

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

N770628366

FACILITY: CHEVRON MICHIGAN, LLC - CHESTONIA 31 CPF		SRN / ID: N7706
LOCATION: NW4 NE4 SEC 31 T30N R6W, CHESTONIA TWP		DISTRICT: Cadillac
CITY: CHESTONIA TWP		COUNTY: ANTRIM
CONTACT: Natalie Schrader		ACTIVITY DATE: 12/18/2014
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Wednesday, December 18, 2014, Caryn Owens of the DEQ-AQD conducted a scheduled on-site inspection of the Chevron Michigan, LLC – Chestonia 31 CPF (N7706) located in the northwest quarter of the northeast quarter of Section 31, Township 30 North, Range 6 West in Chestonia Township, Antrim County, Michigan. More specifically, the site is located on the south side of Oslund Road, approximately 1/3 mile west of the Oslund Road and Cedar River Road intersection. There is an access gate at the Property which was not locked at the time of the inspection. The purpose of this inspection was to determine the facility's compliance with permit to install (PTI) 20-07D. The site is currently an area source that has opted out of major source applicability by limiting the operational and/or production limits potential to emit (PTE) to be below major source thresholds. DEQ was unaccompanied during the field inspection, an inspection brochure was not given to anyone at this facility, but a brochure will be emailed to the company with this inspection report. The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) Part 63 Subpart HH, and NESHAP Part 63 Subpart ZZZZ. The State of Michigan does not have delegated authority of the area source NESHAPs, and thus these areas were not reviewed by the MDEQ at this time. The site was covered in snow, and the weather conditions were partly to mostly cloudy, with calm winds, and approximately 23°F.

The equipment at the site consisted of one a main building containing: two compressor engines; vertical separators; a glycol dehydrator; and another building that formerly contained a booster compressor engine that has been removed from the facility. DEQ could not access the booster engine building because it was locked. Inside the main building at the site, DEQ observed a restricted area due to radioactiveness, which contained vertical separators inside the central portion of the main building. The glycol dehydrator was in the west-central portion of the building, and was used to dry the field gas prior to transporting it to the sales line. DEQ observed a heat shimmer from the glycol dehydrator process heater, and no emissions were observed from the glycol dehydrator stack outside of the building. The glycol dehydrator process heater stack was approximately 22 feet above ground surface.

The northern engine in the building was a 1265 horsepower (hp) Caterpillar 3516LE, identified on the logs at the facility as Unit 190259, and is identified in the PTI as EUENGINE1. This northern engine (EUENGINE1) was operating at 1244 RPM, 188°F, and 54 psi, and was equipped with an oxidation catalyst and AFRC. DEQ observed the inlet temperature of the catalyst as 888°F and the outlet temperature as 877°F. The AFRC reading was 1.44 v 815 and 17 percent. The stack on the compressor engine contained a muffler and was approximately 40 feet above ground surface, no other visible emissions were observed from the northern compressor engine stack.

The southern engine in the building was a 1085 hp Caterpillar 3516LE, identified on the engine block as GCS 988, and on the logs at the facility as Unit 190207 JGK-4 Aerial 3516T/A CAT, and is identified in the PTI as EUENGINE2. This southern engine (EUENGINE2) was operating at 1120 RPM, 194°F, and 57 psi, and was equipped with an oxidation catalyst and AFRC. DEQ observed the inlet temperature of the catalyst as 792°F and the outlet temperature as 785°F. The AFRC reading was 2.89 v 1022 and 20 percent. The stack on the compressor engine contained a muffler and was approximately 40 feet above ground surface, no other visible emissions were observed from the southern compressor engine stack.

Two iron sponges were located outside, southwest of the main building, and one contained a windsock that was limp at the time of the field inspection.

Records Reviewed

EUDEHY: Glycol dehydration system processes gas from the Antrim zone. The applicable requirements of this emission unit are regulated by the NESHAP 40 CFR Part 63 Subpart HH, and the DEQ does not have delegation for the NESHAP, so these areas were not addressed during this facility inspection and records review. Chevron is claiming the Chief Creek facility glycol dehydrator meets exemption R336.1288(b)(ii).

FGENGINES: Two Caterpillar 3516LE natural gas fired reciprocating internal combustion engines, one at 1265 hp and the other at 1085 hp. FGENGINES are permitted without control.

