

Florida Gas Transmission Company
Compressor Station No. 17
Facility ID No.: 0830070
Marion County

Title V Air Operation Permit Renewal

DRAFT/PROPOSED Permit Project No.: 0830070-007-AV

Permitting and Compliance Authority:
Florida Department of Environmental Protection
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Orlando, Florida 32803
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Title V Air Operation Permit Renewal

DRAFT/PROPOSED Permit No.: 0830070-007-AV

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DRAFT/PROPOSED Permit No.: 0830070-007-AV

Facility ID No.: 0830070

SIC No(s).: 49, 4922

Project: Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V Air Operation Permit and incorporate construction permit, No. 0830070-008-AC. This existing facility is located at 19555 NE County Road 314, Salt Springs, Marion County; UTM Coordinates: Zone 17, 418.8 km East and 3240.9 km North; and, Latitude: 29° 17' 47" North and Longitude: 81° 50' 08" West.

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix A-2 General Provisions (NSPS)

Appendix A-3 General Provisions (NESHAP)

Appendix GG, NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines

Appendix ZZZZ, NESHAP Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines

Appendix I-1, List of Insignificant Emission Units and/or Activities

Appendix TV-6, TITLE V CONDITIONS version dated 06/23/06

Appendix SS-1, STACK SAMPLING FACILITIES version dated 10/07/96

Table 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96

Renewal Effective Date: TBD

Renewal Application Due Date: May 21, 2015

Expiration Date: January 1, 2016

DRAFT PERMIT

Caroline D. Shine
Program Administrator
Air Resource Management

CS/jar

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of five natural gas-fired reciprocating internal combustion engines and one natural gas-fired turbine engine. Four reciprocating engines (emissions units 001 – 004) are rated at 2000 brake horse power (bhp) and are manufactured by Cooper-Bessemer, Model LS-8-SG; one reciprocating engine (emissions unit 005) is rated at 2400 bhp and is manufactured by Dresser-Rand, Model 412KVSRA; the natural gas-fired turbine engine (emissions unit 008) is rated at 15,700 bhp and is manufactured by Nuovo Pignone, Model PGT-10B.

Also included in this permit are miscellaneous unregulated emissions units and/or activities identified as emissions unit 009.

Based on the Title V Air Operation Permit Renewal application received October 30, 2000, this facility is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	FGT No. 1701: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-002	FGT No. 1702: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-003	FGT No. 1703: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-004	FGT No. 1704: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-005	FGT No. 1705: One 2400 bhp natural gas-fired reciprocating internal combustion engine (Dresser-Rand Model No. 412KVSRA)
-008	FGT No. 1706: One 15,700 bhp natural gas-fired turbine engine (Nuovo Pignone Model No. PGT-10B)
{Note: Emissions units 006 and 007 are “inactive”. These were the old full-time electrical generators, which have been retired.}	

Unregulated Emissions Units and/or Activities

-009	Miscellaneous Unregulated Emissions units
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Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Appendix A-1: Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1: Permit History

These documents are on file with the permitting authority:

Initial Title V Air Operation Permit issued February 18, 1998

Application for a Title V Air Operation Permit Renewal received July 10, 2002

Additional Information Request dated September 4, 2002

Additional Information Response received November 20, 2002

Application for a Title V Air Operation Permit Renewal received June 20, 2005.

Application for a Title V Air Operation Permit Renewal and air construction permit received May 19, 2010.

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.
 2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]
 3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]
 4. Prevention of Accidental Releases (Section 112(r) of CAA).
 - a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, Maryland 20703-1515
301/429-5018
- and,
- b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.
[40 CFR 68]
5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]
6. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a), F.A.C.]
7. Emissions of Unconfined Particulate Matter. Pursuant to Rule 62-296.320(4)(c), F.A.C., and the application, this facility has **no** emissions of unconfined particulate matter (**see Condition 57. of APPENDIX TV-6, TITLE V CONDITIONS**).

[Rule 62-296.320(1)(a), F.A.C.]

8. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.

[Rule 62-213.440, F.A.C.]

