Florida Department of
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Secretary

**PERMITTEE:**

Florida Gas Transmission Company
2405 Lucien Way, Suite 200
Maitland, Florida 32751-7047

Gadsden Compressor Station No. 14
Air Permit No. 0390029-012-AC
Facility ID No. 0390029
SIC No. 4922
Permit Expires: September 19, 2016

**FACILITY AND LOCATION**

Gadsden Compressor Station No. 14 is part of a natural gas transmission pipeline system which consists of six natural gas-fired internal combustion compressor engines and three natural gas-fired turbine engines (this includes new turbine no. 1409) (Standard Industrial Classification No. 4922). The engines provide power for compressors to move the gas along the pipeline. The facility is located at 3690 Hosford Highway, Quincy, Gadsden County; UTM Coordinates: Zone 16, 719.97 km East and 3377.39 km North; and, Latitude: 30° 30' 38" North and Longitude: 84° 42' 28" West.

This is the final air construction permit, which authorizes Florida Gas Transmission to increase the maximum heat input rate to combustion turbine No. 1409 at Gadsden Compressor Station No. 14 from 158 to 165 MMBtu per hour, which increases power output from 19,465 to 20,500 bhp (ISO), and to increase emissions of CO, $NO_X$, $SO_2$, PM/$PM_{10}$, and VOC accordingly.

**REGULATORY CLASSIFICATION**

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

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

Title V: The existing facility is a Title V major source of air pollution (Chapter 62-213, F.A.C.).

PSD: The existing facility is not a PSD-major source of air pollution (Rule 62-212.400, F.A.C.).

**SPECIFIC CONDITIONS**

**1.** Previous Permits: This permit supplements all previously issued air construction and operation permits for emissions units, EU 011, FGTC Turbine Engine 1409, and EU 012, two emergency generator engines, both Generac Model No. SG300, EPA certified. Except for the changes noted below, all emissions units remain subject to the conditions of all other valid air construction and operations permits. [Rule 62-4.070, F.A.C.]

**2.** Permitted Capacity: The maximum allowable heat input rate to combustion turbine 1409 is 165 MMBtu per hour while producing approximately 20,500 bhp (ISO) based on: a compressor inlet air temperature of 59° F; a compressor inlet pressure of 1 atmosphere; 100% load; and a higher heating value (hhv) of 1040 Btu/scf for natural gas. Heat input rates vary depending upon combustion turbine characteristics, load, and ambient conditions. Manufacturer's performance curves (or equations) shall be used to correct for site conditions. [Rule 62-210.200(PTE), F.A.C.]

**3.** Emissions Standards: Combustion turbine 1409 shall not exceed the following standards for carbon monoxide (CO), nitrogen oxides ($NO_X$), opacity, particulate matter (PM), particulate matter with a mean aerodynamic diameter of 10 microns or less ($PM_{10}$), sulfur dioxide ($SO_2$) and volatile organic compounds (VOC).

| Pollutant | Emissions Standards [h] | Equivalent Maximum Emissions [i] | | Rule Basis [j] |
|---|---|---|---|---|
| | | lb/hour | TPY | |
| CO | 25.0 ppmvd @ 15% oxygen [a] | 9.0 | 39.4 | Rule 62-212.400(12), F.A.C. |
| $NO_X$ | 15.0 ppmvd @ 15% oxygen [b] | 8.9 | 38.9 | Rule 62-212.400(12), F.A.C. |
| | 25.0 ppmvd @ 15% oxygen [c] | --- | --- | 40 CFR 60.4320 |
| $SO_2$ | 10 grains of sulfur/100 scf [d] | 4.5 | 19.9 | Rule 62-212.400(12), F.A.C. |
| | 0.060 lb $SO_2$/MMBtu [e] | --- | --- | 40 CFR 60.4330 |
| Opacity | 10% opacity [f] | Not Applicable | | Rule 62-4.070(3), F.A.C. |
| $PM/PM_{10}$ [g] | None | 1.09 | 4.77 | --- |
| VOC [g] | None | 0.52 | 2.29 | --- |

