TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Petro Operating Company, LP
4940 Blackjack Plant Road
Jay, Florida 32565

Blackjack Creek Facility
Facility ID No. 1130014

PROJECT

Project No. 1130014-008-AC
Application for Title V Source Air Construction Permit
Increase SO_2 limit for EU010 flares

COUNTY

Santa Rosa County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Waste Management/Air Resources Program
Northwest District Office
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

August 28, 2014

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

Petro Operating Company, LP is an existing Title V facility, which is categorized under Standard Industrial Classification Code No. 1311, an oil and natural gas processing facility. The facility is located in Santa Rosa County at 4940 Blackjack Plant Road in Jay, Florida. The UTM coordinates of the existing facility are Zone 17, 488.8 km East, and 3412.7 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 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.

Project Description

This construction permit 1130014-008-AC, increases the SO_2 limit for emissions unit (EU) 010, the flares, and adds specific conditions to EU 013, the stationary reciprocating internal combustion engines (RICE) and 163 HP emergency fire pump engine. Permit renewal 1130014-007-AV is being concurrently processed with permit 1130014-008-AC.

Processing Schedule

August 14, 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

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 (TPY)	Pre-Project Potential Emissions	Post Project Potential Emissions	Total Emissions Change	Significant Emissions Rate	Subject to PSD
CO	34.5	34.5	0	100	NO
NO_X	178	178	0	40	NO
PM/PM_{10}	4.1	4.1	0	25/15	NO
SO_2	125.08	185.24	60.16	40	NO

Pollutant (TPY)	Pre-Project Potential Emissions	Post Project Potential Emissions	Total Emissions Change	Significant Emissions Rate	Subject to PSD
VOC	120.2	120.2	0	40	NO
Total HAPs	7.64	7.64	0		NO

This facility is not currently a major stationary source for PSD because it emits less than 250 tons per year of a regulated pollutant and the facility is not one of the listed 28 because the sulfur recovery plant has been removed and the facility is not considered a chemical processing plant for sulfur. The project itself is not subject to PSD review because the potential emissions increase alone from the proposed project itself does not equal or exceed the PSD major stationary source thresholds for this type of facility. Based on these facts is it determined that the project is not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Application Fee

There are no application fees for Title V facilities.

Discussion of Emissions

This facility processes crude oil, water, and natural gas from the Blackjack Creek oil field by separating the oil, formation water, natural gas, and hydrogen sulfide gases into different streams. Acid gas removed from the oil and natural gas is mixed with the formation water and the acid gas/formation water stream is reinjected into the originating geologic formation by disposal wells. The natural gas is dehydrated in a TEG (Triethylene Glycol) unit, sweetened to remove H_2S, and then is consumed on-site. The facility includes two flares for upset conditions and to thermally destruct specific waste streams (seal leaks, classifier gases) associated with normal operating conditions. The application requested an increase in the SO_2 emissions limit for the flares because the composition of the stream changes as the Blackjack Creek field ages and may contain pockets with increased H_2S. The facility's response to the request for additional information (RAI) for Project No. 1130014-007-AV included screen modeling to show that the increased SO_2 emissions should not exceed ambient air quality standards (AAQS). The facility applied for a construction permit on August 14, 2014 (Project No. 1130014-008-AC) to increase the flares' SO_2 limit.

State Requirements

The boilers are subject to Rule 62-296.406, F.A.C. with a tiered opacity limit.

Federal NSPS Provisions

None. The flares are not subject to 40 CFR 60 (NSPS), but both are subject to emission limits established in previously issued construction and operation permits to avoid exceeding AAQS and PSD (Prevention of Significant Deterioration) thresholds. The boilers predate the applicability requirements of 40 CFR 60 subpart Dc.

Federal NESHAP Provisions

Existing emissions unit (013), two 1000 HP stationary nonemergency reciprocating internal combustion engines (RICE) and 163 HP stationary emergency fire pump engine, is subject to 40 CFR 63 subpart ZZZZ, National Emissions Standards for stationary reciprocating internal combustion engines (RICE). The TEG unit is classified as an unregulated activity not subject to 40 CFR 63, Subpart HH since the facility is not a major source of HAPs.

Other Draft Permit Requirements

Total SO_2 emissions from these flares are limited to 42.29 pounds per hour and 185.24 tons per rolling 12 months. Excess emissions resulting from malfunctions are limited to two hours in any 24-hour period with up to a maximum of 875 pounds per hour SO_2 emissions. Excess emissions from startup and shutdown processes are

limited to eight hours in any 24-hour period with tiered hourly limits not to exceed 4,375 pounds of SO_2 emissions in any 24-hour period. Maintaining daily records of quantities of salt water disposal fluids, quantities and types of gas fed to each flare using ASTM methodology (including excess emissions), and calculated SO_2 emissions identifying the average hourly SO_2 emissions per day and the rolling twelve-month SO_2 emissions. Visible emissions testing on the boilers required once during each permit cycle.

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. Debbie Moore 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 850 -595 -0624 or Deborah.L.Moore@dep.state.fl.us.