

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

N593560408

FACILITY: DTE Gas Company - Alpena Compressor Station	SRN / ID: N5935
LOCATION: 8512 EAST ARNOLD LAKE ROAD, HARRISON	DISTRICT: Bay City
CITY: HARRISON	COUNTY: CLARE
CONTACT: Lance Kleino , Associate Environmental Engineer	ACTIVITY DATE: 10/07/2021
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance
SUBJECT: Scheduled onsite inspection.	SOURCE CLASS: MAJOR
RESOLVED COMPLAINTS:	

On October 4, 2021, AQD staff conducted a scheduled onsite inspection at DTE Gas Company Alpena Compressor Station, N5935. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules; and to evaluate compliance with the facilities Renewable Operating Permit (ROP), MI-ROP-N5935-2019. EGLE staff were assisted by Mr. Lance Kleino, Associate Environmental Engineer and Mr. Darin Cummings, Supervisor, Compressor Operations. The onsite inspection was conducted in conjunction with stack testing of the onsite compressor engine, EUWHITESUPERIOR. At the time of inspection, the facility was found to be in compliance.

Facility Description and History

The DTE Gas Company Alpena Compressor Station, N5935, is a natural gas compression and transmission station containing one natural gas fired reciprocating internal combustion engine, and its associated compressor. A natural gas-fired emergency generator is also located onsite. Historically, the facility was used to raise the pressure of gas in the pipeline and provide the force required to move gas through the pipeline. The name "Alpena" refers to the location of the largest destination for the natural gas in the pipeline back when the compressor station was operating. When the Antrim gas fields came into production, the facility was no longer needed to push gas down the pipeline. The facility remains as an unmanned station on standby in the event it is needed to provide compression to the natural gas pipeline.

The DTE Gas Company Alpena Compressor Station consists of the following permitted emission units:

- EUWHITESUPERIOR, a 2000 hp, spark ignition, 4 stroke, lean burn, non-emergency, natural gas-fired reciprocating internal combustion engine (RICE). The engine is subject to 40 CFR Part 63 Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The engine and its associated compressor were installed in 1975 and reported not to be subject to NSR requirements.
- EUEMERGEN, a Kohler, emergency stationary, natural gas-fired, rich burn RICE rated at 259 HP (150 KW). The generator was installed in the fall of 2015 and is subject to 40 CFR Part 60, Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

In addition, the facility contains the following units listed as exempt.

- EUWATERHEATER, a sweet natural gas fired water heater with a rated capacity of 37,000 BTU/hr. PTI exemption rule citation: R 336.1282(b)(i)

- EUBOILER, an AJAX model WG1250 sweet natural gas fired boiler with a rated capacity of 1.25 million BTU/hr. PTI exemption rule citation: 336.1282(b)(i)
- EUHYDROCARBONTANK, a 1,000 gallon sweet crude oil hydrocarbon tank. PTI exemption rule citation: 336.1284(e).

During the inspection, time was not taken to look at all exempt units.

The DTE Gas Company Alpena Compressor Station is a major source for NO_x. The facility is considered a minor source for HAPs, SO_x, CO, PM, and VOCs. An inspection of the facility was last completed on September 17, 2020. At the time of the 2020 inspection, the facility was found to be in compliance. As a major source, the facility is required to submit annual and semiannual ROP Certification Reports, Special Condition (S.C.) VII. 2. and 3. These reports have historically been received on time and complete from the facility. The most recent report was received on September 14, 2021, for the reporting period of 1/1/2021 to 6/30/2021. No deviations were reported to have occurred during the reporting period. Emission reporting in MAERS has historically been completed on time and complete.

