

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N579273508

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: 05/29/2024
STAFF: Cody Yazzie	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On May 29, 2024 Air Quality Division (AQD) staff (Cody Yazzie and Mariah Scott) arrived at 4131 138th Avenue, Hamilton Michigan at 11:00 AM to conduct an unannounced air quality inspection of Consumers Energy – Overisel Compressor Station (hereafter Consumers Overisel) SRN (N5792). Staff made initial contact with the office receptionist and stated the purpose of the visit. Dean Lampen, Consumers Overisel, Station Supervisor, is the site contact and arrived shortly thereafter and took staff to his office for further discussions. Amy Kapuga is the environmental contact and was included on the records request and follow up discussions to the inspection.

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. The facility has roughly 10 employees and operates on one shift.

Consumers Overisel was last inspected by the AQD on July 7, 2022 and appeared to be in Compliance at that time with MI-ROP-N5792 Staff asked, and Mr. Lampen stated that the facility does have an emergency generator that is currently not in the ROP.

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

EUGLYCDEHY:

EUGLYCDEHY is the emission unit that is listed in MI-ROP-N5792-2018. This unit is listed in the ROP as a small natural gas glycol dehydrating system using triethylene glycol that includes a reboiler, flash tank, glycol surge tank, a new and used glycol tanks. This unit was decommissioned and removed from the facility. Due to the unit being fully removed there were no records requested as a part of the inspection. The facility does have a glycol dehydration system that was installed to replace EUGLYCDEHY that was installed on November 9, 2022. This new unit operates under PTI No. 202-19 which will be incorporated into the ROP renewal in the next renewal cycle.

Currently the facility has the ROP Renewal Application being processed by the ROP Central unit. In this renewal the PTI No. 202-19 is being incorporated into the new ROP.

EUDEHY:

This emission unit is a small glycol dehydration system processing natural gas using triethylene glycol (TEG). Systems consists of two identical halves. Each half has two contact towers, a flash tank, a surge tank, a reboiler, and a thermal oxidizer. This unit is subject to 40 CFR Part 63 Subpart HHH and operates under PTI No. 202-19. This unit was just recently installed and only operates in the winter/spring months when the facility is taking gas out of the storage fields and into the pipeline.

This emission unit has a 12-month rolling VOC emission limit. The facility provided records from January 2022 through May 2024. The VOC emissions are calculated using an emission factor from GRI-GLYCalc software and hours of operation. The facility calculates the emissions for each side of EUDEHY. The largest 12-month Rolling VOC emissions for the unit was recorded as 0.36 TPY in December 2022 which is well below the permitted limit of 3.37 TPY. In addition to the 12-month Rolling VOC emission records the facility maintains records of the monthly and 12 month rolling operating hours. The largest 12-month rolling operating hours were 3,378 hours which were recorded in December 2023. There is no limit associated with the operating hours the facility is just required to calculate and record it.

The facility is maintaining 12-month rolling BTEX emissions calculations. Consumers Overisel provided records for the time period of January 2022 through May 2024. The records showed that the largest calculated BTEX emissions occurred in December 2023, which calculated 0.3 Mg/year in the 12-month rolling time period. This is below the 0.7 Mg/year limit.

The facility is required to submit a Malfunction Abatement Plan (MAP) that is implemented and maintained to operate EUDEHY. As stated in the previous inspection report this MAP was submitted on August 16, 2021. The MAP included an identification of the equipment and the supervisory personnel responsible for overseeing the inspections, maintenance, and repair. There was also a description of the corrective procedures that should be followed in the event of a malfunction. The MAP included a list of replacement parts that should be maintained in inventory for a quick replacement. Operating parameters were also included in which it established typical operating parameters that the equipment should be operated at. The information included appeared to be sufficient for Special Condition III.3 and Rule 910. If the MAP becomes insufficient in the future modifications may be required to address those deficiencies. Since the most recent inspection there does not appear to be any reason to suggest that the MAP is insufficient at the time of the inspection.

