

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N318824384

FACILITY: RENO GAS PLANT		SRN / ID: N3188
LOCATION: 282 M-65, WHITTEMORE		DISTRICT: Saginaw Bay
CITY: WHITTEMORE		COUNTY: IOSCO
CONTACT:		ACTIVITY DATE: 02/05/2014
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled site inspection for minor source which applied for permit modification in 2013. Limited records for review due to issuance of modified permit in November 2013. sgl		
RESOLVED COMPLAINTS:		

On Wednesday, February 5, 2014, AQD District Staff conducted a scheduled site inspection at the Whiting Oil & Gas Corporation (Whiting Oil) Reno Gas Plant (SRN N3188) 282 M-65, Whittemore, Iosco County, Michigan. One Permit to Install (PTI) No. 1027-91a is of record for the facility. The referenced permit was modified and issued on December 6, 2013. The facility is reported to be a sweet gas production facility. It is a Minor Source of criteria pollutants and an area source of HAPs.

The facility was not operating upon arrival as the facility had a PLC being replaced. AQD staff conducted site inspection activities with Mr. Mark Keyes of Whiting Oil and Mr. Brian Osborne of Osborne Production Services.

FACILITY DESCRIPTION

Based on available plat maps, the Reno Gas Plant consists of an approximately 3 acres, (not including any easements for traffic or buried lines) located within an approximately 78 acres, predominantly wooded parcel located approximately ¾-mile south of the intersection of M-55 and M-65. At the time of the initial permit application the facility was owned by Oryx Energy Company. The facility was purchased by Petrostar Energy in December 1996, and later by Howard Energy. Whiting Oil began operation of the referenced facility on August 15, 2006.

The Reno Gas Plant is an unmanned, fenced facility which operates 24-hours a day, seven days a week. The facility consists of an office, water well, a single Superior Model compressor, dehydration skid, refrigeration skid, air cooler, pre-flare knock out AST, inline heater, flares and NGL tanks/loadout area. A limited number of above ground piping runs were visible; signs posted in various locations on the facility indicated that they were located underground. Throughput is determined by field monitors both in and out of the facility. Fuel usage is determined by a fuel meter. DTE has a sales meter for gas they purchase from the facility.

Operations at the facility are relatively continuous throughout the year. NG and associated NGL are extracted from production wells in a sweet gas production field (Prairie du Chien Formation).

PROCESS EQUIPMENT

Under the present permit, the facility (FGFACILITY) consists of the following process equipment:

- Ethylene glycol dehydration system equipped with a BTEX condenser (EUDEHY-EG)
- Natural Gas fired reciprocating engine (EUENGINE1) associated with Superior Compressor
- Slop tank (EUSLOPTANK) for storage of recovered water, liquids with hydrocarbons from scrubbers and run-off liquids.

In addition, the facility reports the following exempt process equipment (Whiting Oil equipment designations are presented in *italics*):

- 2.52 MMBtu/hr indirect glycol heater (*HTR-1*)

- Process/Emergency Flare (*FLR-1*) with thermal camera and auto-ignition.
- 150-gallon methanol storage tank (*METH-1*)
- Two 30K-gallon NGL/Y-grade storage tank (*NGL-1 and NGL-2*)
- 500-gallon ethylene glycol storage tank (*TK-7*)
- 500-gallon propane storage tank (*PROP-1*)
- 1K-gallon propane storage tank (*PROP-2*)
- 1K-gallon Thermalane 600 temporary storage tank for the oil to be heated by HTR-1 (*TK-TEMP*)

Natural Gas (NG) enters the facility through buried lines at the southeast corner of the facility. From there, the NG goes through an initial knock-out chamber and the dehydration skid to remove entrained waters as well as to further reduce moisture in the gas. The dehydration is conducted using a glycol dehydrator (EUDEHY-EG). The referenced unit uses a BTEX condenser as a control, with the condenser exhaust routed to the flare for destruction.

Following the dehydration skid, NGLs are removed in the refrigeration skid, pass through a stabilizing tower and aerial heat exchanger and are stored in the two onsite NGL ASTs (NGL-1 and NGL-2).

Following the refrigeration skid, gas goes through the Superior Compressor (EUENGINE1). It is important to note that prior to the compressor, the pressure of the NG stream is the result of the gas pressure from the wells. Only gas that is recovered from the stabilizing tower is compressed and returned to the "front of the process". EUENGINE1 is equipped with a catalytic converter and air-to-fuel ratio controller pollution controls. Facility staff report that the engine has not been changed out since the last compliance inspection.

The compressed gas passes through a sales meter and into the Mich Con transmission line located at the western end of the facility. No odorants are added at this point in the pipeline; odorants are added by Mich Con at their odorant station located northwest of the facility along the southside of M-55.

In addition to the process described above, a flare system (FLR-1) consisting of a closed vent system, utility flare stack and flare knock out drum exists.

FEDERAL STANDARDS

Based on information provided by the Facility in their permit modification application the subject site is subject to the following Federal Standards:

- 40 CFR Part 63 Maximum Achievable Control Technology (MACT) Standards, Subpart A and Subpart ZZZZ (RICE MACT)
- 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subparts A, VV and KKK

In addition, during the recent permit modification, Whiting requested a federally enforceable limit that restricts the facility's capacity to 9.5 million standard cubic feet per day. In their application, Whiting indicated that the inclusion of the limit was requested to confirm the applicability of an exemption 40 CFR 60.633(d) (NSPS KKK) for routine monitoring as defined in the exemption at facilities with a design capacity to process field gas of less than 10 million scf/day.