EUWHITESUPERIOR: Compliant

EUWHITESUPERIOR is used to compress and push natural gas along transportation lines. Facility staff report that EUWHITESUPERIOR has not been operated since the last inspection, other than for maintenance and quality control purposes. The unit is fueled with pipeline quality, sweet natural gas, S.C. II. 1. Due to the minimal hours of operation, no malfunctions have occurred, and no maintenance has been necessary since the last inspection was completed on 9/17/2020, S.C. VI 5. Should a malfunction occur on the unit, facility staff report safety procedures are in place to correct and document the malfunction. AQD staff reminded DTE personnel, should malfunctions ever occur, they should be reported as part of the appropriate period's compliance report, S.C. VII. 5.

The catalyst has not been changed since the last inspection due to the engine not being operated, S.C. V. 4. A spare catalyst is kept onsite. EUWHITESUPRERIOR is equipped with a continuous parameter monitoring system (CPMS), S.C. IV. 2. Facility personnel report data from the CPMS is collected continuously while the compressor is operated. S.C. VI. 2. requires catalyst inlet temperature to be monitored and recorded at all times EUWHITESUPERIOR is operating, except during monitor malfunctions, associated repairs, performance evaluations, and required quality assurance or control activities. Records of thermocouple data for the last 12 months were requested. Being the unit was not operated except for performance evaluations, or quality assurance, such records were not available. An accuracy audit of the thermocouple is completed annually. Records demonstrating the accuracy audit was completed were provided. The most recent thermocouple accuracy audit was conducted on September 14, 2021. Spare parts for the CPMS are readily available at the nearby Six Lakes facility, S.C. III. 5. An automatic shutdown system is in place to ensure the catalyst inlet temperature does not exceed 1350°F, S.C. IV. 1. The system is set to trigger an alarm if the catalyst reaches an inlet temperature of 970° F and the system will shut down if the catalyst inlet temperature reaches 1010° F.

Testing to verify catalyst system efficiency is required annually, S.C. V. 1. Stack testing was being conducted on the day of inspection by DTE. Preliminary test results indicate CO emissions are below 47 ppmvd at 15% O₂. A finalized test report will be submitted to AQD by the facility. The

previous catalyst system efficiency test was completed on October 8, 2020. Results from the October 8, 2020, performance evaluation measured CO emissions to be 14 ppmvd at 15% O₂, well below the limit of 47 ppmvd at 15% O₂, S.C. I.1.

EUEMERGEN: Compliant

EUEMERGEN is an emergency generator used to provide energy for the facility in times of power outages. The unit is equipped with a non-resettable hour meter, S.C. IV. 1. At the time of inspection, the hour meter was observed to read 188.6 hours. During the previous inspection conducted at the facility in September 2020, the hour meter read 152.0 hours. Records for hours of operation for the year 2020 were requested and provided, S.C. VI. 2. Hours on the engine are hand recorded monthly. During the year 2020, the emergency generator ran for a total of 23.1 hours. There is no time limit on the operation of EUEMERGEN in emergency situations, S.C. III. The unit is limited to operating 100 hours per year for maintenance checks and readiness testing, S.C. III. 3. As described in S.C. III. 4., the unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours specified in S.C. III. 3. Based on the records provided, the unit was operated well below 50 hours in 2020. Facility staff report the unit is operated 30 minutes weekly for maintenance purposes. All other hours on the engine are from emergency situations when energy from the grid was not available to the facility.

Summary:

DTE Gas Company - Alpena Compressor Station, SRN N5935, is a natural gas compression and transmission station consisting of one natural gas fired reciprocating internal combustion engine, and its associated compressor in Harrison, MI. The name "Alpena" refers to the location of the largest destination for the natural gas in the pipeline. The facility remains as an unmanned station on standby in the event it is needed to provide compression to the natural gas pipeline. In addition to the compressor engine, an emergency generator is located onsite. The facility is a major source for NO_x and a minor source for HAPs, SO_x, CO, PM, and VOCs. Based on the records reviewed and the observed activities onsite, the facility appears to be operating in accordance with the requirements of MI-ROP-N5935-2019. At this time, the facility appears to be in compliance.



NAME _____

DATE 10/07/2021

SUPERVISOR _____