9. Annual Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C.

[Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

10. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Central District air compliance section:

Department of Environmental Protection
Central District Office
3319 Maguire Boulevard
Orlando, Florida 32803
Telephone: 407/893-3333; Fax: 850/412-0455

11. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Compliance Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

13. Annual Operating Report. The owner or operator shall complete DEP Form No. 62-210.900(5), F.A.C., "Annual Operating Report for Air Pollutant Emitting Facility," for each calendar year and submit it either electronically using the latest Department Annual Operating Report software or by hard copy to the air compliance section of this office **by April 1** of the following year in accordance with Rule 62-210.370(3), F.A.C. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office. The emissions shall be computed in accordance with

the provisions of Rule 62-210.370(2), F.A.C., for the purposes of the annual operating report.
[Rule 62-210.370(3), F.A.C.]

14. Annual Emissions Fee Form and Fee. The annual Title V emissions fees are due (postmarked) by March 1st of each year. The completed form and calculated fee shall be submitted to: Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070. The forms are available for download by accessing the Title V Annual Fee On-Line Information Center at the following Internet web site:
<http://www.dep.state.fl.us/air/emission/tvfee.htm>.
[Rule 62-213.205, F.A.C.]

15. At least 225 days prior to the expiration date of this operation permit, the permittee shall submit to this office four copies of the air permit application, DEP Form No. 62-210.900(1).
[Rule 62-4.090(1), F.A.C.]

16. PSD Review: Any future facility permitting action after the issuance of the Final Title V Air Operation Permit No. 0830070-007-AV or the issuance of Final construction permit No. 0830070-008-AC that will allow an increase of facility emissions (potential to emit) or add additional regulated emission units to the facility will be subject to PSD Review.
[Rule 62-4.070, F.A.C.]

Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

<u>E.U. ID No.</u>	<u>Brief Description</u>
-001	FGT No. 1701: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-002	FGT No. 1702: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-003	FGT No. 1703: One 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)
-005	FGT No. 1705: One 2400 bhp natural gas-fired reciprocating internal combustion engine (Dresser-Rand Model No. 412KVSRA)

The emissions units are part of a natural gas pipeline system serving the State of Florida.

The following specific conditions apply to the emissions unit(s) listed above:

A1. NESHAP Requirements: The Internal Combustion Engines (EU ID Nos. -001, -002, -003, -005) are subject to the provisions of 40 CFR Part 63, Subpart A – General Provisions (see Appendix A-3 General Provisions (NESHAP) and 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (see Appendix ZZZZ). The conditions are incorporated into this permit (attached and part of this permit).

Essential Potential to Emit (PTE) Parameters

A2. Capacity. The maximum heat input for each engine numbers 1701, 1702, and 1703 shall not exceed 131,400 MMBtu per consecutive twelve months per engine. The maximum natural gas consumption for engine number 1705 shall not exceed 20,569 scf/hr, and the maximum heat input shall not exceed 21.19 MMBTU/hr.

[Rule 62-210.200, (PTE), F.A.C., and 0830070-002-AV]

A3. Methods of Operation. Each engine is allowed to use natural gas only.

[Rule 62.210.200, (PTE), F.A.C.]

A4. Hours of Operation. Each engine is allowed to operate continuously.

[Rule 62-210.200, (PTE), F.A.C.]

A5. Emissions Unit Operating Rate Limitation After Testing. See specific condition No. A15.

[Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

A6. The maximum allowable emissions from engine number 1705 shall not exceed the emission rates as follows:

<u>Pollutant</u>	<u>Lbs/hr</u>	<u>Tons/yr</u>	<u>Emission factor</u>
Nitrogen Oxides (NO _x)	10.6	46.3	2.0 g/bhp-hr
Carbon Monoxide (CO)	14.8	64.9	2.8 g/bhp-hr
Volatile Organic Compounds, non-methane (VOC)	9.0	39.4	1.7 g/bhp-hr
Particulates (TSP)	0.21	0.9	29 lbs/MMscf
Particulates (PM10)	0.21	0.9	29 lbs/MMscf
Sulfur Dioxide (SO ₂)	0.49	2.2	8.27 gr S/100 scf
[Construction permit AC42-189455]			

A7. Visible emissions shall not exceed 10% opacity from engine no. 1705.
[Construction permits AC42-189455 and 0830070-002-AV]

A8. See facility-wide condition number 3 on page 4 for the visible emission limitation for the other emission units.

