

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

N020027175

FACILITY: MERIT ENERGY CO. - OTSEGO LAKE 34		SRN / ID: N0200
LOCATION: 0000 MARLETTE RD, WATERS		DISTRICT: Cadillac
CITY: WATERS		COUNTY: OTSEGO
CONTACT: Vicki Kniss , Environmental Affairs Manager		ACTIVITY DATE: 09/17/2014
STAFF: Shane Nixon	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: On site inspection and records review.		
RESOLVED COMPLAINTS:		

AQD staff traveled to Otsego County to perform an inspection of Merit Energy's Otsego Lake 34 natural gas sweetening and central production facility. The purpose of the inspection was to determine the facility's compliance with Permit to Install No. 327-07A and applicable state and federal air pollution control regulations. The facility consisted of four heaters, two methanol tanks, a gas dehydration unit, two storage tanks equipped with vapor recovery, a compressor engine, and a flare.

EU-OL34-SGSP - Sour gas sweetening plant in which hydrogen sulfide is removed from the natural gas using an amine process and iron sponge. A flare is used as a control device to convert hydrogen sulfide to sulfur dioxide (SO₂) during the oxidation process during emergency situations.

A. EMISSION LIMITS - SO₂ emissions are limited to 485 pounds per 24 hour period and 89 tons per 12 month rolling time period. Quarterly records submitted by the company indicate that the facility is in compliance with the pound per 24 hour period limit.

B. PROCESS/OPERATIONAL RESTRICTIONS - A continuously burning pilot flame is installed within the flare. A photoelectric eye is located near the flare to determine if the flame is extinguished. In the event that the flame is extinguished, shut-in of the facility is automatically commenced and not restarted until the flare is relit.

C. EQUIPMENT - Fencing was maintained around the facility to prevent unauthorized entry. All relief valves and storage tanks were vented to the flare to prevent the release of hydrogen sulfide to the atmosphere as required by Special Condition 1.6 of the Permit to Install.

D. MONITORING - The hydrogen sulfide concentration is continuously monitored within the building housing the sweetening process. If the hydrogen sulfide concentration within the building exceeds 50 parts per million, a visual alarm is activated.

E. RECORDKEEPING/NOTIFICATION/REPORTING - Visible emissions are observed on a daily basis and recorded as either normal or abnormal. Abnormal visible emissions causes the need for plant personnel to take corrective actions. A log of the observations is attached. The observations show that the visible emissions from the flare was normal at all times. Upon arrival, however, AQD staff observed that visible emissions from the flare was approximately 80 percent opacity. AQD staff performed US EPA Method 9 visible emissions observations. The six-minute average based on Method 9 observations was 54.4 percent opacity, which exceeds the limit of 20 percent opacity pursuant to Rule 301 and General Condition No. 11 of PTI No. 327-07A. A Violation Notice will be sent to Merit Energy for the violation.

EU-OL34-COMP1 - Natural gas fired Waukesha Model L5790G used to boost the pressure of the natural gas to match the pressure in the sales pipeline. Operational parameters observed by AQD staff at the time of the inspection are:

Engine water temperature: 145 degree Fahrenheit

Engine oil temperature: 200 degree Fahrenheit

Engine oil pressure: 30 psi

Engine operating rate: 676 rpm

A. EMISSION LIMITS - Nitrogen oxides and carbon monoxide emissions are limited to 86.0 tons per 12 month rolling time period and 6.0 tons per 12 month rolling time period, respectively. Records maintained by the facility indicate that the facility is in compliance with the emission limits. The highest emissions in the previous 12 months occurred in July 2014. NOx emissions at that time were 57.33 tons per 12 month rolling time period and CO emissions were 3.91 tons per 12 month rolling time period.

B. MATERIAL USAGE LIMITS - Natural gas usage is limited to 23.5 MMCF per 12 month rolling time period. Records indicate that the natural gas usage between September 2013 and August 2014 ranged between 14.0 and 14.6 MMCF per 12 month rolling time period.