- Emission Limits:** EUENGINE1 is limited 60 tons per 12-month rolling time period of NOx and 30 tons per 12-month rolling time period of CO. Based on the records reviewed, the facility included records using 12-month rolling time period calculations for emissions after control, but also included monthly emissions uncontrolled. The DEQ was able to calculate the uncontrolled 12-month rolling time period emissions for NOx and CO, and the highest emissions for EUENGINE1, from November 2013 through November 2014, was 19.7 tons per 12-month rolling time period for NOx and 20.8 tons per 12-month rolling time period for CO. With control, the highest NOx emissions were 22.4 tons per 12-month rolling time period and 10.4 tons per 12-month rolling time period. According to Chevron, the oxidation catalyst was installed June 13, 2013, and it increased NOx emissions by 7.8 percent and decreased CO emissions by 97 percent. EUENGINE2 is limited to 29 tons per 12-month rolling time period of NOx and 30 tons per 12-month rolling time period of CO. Based on the records the highest uncontrolled emissions for NOx were 19.6 tons per 12-month rolling time period, and the highest uncontrolled emissions for CO were 17.6 tons per 12-month rolling time period. The highest controlled emissions for NOx were 21.5 tons per 12-month rolling time period and 9.11 tons per 12-month rolling time period for CO. Based on the records provided, both controlled and uncontrolled emissions are compliant with the permitted limits. DEQ requires the permittee to keep records of uncontrolled emissions for NOx and CO per 12-month rolling time period, along with controlled emission records to demonstrate that NOx and CO emissions do not exceed permitted limits.
- Materials/Fuels:** No material limits were applicable for FGENGINES.
- Process/Operational Parameters:** The facility submitted a Malfunction Abatement Plan (MAP) on September 28, 2010, and was approved by the DEQ on December 8, 2010. Based on the maintenance records, the engine was inspected daily. The northern compressor engine was shut down for a total of 130.45 hours from November 1, 2013 through November 31, 2014 for replacing filters, valves, spark plugs, and/or repair leaks. The catalyst was cleaned and/or replaced March 10, 2014 and July 18, 2014. The southern compressor engine was shut down for a total of 153.40 hours from November 1, 2013 through November 31, 2014 for replacing filters, valves, spark plugs, and/or repair leaks. The catalyst inlet and outlet temperatures were not recorded on the maintenance logs from the facility because the PTI was issued for uncontrolled engines, and the catalysts were not installed at the time the MAP was submitted to the DEQ. The records did not show maintenance concerns with the engines.
- Testing Sampling Equipment:** The facility used engine specific emission factors to calculate the emissions for NOx and CO. Performance testing has not been completed at this facility.
- Monitoring/Recordkeeping:** The facility monitors the natural gas usage for FGENGINES on a continuous basis and records the monthly fuel use for each engine at the facility. The facility records monthly and 12-month rolling time period records for NOx and CO. The 12-month rolling time period emissions are discussed above, under Emission Limits.
- Reporting:** No Reporting requirements were applicable for FGENGINES.
- Stack/Vent Restrictions:** Based on visible observations during the field inspections, the stacks of the engines appeared to be at least 40 feet above ground surface.

FGFACILITY: Conditions that include all source-wide activities at the facility.

- Emission Limits:** FGFACILITY is limited 89.9 tons per 12-month rolling time period of NOx. Based on the records reviewed, the facility included records using 12-month rolling time period calculations for emissions after control, but also included monthly emissions uncontrolled. The DEQ was able to calculate the uncontrolled 12-month rolling time period emissions for NOx, and the highest emissions for FGFACILITY, from November 2013 through November 2014, was 40.2 tons per 12-month rolling time period for uncontrolled NOx and with control on the engine the highest NOx emissions were 43.6 tons per 12-month rolling time period. The emissions reported for FGFACILITY were in compliance with the permit emission limits.
- Materials/Fuels:** According to Chevron, no sour gas is burned at the facility.
- Process/Operational Parameters:** No process/operational parameters were applicable for FGFACILITY.
- Testing Sampling Equipment:** DEQ did not require the facility to verify the H2S or sulfur content of the natural gas at this time.
- Monitoring/Recordkeeping:** The facility records monthly and 12-month rolling time period records for NOx, and were supplied to the DEQ for review. The 12-month rolling time period emissions are discussed above under emission limits. The recordkeeping was acceptable to the DEQ.
- Reporting, Stack/Vent Restrictions, Other Requirements:** No Reporting, Stack/Vent Restrictions, Other Requirements were applicable for FGFACILITY.

Evaluation Summary: Based on the field inspection and records review, the facility is in compliance with PTI 20-07D. DEQ informed the company that 12-month rolling time period records for uncontrolled CO must be kept to show future compliance with permit conditions.

NAME Caryn Owens DATE 12/18/14 SUPERVISOR JR