Test Methods and Procedures

A9. Each unit shall demonstrate compliance with its emission limits for each affected pollutant during each fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a)4., F.A.C.]

A10. Compliance with the NO_x, SO₂, CO, visible emissions, and VOC standards shall be determined by the following reference methods as described in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297.401, F.A.C.:

- a) Method 1 Sample and Velocity Traverse
- b) Method 2 Volumetric Flow Rate
- c) Method 3A Gas Analysis
- d) Method 7E Determination of Nitrogen Oxides Emissions from Stationary Sources
- e) Method 9 Determination of the Opacity of the Emissions from Stationary Sources
- f) Method 10 Determination of Total Gaseous Nonmethane Organic Emissions as Carbon
- g) Method 25A Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

A11. Compliance with the SO₂ emission limit can be demonstrated by calculations based on fuel analysis using ASTM D1072-80, D3031-81, D4084-82, or D3246-81 for sulfur content of gaseous fuels.

A12. Initial compliance with the VOC emission limits was demonstrated by EPA Method 25A, thereafter, compliance with the VOC emission limits is assumed, provided the CO allowable emission limit is not exceeded. Test results will be the average of three valid runs.
[Construction permits AC42-189455, operating permit AO42-191302, and Rule 62-297.401, F.A.C.]

A13. The provisions of EPA Method 9 (40CFR), Appendix A) are adopted by reference with the following exceptions:

a) EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential 15 second intervals during the required period of observation.

b) EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g. 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g. 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:

1) For the basic part of the standard (i.e., 20 percent opacity) the opacity shall be determined as specified above for a single-valued opacity standard.

2) For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

[Rule 62-297.401, F.A.C.]

A14. The owner or operator shall notify the Department (the air compliance section of this office), at least 15 days prior to the date on which each formal compliance test is to begin, the date, time and place of 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.]

A15. Testing of emissions shall be conducted with the emissions unit operation 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 minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load 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)& (2) (b), F.A.C.]

A16. Reports of the required test report shall be filed with the air compliance section of this office as soon as practical but no later than 45 days after the last test is completed.

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

Monitoring of Operations

A17. 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.

[Rule 62-297.310(5), F.A.C.]

A18. 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 percent of its true value.

[Rule 62-297.310(5), F.A.C.]

Recordkeeping and Reporting Requirements

A19. In order to demonstrate compliance with condition numbers A2 and A6, the permittee shall maintain a log at the facility for a period of at least five years from the date the data is recorded. The log, at a minimum, shall contain the following:

Monthly

- a) month
- b) consecutive 12 month total of:
 - MMBTU heat input
 - hours of operation
 - emission rates

[Rules 62-4.070(3), and 62-213.440(1)(b)2.b., F.A.C.]

A20. Supporting documentation. The log and documents shall be kept at the facility for at least five years and made available to the Department. Daily logs shall be completed within seven business days and the monthly logs shall be completed by the end of the following month.

[Rules 62-4.070(3), and 62-213.440(1)(b)2.b., F.A.C.]

Subsection B. This section addresses the following emissions unit(s).

E.U. ID No. Brief Description

-004 **FGT No. 1704:** Modified 2000 bhp natural gas-fired reciprocating internal combustion engine (Cooper-Bessemer Model No. LS-8-SG)

The emissions unit, which was installed in 1966 is part of a natural gas pipeline system serving the State of Florida. The engine fires only pipeline-quality natural gas at a maximum rate of approximately 15,900 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas. At 16.5 MMBTU per hour of heat input, the engine produces approximately 2000 bhp. After initial startup, the engine is intended to operate at or near capacity. The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of CO, PM/PM₁₀, SO₂, and VOC. Modifications to the engine turbocharger increase the air manifold pressure and airflow to each cylinder, which reduces NO_x emissions.

B1. NESHAP Requirements: The Internal Combustion Engine (EU ID No. -004) is subject to the provisions of 40 CFR Part 63, Subpart A – General Provisions (see Appendix A-3 General Provisions (NESHAP) and 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (see Appendix ZZZZ). The conditions are incorporated into this permit (attached and part of this permit).

