TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Floridian Natural Gas Storage Company, LLC
18300 SW Warfield Boulevard
Indiantown, Florida 34956

Floridian Natural Gas Storage Facility
Facility ID No. 0850147

PROJECT

Project No. 0850147-008-AC
Application for Minor Source Air Construction Permit
Construction Permit Modification and Extension

COUNTY

Martin County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Southeast District Office
400 N. Congress Avenue, 3rd Floor
West Palm Beach, Florida 33401

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

Floridian Natural Gas Company, LLC proposes to construct a new Natural Gas Liquefaction and Storage Facility, which is categorized under Standard Industrial Classification Code No. 4922 (Natural Gas Transmission). The facility will be located on 145 acres in Martin County at 18300 SW Warfield Boulevard in Indiantown, Florida (South of Hwy 710 and approximately 2 miles north of Indiantown at the site of the former Florida Steel Manufacturing facility). The UTM coordinates of the new facility will be Zone 17, 549.40 km East, and 2991.04 km North. This site is in an area that is in attainment for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS). The following Federal Class I designated area is 160.9 kilometers from the Plant: Everglades National Park.

The property was designated by EPA as a Superfund site; remediation has been taking place from the time when the Florida Steel Manufacturing Co. abandoned the site until the present, with part of the remediation still ongoing. EPA has declared the site ready for reuse. The site is bounded by the CSX Railroad, the Indiantown Cogeneration L.P. 330 MW coal-fired generating plant and the Louis Dreyfus citrus juicing facility.

Project Background

Floridian Natural gas Storage facility was permitted on March 12, 2008 to construct a facility to accept delivery of natural gas from customers through the Gulfstream Pipeline and the Florida Gas Transmission Pipeline, liquefy the gas using mixed refrigerant (MR), store the liquefied gas in one of two nominal 190,000 cubic meters full-containment tanks at slightly above atmospheric pressure, and vaporize the gas to send out on one or both of the interstate pipelines during periods of demand.

In 2012, the facility modified its original construction permit to bring the facility emissions of greenhouse gasses (GHGs) below the threshold of 100,000 tons of carbon dioxide equivalent to meet the new EPA regulations regarding GHGs called the Tailoring Rule. To date, the facility has not been constructed.

The current permit (0850147-007-AC) addressed the following air pollution emission units (EUs):

• EU001 - Four Mechanical Draft Cooling Towers

• EU002 - Two M&R Let Down Heaters at Meter Station

- EU003 - One Emergency Fire Water Pump
- EU004 - Four Emergency Generators
- EU005 - Two Amine System Heaters
- EU006 - Eight Water Ethylene Glycol Heaters
- EU007 - Two Regeneration Gas Heaters
- EU008 - Two Amine System Vents

The permit also addressed the following exempt air pollution activities:

- 60,000 Gallon Diesel fuel tank for Emergency Generators
- 50,000 Gallon Diesel fuel tank for Emergency Generators
- Utility Nitrogen
- Instruments and Plant Air

The fire pump engine (EU003) and the emergency generators (EU004) are Emergency Stationary Compression Ignition Internal Combustion Engines (Stationary ICE) and are subject to 40 CFR 60, Subpart IIII. The facility is subject to regulation of Florida Administrative Code (F.A.C.) Rules 62-4, and 62-204 through 62-297, and 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial Commercial- Institutional Steam Generating units.

Current Project

As a result of the evolution of the project development and refinement of the project design, Floridian is requesting revisions to Air Construction Permit 0850147-007-AC as follows.

Changes to Existing Equipment

Emission Unit Operational Changes

Emission Units	Existing Permit Limitation		Proposed Permit Limitation	
	Capacity	Number of Units/Hours of Operation (hrs/yr)	Capacity	Number of Units/Hours of Operation (hrs/yr)
003 – Emergency Fire Water Pump	298 kW	1-Unit 250 (hrs/yr)	298 kW	1 Unit 100(hrs/yr)
004 – Emergency Generators	3,500 kW(2) 3,000 kW(2)	4-Units 250 (hrs/yr)	300 kW	1-Unit 100 (hrs/yr)
005 – Amine System Heaters	10 MMBtu	2-Units 7,560 (hrs/yr)	Eliminated from Design	Eliminated from Design
006 – Water Ethylene Glycol (WEG) Heaters	98 MMBtu/hr	8-Units 1040 (hrs/yr)	65 MMBTU/hr	5-Units 1040 (hrs/yr)
007 – Regeneration Gas Heaters	6.8 MMBtu/hr	2-Units 7560 (hrs/yr)	9.1 MMTtu/hr	4 Units 8,400 (hrs/yr)
008 – Amine System Vents	NA	2-Units 5,760 (hrs/yr)	NA	4-Units 8,400 (hrs/yr)

In addition, as the current air construction permit (0850147-007-AC) is due to expire on October 8, 2014, Floridian is requesting that the permit expiration date be extended by a year (until October 8, 2015) during this permit revision activity. The extension request would have occurred later this year regardless of the permit revision and combining the actions will make efficient use of agency resources.

1.2 New Emission Units

An emergency flare has been added to the design to handle relieving conditions in an emergency event. Under normal operations the flare will produce emissions from pilot burner operation and from flaring of tank boil-off vapors when the boil off gas compressor is shut down for routine maintenance. Emissions associated with these events are estimated in Table 10. The facility design has been revised to include a fuel gas heater to heat the gas supplied to the vaporization heater and the rest of the plant. This unit is an indirect fired bath-type heater.

