TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Smart Fuels Florida, LLC
2405 US Hwy 441/27
Building #6
Fruitland Park, FL 34731

Smart Fuels Florida, LLC Facility
Facility ID No. 0694859

PROJECT

Project No. 0694859-001-AC
Application for Air Construction Permit
Construction of Biodiesel Production Facility

COUNTY

Lake County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Central District Office
3319 Maguire Blvd., Suite 232
Orlando, FL 32803

November 17, 2009

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

Smart Fuels Florida, LLC operates the existing Smart Fuels Florida Facility, which is a biodiesel production facility. The facility is categorized under Standard Industrial Classification Code No. 2869. The facility is located in Lake County at 2405 US Hwy 441/27, Building #6 in Fruitland Park, Florida. The UTM coordinates of the existing facility are Zone 17, 411.75 km East, and 3194.47 km North. 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 40 CFR 60, Subpart A and the recordkeeping requirements of §60.116b in 40 CFR 60, Subpart Kb

Project Description

Project: This is an after-the-fact air construction permit for much of the facility. The applicant has already constructed much of the biodiesel production facility. The major operations conducted at the facility consist of removing impurities from waste vegetable oil, producing biodiesel and glycerol in a batch process, and blending pure biodiesel with diesel fuel to create biodiesel blends based on customer specifications. Each methanol-containing storage tank has a nitrogen blanket. Completed construction includes the installation of storage tanks

for waste vegetable oil, methanol, diesel, biodiesel, glycerol, and intermediate products, and one process unit with a 150-gallon batch capacity. There are currently thirteen (13) tanks at the facility. Nine (9) of the thirteen (13) tanks have insignificant emissions. These nine tanks include: 1 x 10,000 gallon waste vegetable oil tank, 4 x 5,000 gallon waste vegetable oil tanks, 1 x 5,000 gallon centrifuged waste vegetable oil tank, 2 x 10,000 gallon biodiesel tanks, and 1 x 10,000 gallon diesel fuel tank for biodiesel blending only. The facility also plans to operate a three million British thermal unit per hour (3 MMBtu/hr) boiler fueled by a blend of glycerol, methanol, and biodiesel or filtered vegetable oil; and a 250 kW biodiesel-fueled generator. The existing emission units include a boiler, a generator, and 4 storage tanks. Each methanol-containing storage tanks has a nitrogen blanket. A 500-gallon boiler blend tank will be installed and will be classified under Emission Unit 003. It will not have a nitrogen blanket. After the 500-gallon boiler blend tank is built, there will be 14 tanks at the facility. The facility plans to install a second process unit with a 650-gallon batch capacity within 6-8 months. The maximum project biodiesel production rate for both process units combined is approximately 7,500 gallons per day, or 2.74 million gallons per year, assuming an operating schedule of 24 hours per day, 365 days per year.

Processing Schedule

09/30/09 Received the application for a minor source air pollution construction permit
10/16/09 Requested additional information.
11/02/09 Received additional information; application complete.

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

Currently the facility wide potential emissions for NO_X are 59.14 tons/yr. The project is not subject to PSD Review.

3. APPLICATION REVIEW

Discussion of Emissions

Currently the facility wide potential emissions for NO_X are 59.14 tons/yr. Note that NO_X is the pollutant with the highest potential emission rate. This is a new facility. Potential Emissions based on the application are PM10 3.12 tons/yr., SO_X 1.62 tons/yr., CO 5.88 tons/yr., VOC 2.59 tons/yr., and total HAPs 1.24 tons/yr.

State Requirements
Rule 62-210.200(242), F.A.C. (potential to emit) and Rule 62-210.300(1), F.A.C. (air construction permits).

Federal NSPS Provisions
The facility is subject to 40 CFR 60, Subpart A and the recordkeeping requirements of §60.116b in 40 CFR 60, Subpart Kb. Additionally, the facility is subject §60.486a(i) in CFR Part 60, Subpart VV-a – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry Volatile Organic Liquid Storage Vessels.

Federal NESHAP Provisions
N/A

Other Draft Permit Requirements
The requirements of 40 CFR Part 80, Subpart I – Motor Vehicle, Nonroad, Locomotive, and Marine Diesel Fuel apply with regard to the generator/engine.

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. Jeffrey Rustin, 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 Florida Department of Environmental Protection, Central District Office, 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767; 407-893-3334.