a. Compliance with the CO standards shall be demonstrated based on the average of three test runs conducted at permitted capacity as determined by EPA Method 10.
b. Compliance with the State $NO_X$ standard shall be demonstrated based on the average of three test runs conducted at permitted capacity as determined by EPA Method 7E or 20.
c. Compliance with the Federal $NO_X$ standard shall be demonstrated as determined EPA Method 7E or 20 and the applicable requirements of 40 CFR 60.4400.
d. To reduce potential $SO_2$ emissions, Permittee shall comply with a maximum sulfur content of 10 grains of sulfur/100 scf as specified in the current Federal Energy Regulatory Commission (FERC) tariff. Actual fuel sulfur levels are expected to be less than 1 grain per 100 scf.
e. Compliance with the FERC natural gas tariff effectively limits the potential $SO_2$ emissions to 0.027 lb/MMBtu, which is less than half of federal standard in 40 CFR 60.4330. Actual $SO_2$ levels are expected to be less than 0.0027 lb/MMBtu.
f. The opacity standard is based on a 6-minute average, as determined by EPA Method 9. The opacity standard serves as a surrogate standard to show efficient combustion.
g. Potential $PM/PM_{10}$ and VOC emissions are minimized by the equipment specification of "lean premix combustion design". The CO standard serves as a surrogate standard to show efficient combustion. PM emissions are based on an AP-42 emission factor of 0.0066 lb/MMBtu (Table 3.1-2a) and all PM emissions are assumed to be $PM_{10}$ emissions. VOC emissions are based on available vendor data of 25 ppmvd @ 15% oxygen of unburned hydrocarbons and the assumption that only 10% of these emissions are regulated VOC emissions. No testing or other compliance demonstration is required for $PM/PM_{10}$ and VOC emissions.
h. Permittee shall demonstrate compliance with these standards.
i. The equivalent maximum emissions are provided for informational purposes and are based on: the permitted capacity; a compressor inlet air temperature of 59° F; a compressor inlet pressure of 1 atmosphere; full operation (8760 hours per year); and the permit standards (CO, $NO_X$, and $SO_2$) or the maximum expected emissions ($PM/PM_{10}$ and VOC). Each test report shall identify the measured mass emission rates for CO and $NO_X$. The report shall estimate the $SO_2$ mass emission rate based on the current typical fuel sulfur content and actual natural gas firing rate.
j. The CO, $NO_X$ and $SO_2$ emissions standards of this permit ensure that the project is not subject to PSD preconstruction review in accordance with Rule 62-212.400(PSD), F.A.C.

[Application No. 1130037-013-AV, Rules 62-4.070(3) and 62-212.400(12), F.A.C., 40 CFR 60.4320, and 40 CFR 60.4330]

**APPLICABLE FEDERAL REGULATIONS**

**4.** NSPS Subpart JJJJ: The Two-Generac Model No. SG300 (or equivalents) emergency generators,

FGTC GEN04 and FGTC GEN05 (EU 012), are subject to applicable requirements in NSPS Subparts A (General Provisions) and JJJJ (Stationary Spark Internal Combustion Engines) of 40 CFR 60. See Appendix E. [Rules 62-210.300(a)(35)g., and 62-204.800(8)(b)80, F.A.C.]

*{Permitting note: The emergency generator 454 Hp engines were manufactured after January 1, 2010 and are subject to emissions limits of (40 CFR 60 Subpart JJJJ) 40 CFR 60.4233, operation and maintenance requirements of 40 CFR 60.4243, and recordkeeping requirements of 40 CFR 60.4243(a)(1) and 60.4245(a)(1), (2) & (3). However, the engines are certified and thus exempt from annual testing by 40 CFR 60 60.4243(a)(1) if operated and maintained according to the manufacturer's emissions-related written instructions.}*

