Title V Air Operation Permit Renewal
Final Permit No. 1130014-007-AV

APPLICANT

The applicant for this project is Petro Operating Company, LP. The applicant's responsible official and mailing address are: Harlan Chappelle, President, Petro Operating Company, LP, Blackjack Creek Facility, 15021 Katy Freeway, Suite 400, Houston, Texas 77094.

FACILITY 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. The facility processes crude oil, water, and natural gas from the Blackjack Creek Oil Field by separating the crude oil, formation water, natural gas and hydrogen sulfide containing gases into separate streams. The crude oil is stored in an on-site storage tank(s) pending sale via 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, then is consumed on-site. VOC emissions are exhausted from the Glycol Regeneration stack. Hydrogen sulfide containing gases are re-injected into the geologic formation from which it originated (i.e., Acid Gas Re-injection, (AGR)). Gas (produced in association with crude oil) at the Blackjack Creek Facility, is returned to the geologic formation from which it originated (at depths of over 15,000 feet from the surface). The acid gases are mixed with the formation water, also produced in association with crude oil at the Blackjack Creek Facility, and injected into this deep geologic formation to maintain pressure and enhance oil recovery.

The facility includes flares for upset conditions and to thermally destruct specific waste streams (seal leaks, classifier gases) associated with normal operating conditions. Neither flare is subject to 40 CFR 60 (NSPS), but both are subject to emission limits established in previously issued construction and operation permits to avoid exceeding ambient air quality standards (AAQS) and PSD (Prevention of Significant Deterioration) thresholds. Total SO_2 emissions from these flares are limited to 28.56 pounds per hour and 125.08 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 per 24-hour period.

Two 30 million Btu per hour natural gas fired boilers provide process steam; a 3.125 million Btu per hour natural gas fired boiler that previously operated as a sulfur plant thermal oxidizer, is used as a back-up boiler. These boilers were placed in operation in the mid-1970s, and predate the applicability requirements of 40 CFR 60 Subpart Dc (NSPS).

Two 1000 HP natural gas fired stationary reciprocating internal combustion engines (RICE) provide power to operate a natural gas compressor, with only one engine in use at a time. Both engines were previously unregulated as emissions unit (EU) 013 but are now subject to 40 CFR 63 subpart ZZZZ, National Emissions Standards for RICE.

The gas dehydrator uses natural gas for fuel and also has emissions associated with regeneration of the TEG. Two 15,000 bbl (barrel) crude oil fixed roof vertical storage tanks, constructed in 1975, store crude oil prior to custody transfer via pipeline with only one tank in service at any given time. Currently, only one tank (East Crude Tank# 501A) has been in service but the other tank (West Crude Tank# 501B) will be refurbished and recommissioned. The tanks are not subject to 40 CFR 60 subpart Ka because that subpart does not apply to storage vessels for petroleum or condensate stored prior to custody transfer (40 CFR 60.110a(b)).

The facility was initially placed in 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 are 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 has tied into the available electric utility grid, and has discontinued usage of four 700 horse power (HP) natural gas fired generator engines.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit and concurrently issue Permit No. 1130014-008-AC for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit issued September 8, 2009
Application for a Title V Air Operation Permit Renewal received January 27, 2014
Additional Information Request dated March 14, 2014
Additional Information Response received April 25, 2014
Notice of Intent to Issue Air Permit issued June 18, 2014
Application for a Construction Permit received August 14, 2014
Revised Notice of Intent for concurrent processing issued October 23, 2014
Public Notice Published October 25, 2014

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is not identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is not a Prevention of Significant Deterioration (PSD)-major stationary source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does not operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

PROJECT REVIEW

The project renews Title V air operation Permit No. 1130014-005-AV, and 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.

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 may contain pockets with increased 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 flares' SO_2 limit.

Other changes that were made as part of this renewal include reformatting, replacement of TV-6 with new Appendix TV, streamlining of EU sections by moving common conditions to the new appendices, etc.

CONCLUSION

This project renews Title V air operation permit No. 1130014-005-AV, which was issued on September 8, 2009. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.