C. PROCESS/OPERATIONAL LIMITS - A malfunction abatement plan (MAP) was previously submitted and approved by AQD staff. With the fact that the compressor engine is not equipped with any pollution control equipment, the MAP only outlines maintenance specific to the compressor engine.

D. EQUIPMENT - There are no specific equipment restrictions associated with this emission unit; therefore, this section is not applicable.

E. TESTING - There are currently no specific testing requirements associated with this emission unit; therefore, this section is not applicable.

F. MONITORING - A device used to monitor the natural gas usage rate of the compressor was installed and operating at the time of the inspection.

G. RECORDKEEPING/NOTIFICATION/REPORTING - All calculations pertaining to emissions from the compressor engine were made available upon request. Monthly fuel use records were also available. Through records submitted by Ms. Vicki Kniss, the facility has demonstrated compliance with the recordkeeping requirements contained in the Permit to Install.

EU-OL34-DEHY - Glycol dehydrator used to remove water from the natural gas prior to compression. The glycol dehydrator is currently subject to 40 CFR 63 Subpart HH. AQD has not been delegated authority to enforce the federal regulation and a compliance determination regarding the federal regulation was not made.

A. EMISSION LIMITS - There are no emission limits associated with this emission unit; therefore, this section is not applicable.

B. MATERIAL USAGE LIMITS - There are no material usage limits associated with this emission unit; therefore, this section is not applicable.

C. PROCESS/OPERATIONAL LIMITS - The facility is required to comply with 40 CFR 63 Subpart HH. The Division has not been delegated authority to enforce the federal regulation and a compliance determination with the regulation has not been made.

D. EQUIPMENT RESTRICTIONS - During the inspection, AQD staff observed that the dehydrator was equipped with a flash tank. The purpose of the flash tank is to allow a majority of the VOCs entrained in the "water-rich" glycol to volatilize prior to entering the glycol reboiler. The VOCs from the flash tank are then routed to the compressor. Emissions from the glycol dehydrator are routed to the flare for destruction.

E. TESTING - At least once per calendar year, the facility is required to obtain an analysis of the wet gas stream. Records submitted by the company indicates that the facility is in compliance with the requirements of this permit condition.

F. MONITORING - Monitoring requirements are associated with 40 CFR 63 Subpart HH. Compliance with the regulation was not determined by AQD staff.

G. RECORDKEEPING/REPORTING/NOTIFICATION - All records required by the Permit to Install and 40 CFR 63 Subpart HH were maintained and available upon request.

FGFACILITY - All process equipment at the facility, including equipment covered by other permits, grandfathered equipment and exempt equipment.

A. EMISSION LIMITS - NO_x emissions are limited to 89 tons per 12 month rolling time period. Records indicate that the facility is well below the permit limit. The highest NO_x emissions for the previous 12 months occurred in July 2014. NO_x emissions at that time was 57.47 tons per 12 month rolling time period.

B. MATERIAL LIMITS - The facility is not allowed to burn sour natural gas as fuel in the equipment at the facility. An analysis of the natural gas after the sweetening process indicates that the hydrogen sulfide concentration is less than 1 part per million, which is considered to be sweet.

C. PROCESS/OPERATIONAL RESTRICTIONS - There are no process or operational restrictions associated with this flexible group; therefore, this section is not applicable.

D. TESTING - The hydrogen sulfide concentration of the natural gas used in the fuel burning equipment at the facility. As mentioned earlier, the concentration of the gas is less than 1 part per million.

E. RECORDKEEPING/REPORTING/NOTIFICATION - All records and calculations required by the permit were completed and made available to AQD staff upon request.

F. MONITORING - There are no monitoring requirements associated with this flexible group; therefore, this section is not applicable.

CONCLUSION - Based upon the on-site inspection and records review, AQD staff has determined the facility to be in violation of Rule 301 and General Condition No. 11 of Permit to Install No. 327-07A. A violation notice will be sent to the company.

NAME Shane Nixon

DATE 9/25/14

SUPERVISOR 