

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

N579245026

FACILITY: Consumers Energy - Overisel Compressor Station		SRN / ID: N5792
LOCATION: 4131 138th Ave., HAMILTON		DISTRICT: Kalamazoo
CITY: HAMILTON		COUNTY: ALLEGAN
CONTACT: Amy Kapuga , Environmental Engineer		ACTIVITY DATE: 06/19/2018
STAFF: Cody Yazzie	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On June 19, 2018 Air Quality Division (AQD) staff (Cody Yazzie and Rex Lane) arrived at 4131 138th Avenue, Hamilton, Michigan at 9:55 AM to conduct an unannounced air quality inspection of Consumers Energy – Overisel Compressor Station (hereafter Overisel). Staff made initial contact with Les Bradshaw, Overisel and provided him with a business card and stated the purpose of the visit. Amy Kapuga is typically the environmental contact for this facility. Staff did have contact with her for additional recordkeeping.

Overisel Compressor Station currently has around 11 staff members that work one 8.5-hour shift Monday through Friday. This facility operates four reciprocating compressor engines and one emergency generator, all of which are fired on natural gas. The stationary source has a glycol dehydration unit with a condenser, auxiliary equipment, and organic liquid storage vessels. Pipeline natural gas is compressed and injected from roughly April to November into rock formations below the earth’s surface. Overisel and Salem are the two fields that this facility injects and draws from. During the December to March months the facility draws the natural gas out of the fields, filters particles, dehydrates it of water, and puts it back into a distribution pipe.

Overisel was last inspected by the AQD on May 26, 2016 and was determined to be in Compliance at that time with MI-ROP-N5792-2018. Staff asked, and Mr. Bradshaw stated that the facility does have nine boilers and process heaters, one emergency generator, and one cold cleaner that are permitted in the ROP.

Mr. Bradshaw gave staff a tour of the facility. Required personal protective equipment are safety glasses, hard hat, steel toe boots, and high visibility vest. Staff observations and review of records provided during and following the inspection are summarized below:

EUGLYCDEHY:

This is a small natural gas glycol dehydrating system using triethylene glycol (TEG) that includes a reboiler, flash tank, glycol surge tank and a used glycol tank. The system is the final step in removing the moisture from the natural gas before being put into a distribution pipeline. Prior to the dehydration system the gas is moved through a network “slug” catchers and scrubbers that are used to remove the larger concentrations of water and particles in the gas. The dehydration system is subject to the federal requirements of 40 CFR 63 Subpart HHH. This system was not in operation during the inspection, but staff did observe the unit. It typically operates December through March.

The facility is required to track the natural gas throughput each year along with annual testing of VOC composition. The facility keeps a log tracking the gas throughput from both the Overisel and Salem fields. The facility tested the VOC composition of the natural gas on January 18, 2018. This report shows the full composition of the gas processed from both the Salem and Overisel fields.

The facility has a site-specific monitoring plan prepared for the Continuous Parameter Monitoring System (CPMS). The facility has a circular chart that monitors the outlet temperature on the condenser. In addition to the circular chart the facility monitors various other parameters every two hours. These parameters include the flash tank outlet pressure, flash tank level, contact tower pressure, gas to the contact towers and average glycol rate. Parameters with limits are the flash tank level (must be operated between 20-80%), flash tank outlet pressure (must be operated between 20-40 psi), and the condenser temperature (maximum temperature of 150 F).

Overisel uses the exhaust gases and routes them to a fuel gas system for the reboiler. Section 63.1271 of Subpart HHH defines a closed-vent system. It is defined as “a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow inducing devices that transport gas or vapor

from an emission point to one or more control devices. If gas or vapor from regulated equipment is routed to a process (e.g., to a fuel gas system), the conveyance system shall not be considered a closed-vent system and is not subject to closed-vent system standards." From the definition the facility is not subject to the closed-vent standards.

Staff did ask how often inspections were done of the glycol dehydrating unit. Staff was told that visual inspections are done daily. Mr. Bradshaw also explained that the facility has one of the five contact towers inspected every year in a five-year rotation.

Calculations of HC, VOC, HAP, and BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes) emissions are sent annually as an attachment to the MAERS report. The semiannual 40 CFR Part 63, Subpart HHH showed the calculated BTEX emission limit to be 7.3 Mg/year. This is calculated using the equation from Appendix 7 in the facility's ROP. GRI-GLYCalc Version 4.0 is then used to calculate the BTEX emissions. The BTEX emissions reported for 2017 were calculated to be 0.0114 tons/year. This converts to 0.0103 Mg/year, showing that they are well below their BTEX emission limit.