Compliance History –

No records of complaints are of record for the facility. No Notices of Violation (NVs) or Letters of

Violation (LOVs) of record for the facility since October 8, 2010 compliance evaluation. Required reporting is limited to the annual MAERs submittals which have been submitted in a timely manner.

COMPLIANCE EVALUATION

As part of the compliance evaluation, District Staff confirmed the installation of appropriate control devices identified in the permit.

Operational Limits – Operational limits outlined in Permit 1027-91A include:

FGFACILITY-

Process/Operational limits for the referenced flexible group includes a maximum process limit of no more than 9.5 million standard cubic feet of field gas per day. Available records indicated that the daily through put was well below the limit and in compliance with the permit condition. Measurements are taken from totalizing meters onsite and input into an electronic database for the facility in compliance with permit conditions.

EUENGINE1-

Process/Operational limits for the referenced EU include submittal of a Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) within 60 days of permit issuance. The PM/MAP for the referenced site was received by the AQD District Office on January 23, 2014, in compliance with the permit condition.

In addition, the permit limits operation of the EU without it's add-on control device to 200-hours per 12-month rolling time period. Onsite staff reported that they are well below the limit, and data reviewed confirmed compliance.

EUSLOPTANK-

Operational limits associated with the unit include use of submerged fill piping during load outs of the EU, and venting of the tank vapors during upset conditions to the flare. The referenced EU is loaded out infrequently (once in 2013), and is reported to be in compliance with permit conditions.

Material Limits – Material limits associated with Permit 1027-91A restrict the use of stripping gas in EUDEHY-EG. Facility representatives reported that no stripping gas is used, in compliance with the permit.

Emission Points – In addition to the EU permit conditions identified below, the facility reports that monitoring conducted to meet Subpart KKK VOC leak detection requirements.

EUDEHYD-EG-

Emissions for the referenced emission unit are limited to 4.5 tons VOC per year based on a 12-month rolling time period. A review of data for the period following permit issuance confirmed that emissions are below permit limits for the emission unit. No emission limits were included as part of the previous permit for the facility.

EUENGINE1-

Emission limits for the referenced natural gas fired reciprocating engine are controlled by a catalytic converter/catalyst and air to fuel ratio controller. Both NOx and CO emissions of 19 tons/year are allowed for the referenced emission unit per 12-month rolling time period. The limited emission data reviewed (period since permit approval in November 2013) indicated that emissions are in compliance with permit limits for the EU, and based on the emission rates reported would remain in compliance with permit limits thru the 12-month rolling period.

EUSLOPTANK-

Emission limits for the referenced emission unit include VOC emissions in tons/year based on a 12-month rolling total. Emissions data reviewed indicated that the emissions associated with this EU are in compliance with the permit.

Monitoring, Testing and Record Keeping – Monitoring and recordkeeping requirements outlined in PTI 1027-91A include the monitoring and recording of emissions and operating information as required under 40 CFR, Part 60, subpart KKK. Facility staff reported that the monitoring/testing is conducted on a weekly basis using a visual testing of the location. All test locations are tagged, and “snoop” is used to visually determine whether leaks exist. Records are maintained by the company.

FGFACILITY-

Permit requirements for the Facility flexible group are limited to monitoring, and recording the amount of field gas processed by the facility on a daily basis. A review of records confirmed that the data is being collected in compliance with permit conditions.

EUDEHYD-EG-

Requirements for the referenced emission unit include sampling and analysis once per calendar year of the wet gas stream for nitrogen, CO₂, H₂S, C₁-C₆ series hydrocarbons, BTEX and heptanes. Staff report that the sampling and analysis had been conducted on February 21, 2013, for the previous year and that sampling for 2014 was tentatively scheduled for March 2014. A review of the analytical report confirmed that the appropriate parameters were analyzed.

In addition the EU is required to calculate the VOC emission rates for each calendar month and 12-month rolling time period. Facility staff reports that the emissions are calculated using GRI-GLYCalc, and use the most recent wet gas stream analysis data in compliance with the permit conditions.

EUENGINE1-

In addition to calculating and recording NO_x and CO emissions for the referenced EU, the facility is required to maintain a log of all maintenance as well as records of operating periods for the EU when operating without it's add on controls. The required information is compiled and available as electronic records in compliance with permit requirements.

EUSLOPTANK –

Permit requirements for the referenced EU includes the calculation and recordkeeping for VOC emissions for each calendar month and 12-month rolling total. Records were provided by the facility indicating compliance with the permit requirement.

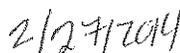
SUMMARY

Site inspection activities at the Whiting Oil, Reno Gas Plant, Whittemore, Iosco County, Michigan were conducted on February 5, 2014. One PTI is associated with the referenced sweet gas processing facility (1027-91A). Based on the conditions outlined in the referenced permit, it appears that the facility is being operated in general compliance with permit conditions.

NAME



DATE



SUPERVISOR

