TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

GGS Fort Myers, LLC
7904 Interstate Ct.
North Fort Myers, Florida 33917

GGS Fort Myers
Facility ID No. 0710282

PROJECT

Project No. 0710282-001-AC
Application for Minor Source Air Construction Permit
Biodiesel Production Facility

COUNTY

Lee, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
South District Office
2295 Victoria Avenue
Ste. 364
Fort Myers, Florida 33902

March 20, 2012

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

GGS Fort Myers, LLC (green Gallon solutions) proposes to construct a new biodiesel production facility, which is categorized under Standard Industrial Classification Code No. 454319. The facility is located in Lee County at 7904 Interstate Ct. in North Fort Myers, Florida. The UTM coordinates of the facility are Zone 17, Latitude 26/43/21.91 and Longitude 81/46/47.94. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

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.
- The facility is subject to NSPS 40 CFR 60, Subpart A – "New Source Performance Standards"
- The facility is subject to 40 CFR 60, Subpart VVa – "Standards of Performance for Equipment Leaks of VOC.
- *Note: 40 CFR 63, Subparts F, G, and H are <u>not</u> applicable to this project because all of the requirements of 40 CFR 63.100(b) are not met and therefore the facility is not subject to Subpart F,G and H. Biodiesel is produced as the primary product and is not one of the listed chemicals subject to the requirement. Glycol is produced and it is one of the listed chemicals, however, this is only a bi-product of the process.*
- *40 CFR 60, Subpart RRR and Subpart NNN are <u>not</u> applicable to the biodiesel reactors because the process reactors are "Batch" reactors.*
- *40 CFR 63, Subpart FFFF is <u>not</u> applicable to this facility because it emits less than 10 Ton/year of HAP.*

- *40 CFR 60, Subpart Kb is not applicable to this facility because each storage vessel used to store volatile organic liquids (VOL) is less than < 75 cubic meters capacity.*

Project Description

The facility is a Batch type, Biodiesel production plant that can produce up to a maximum of 2.85 million gallons of ASTM D-6751 certified biodiesel annually. The facility includes one (1) 7,000 gallon Reaction vessel, one (1) 10,000 gallon Glycerol storage tank, one (1) 10,000 gallon Methanol storage tank, one (1) 3, 700 gallon Glycerol/Biodiesel separation tank, four (4) 9,500 gallon Biodiesel storage tanks, one 2.52 Btu/hr boiler and miscellaneous, pumps, filters and associated process equipment. Equipment will be electric powered or use propane fuel. Pollutant emissions are minimal, with total Volatile Organic Compounds (VOC) at 0.982 tons/year, Hazardous Air Pollutants (HAPS) at 0.435 tons/year, and CO and N0x at less than 5.0 ton/year. Regulations include NSPS 40 CFR 60, Subpart A – "New Source Performance Standards", 40 CFR 60, Subpart VV-a, Standards of Performance for Equipment Leaks.

Processing Schedule

March 13, 2012 ……..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

Tank Emissions Summary

Equip. No.	Tank Name	Capacity Gallons	Tank year Throughput	Pollutant	Vented Lb/year	Vented Tons/ year
R-201	Esterification	7,000	3,186.237	VOC	1,063.24	0.531
TK-705	Glycerol	10,000	361,434	VOC	140.78	0.070
TK-801	Methanol	10,000	340,970	HAP	870.12	0.435
TK-301	Glycerol/ Biodiesel	3,700	3,353,934	VOC	763.36	0.381
----	Biodiesel Storage	9,500	2,850,000	VOC	Sealed V/P Relief	Sealed V/P Relief
Boiler 2.52 mmBtu/hr. (EXEMPT)	N/A	N/A	N/A	CO and NO_x	N/A	Less than 5.0

a. Volatile Organic Compounds (VOC) at 0.982 tons/year,
b. Hazardous Air Pollutants (HAPS) at 0.435 tons/year,
c. Carbon Monoxide (CO) at less than < 5.0 ton/year. (Boiler)
d. Nitrogen Diozide (N0x) at less than < 5.0 ton/year. (Boiler)

As provided in the application, the following table summarizes potential emissions and PSD applicability for the project.

Table A. Potential Emissions (Tons/Year) and PSD Applicability

Pollutant	Project Potential Emissions (TPY)	Significant Emissions Rate (TPY)	Subject To PSD?
CO	<5.0	100	No
NO_X	<5.0	40	No
PM/PM_{10}	0.01	25/15	No
SO_2	N/A	40	No
VOC	0.982	40	No
HAP	0.435	40	No

As shown in the above table, total project emissions will not exceed the PSD significant emissions rates; therefore, the project is not subject to PSD pre-construction review.

3. APPLICATION REVIEW

Discussion of Emissions

There are four (4) types of emissions from this facility: Hazardous Air Pollutants (HAP) in the form of Methanol vapor, Volatile Organic Compounds (VOC), Carbon Monoxide (CO) and Nitrogen Dioxide (NO_x).

Federal NSPS Provisions

- The facility is subject to NSPS 40 CFR 60, Subpart A – "New Source Performance Standards"
- The facility is subject to 40 CFR 60, Subpart VVa – "Standards of Performance for Equipment Leaks of VOC.
- *Note: 40 CFR 63, Subparts F, G, and H are not applicable to this project because all of the requirements of 40 CFR 63.100(b) are not met and therefore the facility is not subject to Subpart F,G and H. Biodiesel is produced as the primary product and is not one of the listed chemicals subject to the requirement. Glycol is produced and it is one of the listed chemicals, however, this is only a bi-product of the process.*
- *40 CFR 60, Subpart RRR and Subpart NNN are not applicable to the biodiesel reactors because the process reactors are "Batch" reactors.*
- *40 CFR 63, Subpart FFFF is not applicable to this facility because it emits less than 10 Ton/year of HAP.*

Other Draft Permit Requirements

Limited production, not to exceed 2.99 million gallons/yr. (< 3.0 million gallons/yr.)

Initial Compliance Tests: There is no initial compliance test required for airborne pollutants. However the permittee shall develop a plan and list of equipment to be leak tested and submit the plan within 90 days of startup to the Air Compliance Section of the Department's South District Office for approval, and demonstrate compliance test within 180 days of initial start-up. (40 CFR 60, Subpart VVa).

Annual Compliance Tests: Is not required.

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. Carter B. Endsley, P.E. is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department of Environmental Protection's Air Resource Section in the South District Office. The Permitting Authority's physical address is: 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902.