Staff was also informed that the facility was looking into acquiring a new glycol dehydration unit. Staff informed Mr. Bradshaw that this would require a Permit to Install. Mr. Bradshaw stated that Mrs. Kapuga was already looking into it and the project is still in the planning process.

EUEMERGGEN:

This 1,462 hp (1.3 MW) emergency generator is fueled by natural gas. This emergency generator is subject to the federal requirements of 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ. The facility must show compliance to with Subpart ZZZZ by showing compliance with subpart JJJJ. The engine is equipped with a non-resettable hour meter that read 117.5 hours during the inspection.

The engine must pass performance testing every 3 years because it is not a certified by the manufacturer. The last performance test was conducted on March 7, 2017. The test results showed that the engine was under the emission limits for NOx and CO.

The facility is required to maintain records of maintenance and the operation hours of the engine. The facility is keeping records on the maintenance performed on the engine. They also either change or send the oil for analysis. The facility is keeping monthly records for the engine operating hours. The facility operates the engine every Monday for 20 minutes. This was reflected in the 2017 records which showed that the engine operated for about one hour per month. In October of 2017 it was noted that the engine did operate due to a power outage.

Staff did request that the facility start differentiating which hours are used for an emergency and which are used for readiness testing in an email to Mrs. Kapuga. Staff was told that the moving forward the facility would have a description of specific hours used for the generator.

FGCOLDCLEANERS:

The staff was shown the only cold cleaner at the facility. The cold cleaner was installed in January of 1995. This cold cleaner is not heated or agitated and had proper operating labels posted on the outside of the cover. The ROP requires the facility to maintain information for each cold cleaner on file. Mrs. Kapuga was able to provide staff with the information required for the cold cleaner. This cold cleaner was installed under exemption Rule 281 (2)(h). Staff also requested the SDS for the solvent used. Staff was told that the facility maintains the cold cleaner themselves.

FGENGINES:

These are four natural gas fired reciprocating engines used for gas compression. These engines are considered grandfathered equipment being installed before August 1, 1967. The facility is recording the gas consumption rate for each engine for each calendar month. The highest natural gas consumption over the past 1.5 years was around 10,000 MCF.

With these engines being so old staff was interested in how the facility maintains the engines. Mr. Bradshaw explained that these engines are designed to operate at slower speeds, have annual checks, and schedule maintenance hours to maximize the life of the engines. The engines have had various partial rebuilds along with each engine getting a complete rebuild starting around 8 years ago. The rebuilds were spread out over a four-year period and took a year to complete each engine rebuild. The engines were all rebuilt in place. Staff did ask Mrs. Kapuga for an expense record for each engine's complete rebuild. Staff was interested in seeing if the rebuilds meet the definition of reconstruction. Mrs. Kapuga stated that the Overisel project team indicated that

the cost to rebuild each engine was around \$2.5 million each. The capital cost to install each comparable new unit is \$25 million each. From this information provided the project does not meet the definition of reconstruction.

The ROP indicates that this emission unit is subject to federal regulations 40 CFR Part 63, Subpart A and JJJJ. This regulation is for National Emission Standards for Hazardous Air Pollutants in Paper and other Web Coatings. This should be corrected in the next ROP renewal.

FGBLRMACT:

These are a collection of eight process heaters and an industrial boiler fired by natural gas. These process heater and boiler are subject to the federal requirements of 40 CFR 63 Subpart DDDDD. This equipment has fuel capacity ratings between 0.15 MMBTU/hour and 9.2 MMBTU/hour. The facility had conducted the energy assessment prior to the previous inspection. All the required tune-ups have been done and records were available.

FGRULE285(mm):

This Flexible Group is for the venting more than 1 MMCF of natural gas for routine maintenance or emergencies. This Flexible Group only has reporting requirements which are done by Consumers Overisel field team. This team is located at a different location than the compression station, and Pete Pryson is the contact for the notifications. Mr. Pryson notifies staff of when the venting will take place, the location, amount of gas being vented, and the reason for the venting.

At the time of the inspection and based on a review of records obtained during or following the inspection, the facility appears to be in compliance with MI-ROP-N5792-2018. Staff stated to Mr. Bradshaw that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at PM.-CJY

NAME Cody Yonjiri

DATE 7/10/18

SUPERVISOR MA 7/13/2018