Florida Department of

Memorandum

Environmental Protection

TO: J. Charles Harp JCH
Program Administrator
Waste Management/Air Resources

THROUGH: Armando I. Sarasua, P.E.
Air Permitting Supervisor

FROM: Deborah Moore DM
Permit Engineer

DATE: June 18, 2014, revised August 26, 2014

SUBJECT: Evaluation Summary for Petro Operating Company, LP, Blackjack Creek Facility, Permit No. 1130014-008-AC and Title V Air Operation Permit Renewal No. 1130014-007-AV, Santa Rosa County. This Evaluation Summary was revised for concurrent processing with 1130014-008-AC.

We recommend issuing a revised notice of intent to Petro Operating Company, LP, Blackjack Creek Facility, for the renewal of Title V Air Operation Permit 1130014-005-AV. This renewal also incorporates construction permit 1130014-008-AC, which 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. This permit renewal is being concurrently processed with permit 1130014-008-AC. Project No. 1130014-006-AV was actually a response to a request for additional information (RAI) for Permit 1130014-005-AV, so the project number was withdrawn.

The application for this renewal 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 often contain pockets with more H_2S. The facility's response to the request for additional information (RAI) 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 SO_2 limit on the flares.

Process Description: The applicant operates the Blackjack Creek Facility, a crude oil and gas processing facility, which is located in Santa Rosa County at 4940 Blackjack Plant Road in Jay, Florida.

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 oil is stored in on-site storage tanks pending sale and removal by pipeline. The natural gas is dehydrated in a TEG (Triethylene Glycol) unit (which is classified as an unregulated activity not subject to 40 CFR 63, Subpart HH since the facility is not a major source of HAPs), sweetened to remove H_2S, and then is consumed on-site. Two boilers provide process steam. Another boiler that previously operated as the sulfur plant thermal oxidizer is used as a back-up steam boiler.

The facility was initially placed into operation in early 1975. Petro ceased operation of the facility in November 2001 and again in June 2002, as a result of various operation problems. Subsequently, Petro incorporated closed loop re-injection of the acid gas stream with the return formation water to the originating geologic formation. Both the sulfur recovery plant and storage pit were taken out of service and would require major repairs prior to any operation, and Petro has no immediate plans to place these units in service. These units will require construction permits for any future renovation and operation. Additionally, Petro tied into the available electric utility grid, and discontinued use of four 700 horse power (HP) natural gas fired generator engines, as part of Consent Order OGC File No.: 02-1880, dated July 30, 2013, to avoid PSD for NO_x. The original application for this renewal included the four 700 HP engines as emergency backup engines but a revised application was

submitted that eliminated these engines because of the consent order and because they would need to be permitted under an air construction permit before being incorporated into the Title V operating permit.

Based on the permit applications received January 27, 2014, April 25, 2014, and August 14, 2014, this facility is a not a major source of hazardous air pollutants (HAP).

Pollution Control Equipment: The facility includes flares for upset conditions and to thermally destruct specific waste streams (seal leaks, classifier gases) associated with normal operating conditions.

Environmental Impact:

Airborne Contaminant Emitted	FAC Rule	Estimated Emissions		Allowable Emissions	
		lbs/hr	T/yr	lb/hr	T/yr
PM			4.1		
SO_2	N/A	N/A	<185.24	42.29	185.24*(flares)
VOC	N/A	N/A	120.2	N/A	N/A
NOx	N/A	N/A	178	N/A	N/A
CO	N/A	N/A	34.5	N/A	N/A
Total HAPS			7.6		<25 to maintain minor status
Objectionable Odors	62-296.320(2)	N/A		None allowed off plant property	
VE (boilers)	62-296.406	N/A	N/A	Not more than 20% opacity except 40% for 2 minutes per hour	

* *Rolling 12-month total limit from both flares, not including periods of excess emissions.*

Applicable Rules & Regulations: 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. 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. The boilers are subject to Rule 62-296.406, F.A.C.

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).

Compliance Monitoring: 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.

Compliance History: Minor noncompliance for late submittal of first quarter flare report in 2012. Late submittal of annual statement of compliance for 2013, and first quarter flare report for 2013 submitted without responsible official signature.

Fee Summary: Title V Facilities are not subject to application fees.

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