Each portion of the system are equipped with glycol recirculation rate flowmeters and thermocouples to monitor the combustion temperature in the thermal oxidizers. For each parameter the facility is required to monitor continuously and maintain hourly records. Staff received sample data for hourly glycol recirculation rate for the following dates: 11/2/2023, 11/15/2023, 12/1/2023, 12/14/2023, 1/1/2024, 1/16/2024, 2/6/2024, 2/17/2024, 3/1/2024, and 3/7/2024. Records showed that the facility typically operates the units at around 10 GPM of glycol recirculation which is well below the 24 GPM maximum limit. In addition to the continuous monitoring of the combustion temperature in the thermal oxidizers Consumers Overisel is required to maintain a record of the daily average temperature of the combustion chambers. Staff was provided with daily records for the period of November 2023 through March 2024. Records showed that thermal oxidizer 1 is typically had a daily average combustion temperature of 1535 degrees Fahrenheit and thermal oxidizer 2 typically had a daily average combustion

temperature of 1520 degrees Fahrenheit. These are well above the required 1460 degrees Fahrenheit required by the performance testing and minimum 1400 degrees Fahrenheit required by special condition III.2. From these records the facility appears to be in compliance with these process/operational restrictions in PTI No. 202-19.

Consumers is also required to once a calendar year to obtain an analysis of the wet gas stream. The facility sent in a wet gas sample to be analyzed on January 24, 2023 and January 24, 2024. The analysis determines the make-up of the wet gas stream. These results are then used in the GRI-GLYCalc to calculate BTEX and VOC emissions.

The unit is subject to NESHAP Subpart HHH which required that an initial performance test be conducted within 180 days after the initial startup. The initial performance test was conducted on February 15th, 17th, and March 1st, 2022. The test was used to evaluate compliance of the EUDEHY system by comparing the emissions from each control device with the unit specific BTEX emission limit calculated using Equation 2 of 40 CFR Part 63, Subpart HHH and establish the minimum combustion chamber temperature at which each thermal oxidizer must be operated on a daily average to achieve continuous compliance with the BTEX emission limit. On December 6, 2022 the facility retested SVTHERMOX_B to re-establish the minimum combustion chamber temperature for SVTHERMOX_B.

SVTHERMOX_A is required to maintain 1,460°F which was established in the February 2022 Testing. SVTHERMOX_B is required to maintain 1,460°F, which was established in the December 2022 retesting.

Consumers is maintaining records on the natural gas throughput that is being run through the system. Records of natural gas throughput were provided for the time period of January 2022 through May 2024. In this time period the largest monthly natural gas throughput occurred in December 2023, which 8,128.8 MMSCF of natural gas was processed through EUDEHY.

The facility is maintaining records for detectable emissions for systems that are deemed unsafe to inspect and difficult to inspect. These records appeared to show that there were no leaks detected, therefore Consumers Overisel does not have records for leaks or defects of the closed-vent systems.

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. Since these units are grandfathered pieces of equipment the recordkeeping required by the permit is limited to recording the monthly fuel usage by each engine. The facility is recording the gas consumption rate for each engine for each calendar month. The highest natural gas consumption over the past 12 months for Engine1, Engine2, Enginer3, and Engine4 were 11,628.67 MCF, 10,089.87 MCF, 12,288.9 MCF, and 12,316.11,MCF respectively from January 2023 through May 2024.

The current 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.

EUENGINE1

EUENGINE2

EUENGINE3

EUENGINE4

Engine No: 78506	Engine No: 78507	Engine No: 78525	Engine No: 78542
Brand: Clark	Brand: Clark	Brand: Clark	Brand: Clark
Model: TLA-8	Model: TLA-8	Model: TLA-8	Model: TLA-8

During the inspection the facility was operating EUENGINE3. The facility was operating the engine at around 2400 HP or 91% BHP. The noted RPM of the engines during operations were noted as around 290 RPM for the engine.