Essential Potential to Emit (PTE) Parameters

B2. 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.]

B3. Methods of Operation. The modified reciprocating compressor engine shall fire only natural gas delivered by the interstate grid with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. The current pipeline tariff specifies a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas. Therefore, no fuel monitoring is required.
[Rule 62.210.200, (PTE), F.A.C. and 0830070-005-AC]

B4. Hours of Operation. The engine is allowed to operate continuously.
[Rule 62-210.200, (PTE), F.A.C. and 0830070-005-AC]

B5. Engine Turbocharger Modification. The permittee shall tune, maintain, and operate the modified engine and control system to preserve the reduced NO_x emissions.
[0830070-003-AC]

Emission Limitations and Standards

B6. Emissions Standards: Emissions from the modified reciprocating compressor engine shall not exceed the following limits for CO, NO_x, opacity, PM, SO₂ and VOC.

Pollutant	Standards	Equivalent Maximum Emissions ^f		Rule Basis ^g
		lb/hour	TPY	
CO ^a	2.0 gram/bhp-hour	8.8	38.54	Avoid Rule 62-212.400, F.A.C.
NO _x ^b	8.0 gram/bhp-hour	35.3	154.61	Avoid Rule 62-212.400, F.A.C.
SO ₂ ^c	10 grains of sulfur per 100 SCF of gas	0.5	2.19	Avoid Rule 62-212.400, F.A.C.
Opacity ^d	10% opacity, 6-minute average	Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM ^e	Good combustion practices (Factor: 0.00999 lb/MMBTU)	0.2	0.88	Avoid Rule 62-212.400, F.A.C.
VOC ^e	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 3-hour test averages as determined by EPA Method 10.
- The NO_x standards are based on 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 SO₂ emissions. Expected fuel sulfur levels are less than 1 grain per 100 SCF of natural gas from the pipeline. Compliance is by record keeping.
- The opacity standard is based on a 6-minuted 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. There are no pollutant-specific limits and no testing required.
- The equivalent maximum hourly emissions are based on permitted capacity, the corresponding emissions standard (CO, NO_x, and SO₂), an emission factor from EPA's AP-42 reference document (PM), and vendor test data (VOC). The equivalent maximum annual emissions are based on 8760 hours of operation per year and the specified restrictions.
- The conditions of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, F.A.C. The project includes emissions increases and decreases from emissions units 004, 008 and 009.

B7. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operation 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.]

B8. 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.]

B9. Excess Emissions – Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Department 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.]

Test Methods and Procedures

B10. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the modified reciprocating compressor engine shall be tested to demonstrate compliance with the

emissions standards for CO, NO_x, and opacity. CO and NO_x 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)4., F.A.C. and to avoid Rule 62-212.400, F.A.C.]

B11. Test Notification: The owner or operator shall notify the Department (the air compliance section of this office), at least 15 days prior to the date on which each formal compliance test is to begin, the date, time and place of 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.]

B12. Test Methods: Required tests shall be performed in accordance with the following reference methods.

- | | |
|----------------|--|
| a) Methods 1-4 | Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content |
| b) Method 7E | Determination of NO _x Emissions from Stationary Sources |
| c) Method 9 | Determination of the Opacity of the Emissions from Stationary Sources |
| d) Method 10 | Determination of CO Emissions from Stationary Sources
{Note: The method shall be based on a continuous sampling train.} |
| e) Method 19 | Determination of SO ₂ Removal Efficiency and PM, SO ₂ , and NO _x 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 Department.

[Rules 62-204.800 and 62.297.100, F.A.C.; 40 CFR 60, Appendix A]

B13. 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 percent below the allowable emission limiting standard.

[Rule 62-297.310(1), F.A.C.]

B14. 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 emission 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.]

B15. Calculation of Emission Rate: For each emission 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 separated test runs unless otherwise specified in a particular test method or applicable rules.

[Rule 62-297.310(3), F.A.C.]

B16. 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.]

B17. 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 percent of its true value. [Rule 62-297.310(5), F.A.C.]

B18. 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.

B19. Special Compliance Tests: When the Department, after investigations, 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 emission unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7)(b), F.A.C.]

Recordkeeping and Reporting Requirements

B20. 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), the heat input rate (MMBTU per hour), and the power output (bhp).