New Emission Units

Emission Units	Existing Permit Limitation		Proposed Permit Limitation	
	Capacity	Number of Units/ Hours of Operation (hrs/yr)	Capacity	Number of Units/ Hours of Operation (hrs/yr)
009 – System Flares	NA	NA	See Table 10*	8760 – Pilot
010 – Fuel Gas Heaters	NA	NA	0.33 MMBtu/hr	4 – Units 2,000 (hrs/yr)

*see permit application 0850147-008-AC

Based on information provided in the permit application, the proposed changes result in a decrease in emissions of all pollutants except VOC as shown in the tables below.

Comparison of Current Permitted Potential Emissions to Proposed Potential Emissions

Pollutant	Total Phase I and II Potential to Emit Emissions (TPY)			PSD Major Facility Emission Rate (TPY)	PSD Review Required?
	Current	Proposed	Net Change		
SO2	**4**	**2**	**-2**	**250**	**No**
PM (Total)	**7.0**	**4**	**-3**	**250**	**No**
PM (Filterable)	**3.0**	**3**	**0**	**250**	**No**
PM (Condensable)	**3.0**	**2**	**-1**	**250**	**No**
NOx	**60**	**26**	**-34**	**250**	**No**
CO	**48**	**26**	**-22**	**250**	**No**
VOC (as methane)	**46**	**54**	**8**	**250**	**No**
HAPs	**0.14**	**0.05**	**-0.09**	**NA**	**NA**

Summary of Maximum Potential Annual Operational Emissions
(Tons/Year)

Pollutant	EU001 Cooling Towers	EU002 Let Down Heaters	EU003 Fire Water Pump	EU004 Emergency Generators	EU005 Amine System Heaters (Eliminated)	EU006 WEG Heaters	EU007 Regen Gas Heaters	EU008 Amine System Vent	EU009 (New Unit) System Flare	EU010 (New Unit) Fuel Gas Heater	Total	PSD Major Facility Emission Rate (tons/year)	PSD Review Required?
SO2	NA	0.06	0.008	0.008	NA	1.1	0.9	NA	0.08	0.009	2.2	250	No
PM(Total)	2.0	0.08	0.007	0.007	NA	0.9	1.1	NA	0.11	0.009	4.2	250	No
PM(Filterable)	2.0	0.02	0.007	0.007	NA	0.9	0.3	NA	0.11	0.009	3.4	250	No
PM(Condensable)	NA	0.06	0.007	0.007	NA	0.9	0.9	NA	0.11	0.009	2.0	250	No
Nox	NA	1.02	0.132	0.13	NA	8.8	15	NA	1.32	0.058	26	250	No
CO	NA	0.86	0.115	0.12	NA	8.8	12.6	NA	3.29	0.058	26	250	No
VOC (as methane)	NA	0.06	0.044	0.04	NA	5.2	0.8	45	2.71	0.032	54	250	No
GHG (CO2e)	NA	1,248	25	25	NA	19,887	17,990	29,005	821	349	69,350	100,000	No
HAPs	NA	0.0013	0.000649	0.000653	NA	0.025	0.0191	NA	0.00186	0.000192	0.049	NA	NA

Facility Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Permit History

0850147-001-AC Issued 3-12-2008:	Initial Construction Permit
0850147-002-AC Issued 1-23-2009:	One Year Extension
0850147-003-AC Issued 2-8-2010:	One Year Extension
0850147-004-AC Issued 3-14-2011:	One Year Extension
0850147-005-AC Issued 1-20-2012:	One Year Extension
0850147-006 AC Issued 10-9-2012:	Construction Permit Revision to comply with Greenhouse Gas Rules
0850147-007-AC Issued 9-19-2013:	One Year Extension

Processing Schedule

4-4-2014 Received the application for a minor source air pollution construction permit.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon

monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

The Summary of Maximum Potential Annual Operational Emissions table above from the application summarizes the potential emissions from the proposed emissions units. As demonstrated in the table, total project emissions will not exceed the PSD Major Source threshold emissions rates; therefore, the project is a minor source and thus not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Discussion of Emissions

As shown in the Comparison of Current Permitted Potential Emissions to Proposed Potential Emissions table above, the emissions for the proposed project will result in a reduction of all emissions except VOC, which will only increase by 8 tons per year.

State Requirements

Rule 62-4 Permits

Rule 62-204.220 Ambient Air Quality Protection

Rule 62-204.240 Ambient Air Quality Standards

Rule 62-204.800 Federal Regulations Adopted by Reference such as NSPS (40 CFR 60, Subpart IIII and Subpart Dc) and NESHAP (40 CFR 60, Subpart ZZZZ)

Rule 62-210.200 Definitions

Rule 62-210.300 Permits Required

Rule 62-210.350 Public Notice and Comments

Rule 62-210.270 Reports

Rule 62-210.550 Stack Height Policy

Rule 62-210.650 Circumvention

Rule 62-210.900 Forms and Instructions

Rule 62-212.300 General Preconstruction Review Requirements

Rule 62-212.400 Prevention of Significant Deterioration (Source Obligation)

Rule 62-296.320 General Pollutant Emission Limiting Standards

Rule 62-256 Open Burning and Frost Protection Fires

Rule 62-257 Asbestos Program

Federal NSPS Provisions

40 CFR 60 Subpart IIII (NSPS Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

40 CFR 60 Subpart Dc (NSPS Standards of Performance for Small Industrial Commercial Institutional Steam Generating Units)

Federal NESHAP Provisions

40 CFR 63 Subpart ZZZZ (NESHAP National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

Other Draft Permit Requirements

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Scott D. Trainor is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the:

Florida Department of Environmental Protection
Air Resource Section
Southeast District Office
400 N. Congress Avenue, 3rd Floor
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