Staff did ask during the inspection if the facility has had any major engine maintenance/overhauls in the past two years. Mr. Lampen indicated that there have not been any major engine maintenance/overhauls in the past two years. During the inspection the facility was upgrading the piping and compressors but nothing to the engine themselves. Staff further explained that if an engine overhaul or requires maintenance that was over 50% of the cost of new unit that the unit would need to go through the permitting 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 JJJJ to show compliance with subpart ZZZZ.

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 February 28, 2023. The test results showed that the engine was under the emission limits for NOx, CO, and VOC. The measured emissions were 1.8 g/hp-hr, 1.5 g/hp-hr, and 0.1 g/hp-hr for NOx, CO, and VOC respectively.

The facility is required to maintain records of maintenance and the operation hours of the engine. The facility is keeping records on the maintenance preformed on the engine. They also either change or send the oil for analysis. According to the most recent inspection report the oil was last replaced on January 7, 2020. Since the facility has had collected a sample of the oil to have analyzed. The most recent oil sample was taken on July 3, 2023. The facility also inspected all hoses and belts on July 3, 2023 as well. It is documented that the facility inspected the air cleaner and spark plugs of the engine on July 3, 2023.

During inspection Staff did check the non-resettable hour meter for an hour reading. Staff noted the that the engine had 346 hours during the inspection. The facility stated that it typically operates the engine once a week for 10-15 minutes for maintenance and engine readiness testing. The total hours for 2023 were recorded as 61 hours, which included around 44 hours of emergency operations hours for power outages that occurred in February, March, and April. This is well below the 100 hours permitted by NESHA ZZZZ.

FGCOLDCLEANERS:

Mr. Lampen indicated to staff that the facility was using the same Green Unikleen solution that was noted during the previous inspection. Ms. Kapuga provided the SDS of a Green Unikleen product that will be used in the unit. As previously stated in the prior inspection report due to the fact that the solvent in this unit contain less than 5% VOC's the unit does not meet the definition a cold cleaner in Rule 103(aa) which defines a cold cleaner as a tank containing organic solvent

with a VOC content of 5% or more by weight that is used to spray, brush, flush, or immerse metallic and or plastic objects for the purpose of degreasing or cleaning. Because the VOC content is less than 5% by weight this tank is not subject to the part 7 Rules. It does appear that this unit could possibly be exempt under Rule 285(2)(r)(i) for metal cleaning.

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.

As a part of the federal Regulations the facility is required to have tune-ups done on the boilers and process heaters based on the fuel capacity ratings of each individual boiler. The facility is required to get tune-ups every 2 years for the following units: EULINEHEATER4A, EULINEHEATER5A, and EULINEHEATER6A. Staff was provided with documentation that showed the most recent tune-ups were conducted on February 16, 2024 for all three units. The facility is required to get the tune-ups every 5 years for the following units: EUFUELHEATER1A, EUFUELHEATER1B, EULINEHEATER1, EULINEHEATER2, and EULINEHEATER3. The facility did provide documentation that showed the most recent tune-ups were conducted on January 6, 2021 for EUBOILER1. Documentation was provided that showed the most recent tune-ups were conducted on February 12, 2021 for EUFUELHEATER1A, EUFUELHEATER1B, EUFUELHEATER1, EUFUELHEATER2, and EUFUELHEATER3.

Based on these records the facility appears to be conducting the required tune ups as required by NESHAP DDDDD. The facility also provided documentation of the energy assessment for the boilers that was conducted in January 2016.

Emergency Generator:

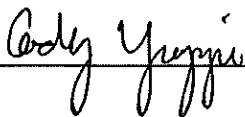
This emission unit is a natural gas-fired emergency stationary RICE with an engine nameplate of 127.6HP for emergency power generation. The engine is a Cummins Model QSJ5.9G that is EPA certified. The engine is not currently in the ROP but does appear to be added in the renewal.

During the inspection the facility only had 157.9 run hours. The facility appears to be maintaining operations logs for the engine. It was noted that the facility appears to operate the unit roughly every 2 weeks for testing purposes.

Conclusion:

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-N5792-2018 and PTI No. 202-19. Staff stated to Mr. Lampen that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 12:00 PM.-CJY

NAME



DATE

9/11/24

SUPERVISOR