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

B21. 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.

Subsection C. This section addresses the following emissions unit(s).

E.U. ID No. Brief Description

-008 **FGT No. 1706:** One 15,700 bhp Natural Gas-Fired Turbine Compressor Engine (Pignone Model No. PGT-10B)

The emissions unit is part of a natural gas pipeline system serving the State of Florida. The gas turbine fires only pipeline-quality natural gas at a maximum rate of approximately 129,600 cubic feet per hour based on a heat content of 1040 BTU per SCF of gas. 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 percent of base load. The efficient combustion of pipeline-quality natural gas at high temperatures minimizes emissions of CO, PM/PM₁₀, SO₂, and VOC. NO_x emissions are reduced with dry low-NO_x combustion technology.

C1.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 requirement of Subpart GG. The conditions are incorporated into this permit (attached and part of this permit).

Essential Potential to Emit (PTE) Parameters

C2.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 percent load, and an 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 Department's Central District air section 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.]

C3.Methods of Operation. The gas turbine shall fire only natural gas delivered by the interstate grid with a maximum of 10 grains of sulfur per 100 standard cubic feet of natural gas.
[Rule 62.210.200, (PTE), F.A.C. and 0830070-003-AC]

C4.Hours of Operation. The total hours of operation for the gas turbine are not limited.. Except for startup and shutdown, operation below 50 percent of base load is prohibited
[Rules 62-4.070(3) and 62-210.200, (PTE), F.A.C. and 0830070-003-AC]

C5.Engine Turbocharger Modification. removed

Emission Limitations and Standards

C6.Emissions Standards: Emissions from the gas turbine shall not exceed the following limits for CO, NO_x, opacity, PM, SO₂ and VOC.

Pollutant	Standards	Equivalent Maximum Emissions ^f		Rule Basis ^g
	Standards	lb/hour	TPY	
				Avoid Rule 62-212.400, F.A.C.

CO ^a	21.0 ppmvd @ 15% O ₂	7.03	30.79	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
NO _x ^b	25.0 ppmvd @ 15% O ₂	14.1	61.76	Avoid Rule 62-212.400, F.A.C. 40 CFR 60.332
SO ₂ ^c	10.0 grains of sulfur per 100 SCF of natural gas	3.7	16.21	Avoid Rule 62-212.400, F.A.C.
Opacity ^d	10% opacity, 6-minute average	Not Applicable		Avoid Rule 62-212.400, F.A.C.
PM ^e	Good combustion practices	0.9	3.94	Avoid Rule 62-212.400, F.A.C.
	Good combustion practices	1.5	6.57	

- a. The CO standards are based on 3-hour test averages as determined by EPA Method 10.
- b. The NO_x standards are based on 3-hour test averages as determined EPA Method 20.
- c. The fuel sulfur specification is based on the maximum limit specified by Federal Energy Regulatory Commission (FERC) and effectively limits the potential SO₂ emissions. Expected fuel sulfur levels are less than 1 grain per 100 SCF of natural gas from the pipeline. Compliance is by record keeping.
- d. The opacity standard is based on a 6-minuted 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. There are no pollutant-specific limits and no testing required.
- f. The equivalent maximum hourly emissions are based on permitted capacity, a compressor inlet air temperature of 59° F, the corresponding emissions standard (CO, NO_x, and SO₂), an emission factor from EPA's AP-42 reference document (PM), and vendor test data (VOC). The equivalent maximum annual emissions are based on 8760 hours of operation per year and the specified restrictions. Each test report shall include measured mass emission rates for CO, NO_x and SO₂. Mass emission rates for SO₂ shall be calculated based on actual fuel sulfur content and fuel flow rate. For comparison purposes, the permittee shall provide a reference table with the initial compliance test report of CO and NO_x mass emission rates versus the compressor inlet temperatures. For tests conducted at 59° F or greater, measured CO and NO_x 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 conditions of this permit ensure that the project does not trigger the PSD preconstruction review requirements of Rule 62-212.400, F.A.C. The project includes emissions increases and decreases from emissions units 004, 008, and 009.

C7. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operation 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.]

C8. 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.]

C9. 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.]