**Emission Standards**

**5.** The Two Generac Model No. SG300emergency generator engines shall meet the emissions standards of 40 CFR § 60.4233(e), Table 1, excerpted below.

| EXERPT FROM TABLE 1 TO SUBPART JJJJ OF PART 60—NOX, CO, AND VOC EMISSION STANDARDS FOR STATIONARY EMERGENCY ENGINES >25 HP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Engine type and fuel | Maximum engine power | Manufacture date | Emission standards | | | | | |
| | | | g/HP-hr | | | ppmvd at 15% O2 | | |
| | | | NOX | CO | VOC | NOX | CO | VOC |
| Emergency | HP>130 | 1/1/2009 | 2.0 | 4.0 | 1.0 | 160 | 540 | 86 |
| For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included. | | | | | | | | |

**Compliance Requirements**

**6.** Methods of Operation.

a. The owner or operator of the emergency generator engines shall operate and maintain the engines and control devices according to the manufacturer's emission-related written instructions. [40 CFR 60.4243(a)(1)]

b. If the certified engine and control device are not operated and maintained according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and owners or operators of the noncertified engine must to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions and must conduct an initial performance test within 1 year of engine startup to demonstrate compliance, but a subsequent test is not required unless the engine is rebuilt or undergoes major repair or maintenance. [40 CFR 60.4243(a)(2)(ii) and (f)]

**7.** Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part

of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4243(d)].

**8.** Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR 60.4233. [40 CFR 60.4243(e)].

**Testing Requirements**

**9.** No performance testing of the emergency generator engines is required if the engines are certified by the manufacturer and the engines and control devices are operated and maintained according to the manufacturer's emission-related written instructions. [40 CFR 60.4243(a)(1)].

**Notification, Reporting and Recordkeeping Requirements.**

**10.** The owner or operator of the emergency generator engines shall keep records of conducted maintenance to demonstrate compliance with operation and maintenance requirements of 40 CFR 60.4243(a)(1).

**11.** Owners and operators of all stationary SI ICE must keep records of the following information:

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR 90, 1048, 1054, and 1060, as applicable.

[40 CFR 60.4245(a)(1), (2) & (3)]

**12.** NESHAP Subpart ZZZZ: The emergency generators are subject to applicable requirements in NESHAP Subparts A and ZZZZ (Reciprocating Internal Combustion Engines). Pursuant to 40 CFR 63.6590(c) for stationary reciprocating internal combustion engines (RICE) also subject to regulations under 40 CFR 60, a 4-stroke rich burn stationary RICE with a site rating of less than or equal to 500 bhp must meet the requirements of this part by meeting the requirements of 40 CFR 60 Subpart JJJJ for spark ignition engines. No further requirements apply for such engines under this part. [Rules 62-210.300(a)(35)h., and 62-204.800(10)(b)82, F.A.C.]

**Administrative Requirements**

**13.** Source Obligation:

(a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

**14.** Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., Permittee is subject to the following monitoring, reporting and recordkeeping provisions.

a. Permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of ten years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in this permit.

b. Permittee shall report to the Department within 60 days after the end of each calendar year during the ten-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

1) The name, address and telephone number of the owner or operator of the major stationary source;

2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in this permit;

3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

**15.** For this project, the Department requires the annual reporting of actual nitrogen oxide emissions for the following units:

011 Solar Titan 130-20502S Gas Combustion Turbine No. 1409
012 Emergency Generators FGTC GEN04 and FGTC GEN05

[Applications 0390029-011 & 012- AC; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

**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, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.).

Executed in Pensacola, Florida.

/s/ 9/19/11

Rick Bradburn Date
Air Program Administrator
Northwest District

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on September 19, 2011 to the persons listed below.

David W. Shellhouse; Florida Gas Transmission Company: dave.shellhouse@sug.com
Thomas W. Davis, P.E.; Environmental Consulting & Technology, Inc.: tdavis@ectinc.com
DEP Northwest District Branch Office, Tallahassee

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

/s/ 9/19/11

(Clerk) (Date)