Compressor Station No. 27, Hillsborough County
Phase V Modifications

The Final Permit for this project is attached for your approval and signature, which authorizes the construction of a new compressor station for Florida Gas Transmission Company's existing natural gas pipeline. It will consist of two 7200 bhp gas turbine compressor engines and miscellaneous support equipment including a 585 bhp emergency generator, storage tanks, buildings and ancillary equipment. The compressor engines and emergency generator fire only natural gas. The new facility will be located approximately two miles south of U.S. Highway 301 on County Road 579 near the city of Thonotosassa in Hillsborough County, Florida. Although the project is minor with respect to PSD, Florida Gas Transmission Company requested that the Tallahassee office process the application for consistency between the Phase V projects.

The Department distributed an "Intent to Issue Permit" package on March 4, 2002. The applicant published the "Public Notice of Intent to Issue" in The Tampa Tribune on March 12, 2002. An extension of time in which to file a petition was filed and later withdrawn. A petition was filed and an administrative hearing held on July 18th and 19th. Before presenting a case, the petitioners withdrew their petition. The hearing officer closed the administrative case on July 23, 2002.

The Department attended an informational meeting held by U.S. Congressman Bilirakis on August 6th. The majority of concerns expressed at the meeting were directed to the Federal Energy Regulatory Commission (FERC) and were related to the siting of the compressor station. Many of the local citizens were trying to get additional time to review alternative sites with FERC that better fit their community development plan. Congressman Bilirakis tried to facilitate this process. At the meeting, I explained that the Department was at the end of its permitting process and would likely issue an air construction permit shortly. Before I left the meeting, I again explained to Congressman Bilirakis that Florida Gas Transmission Company had met the requirements for a minor source permit and that our process was at its end. We would likely issue the final permit within a week or so.

The permit processing clock was stopped due to the administrative proceedings. I recommend your approval of the attached Final Permit for this project.

Attachments

CHF/AAL/jfk