Test Methods and Procedures

C10. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the gas turbine shall be tested to demonstrate compliance with the emissions standards for CO, NO_x, and opacity. CO and NO_x 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)4., F.A.C., to avoid Rule 62-212.400, F.A.C., and permit 0830070-005-AC]

C11. Test Notification: The owner or operator shall notify the Department (the air compliance section of this office), at least 15 days prior to the date on which each formal compliance test is to begin, the date, time and place of 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.]

C12. Test Methods: Required tests shall be performed in accordance with the following reference methods.

- | | |
|----------------|--|
| a) Methods 1-4 | Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content |
| b) Method 9 | Determination of the Opacity of the Emissions from Stationary Sources |
| c) Method 10 | Determination of CO Emissions from Stationary Sources
{Note: The method shall be based on a continuous sampling train.} |
| d) Method 19 | Determination of SO ₂ Removal Efficiency and PM, SO ₂ , and NO _x 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) |
| e) Method 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 Department. [Rules 62-204.800 and 62.297.100, F.A.C.; 40 CFR 60, Appendix A]

C13. 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 percent below the allowable emission limiting standard.

[Rule 62-297.310(1), F.A.C.]

C14. 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 emission 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.]

C15. Calculation of Emission Rate: For each emission 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 separated test runs unless otherwise specified in a particular test method or applicable rules.

[Rule 62-297.310(3), F.A.C.]

C16. 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.]

C17. 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 percent of its true value. [Rule 62-297.310(5), F.A.C.]

C18. 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.

C19. Special Compliance Tests: When the Department, after investigations, 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 emission unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7)(b), F.A.C.]

Recordkeeping and Reporting Requirements

C20. 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), the heat input rate (MMBTU per hour), the power output (bhp), percent base load, and the compressor inlet air temperature.

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

C21. Fuel Monitoring: The permittee shall not claim the allowance for fuel-bound nitrogen in establishing the NSPS NO_x standard. Only pipeline quality natural gas shall be fired. The current pipeline tariff specifies the maximum sulfur content as 10 grains of sulfur per 100 cubic feet of natural gas. Therefore, no fuel nitrogen or fuel sulfur monitoring is required. The fuel monitoring provisions were revised pursuant to the final July 2004 amendments to Subpart GG See Appendix GG. [Air Permit No. 0830070-005-AC]

C22. 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 at least 5 business days of an agency request, the permittee shall summarize the following information: average heat input (MMBtu per hour); 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.]

C23. Component Replacements: For the replacement of gas turbine components to facilitate prompt repair and return the unit to its original specifications, the permittee shall comply with the following notifications and testing requirements.

a. Components shall only be replaced with functionally equivalent “like-kind” equipment. Replacement components may consist of improved or newer equipment, but such components shall not change operation or increase the capacity (heat input and power output rates) of the gas turbine. Replacement components that affect emissions shall be designed to achieve the emissions standards specified in all valid air permits and shall achieve these standards or better. After a component replacement, the gas turbine compressor engine remains subject to the standards of all valid air permits. [Rule 62-210.200(169), F. A. C.]

b. The permittee shall notify the Compliance Authority within seven days after beginning any replacement of the gas generator component of the compressor engine. Within seven days of first fire on a replacement gas generator, the permittee shall submit the following information to the Compliance Authority: date of first fire and certification from the vendor that the replacement gas generator is a functionally equivalent “like-kind” component. The vendor certification shall also

identify the make, model number, maximum, heat input rate (MMBtu/hour), power output (bhp) at ISO conditions, and that the permitted emission rates are achievable with the replacement component. This notification may be made by letter, fax, or email. A copy of the information shall be kept on site at the compressor station. Within 60 days of restarting the unit after a gas generator replacement, the permittee shall conduct stack tests to demonstrate compliance with the applicable emission standards. The permittee shall notify the Compliance Authority in writing at least 15 days prior to conducting these tests. The permittee shall comply with all permit requirements for test notifications, test methods, test procedures, and reporting. [Rules 62-4.130, 62-4.160(2), (6), and (15) and 62-297.310(7)(b), F.A.C.]

c After investigation and for good cause, the Department may require special compliance tests pursuant to Rule 62-297.310(7)(b), F.A.C.