

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

N339256329

FACILITY: DTE Gas Company - Taggart Compressor Station		SRN / ID: N3392
LOCATION: 10450 NEVINS ROAD, SIX LAKES		DISTRICT: Grand Rapids
CITY: SIX LAKES		COUNTY: MONTCALM
CONTACT: Mitch Steele , Supervisor - Transmission Operations		ACTIVITY DATE: 12/03/2020
STAFF: Chris Robinson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY '21 inspection to determine the facility's compliance status with respect to all applicable air quality rules and regulations including ROP MI-ROP-N3392-2020.		
RESOLVED COMPLAINTS:		

An offsite inspection of DTE's Taggart facility was conducted in December 2020. This inspection was conducted by AQD staff Chris Robinson CR and the contact for this facility was Mitch Steele, Transmission Operations Supervisor. This inspection consisted of a records review, observations, and a final wrap up meeting. Records were first requested on December 3, 2020, which were received on time and complete. CR drove past the facility on December 16, 2020, and conducted a final wrap up meeting with Mr. Steele on December 17, 2020. Due to general covid-19 related concerns CR did not enter the facility at any time during this inspection process.

DTE Gas Company's Taggart Compressor Station (Taggart, SRN N3992), is located at 10450 Nevins Road in Six Lakes, Montcalm County, Michigan. The purpose of this inspection was relayed to Mr. Steel on December 3, 2020 during the initial records request which was conducted via phone. The purpose was to determine Taggart's compliance with respect to Renewable Operating Permit (ROP) MI-ROP-N3392-2020 and any other applicable air quality rules and regulations.

During the December 17, 2020 phone conversation Mr. Steel indicated that there have been no equipment modifications or additions since the last inspection conducted, which was on December 12, 2018. Nor has there been any issues or major changes. There did not appear to be any new equipment onsite during CR's December 16, 2020 observations.

During the December 16, 2020 drive by of the facility weather conditions were cloudy, approximately 29°F with east northeast winds at 15mph (www.weatherunderground.com). No visible emissions or significant odors were observed at any time. Mr. Steele informed CR that units 103, 104, 201, 202, and 206 were operating during the observations.

FACILITY DESCRIPTION

The Detroit Energy Company owns and operates several facilities in Michigan used for natural gas transmission and storage. The Taggart Compressor Station is located in a rural area of Montcalm County. The purpose of this station is to maintain pressure in the pipelines to allow for transporting sweet natural gas to both the underground storage field for temporary storage and for distribution to local facilities. The compressor station consists of several mechanical gas scrubbers (also considered separators or knock-out pots), a sorbead gas-liquid separator with process heater (non-glycol-based-unit), twenty-one sweet natural gas fired only lean burn reciprocating engines and auxiliary equipment. The reciprocating engines are equipped with natural gas compressors which are used for maintaining the pressure in the pipelines. The facility consists of two sections, "Plant 1" contains 11 engines (2-1,000hp and 9-2,000hp) built in approximately 1955 and "Plant 2" contains the remaining ten (10) 2,000hp engines built in approximately 1959.

REGULATORY REQUIREMENTS

The stationary source is in Montcalm County, which is currently designated by the United States Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants. This facility is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of nitrogen oxides (NOx), volatile organic compounds (VOC's), and carbon monoxide (CO) exceeds 100 tons per year (tpy) and the potential to emit (PTE) of any single Hazardous Air Pollutant (HAP) is equal to or more than 10 tpy and/or combined HAPs are more than 25 tpy.

A) State Regulations

New Source Review (NSR, Rule 201 permitting requirements)

- All of the compressor engines were installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and is not subject. Future modifications of this equipment may be subject to NSR

- Previously the installation date for emergency generators EUAUX1 and EUAUX2 has been listed as "Pre 1960" which qualified them as being "grandfathered" from Rule 201 permitting requirements since the installation occurred prior to August 15, 1967. Although both units were manufactured prior to 1967, both were installed at this facility at later dates. The exact installation dates are unknown, so a conservative approach was taken to determine these. DTE conducted an internal study in September 1995, in which EUAUX1 was listed as being "recently installed". So DTE is using January 1, 1995 as the installation date for EUAUX1. Since EUAUX2 was removed from DTE's Belle River Mills Compressor Station and installed at the Taggart Compressor Station between August and December of 2007, DTE is using August 1, 2007 as the installation date for EUAUX2. In order for an emission unit to be considered "grandfathered" from Rule 201 permitting requirements, the emission unit must have been installed, not manufactured, prior to August 15, 1967. Therefore, neither generator can be considered "grandfathered" and both emission units are subject to Rule 201 permitting requirements. However, Rule 285(2)(g) exempts "*internal combustion engines that have a maximum heat input of less than 10 MMBTU's/hr*". The heat rating for both of the emergency generators appear to be less than 10 MMBtu's/hr (EUAUX1, ~3.5 MMBtu's/hr and EUAUX2, ~4.3 MMBtu's/hr). Therefore, neither EUAUX1 or EUAUX2 are subject to NSR.

- Process heaters/boilers EUPLT1BLR1, EUPLT1BLR2, EUPLT2BLR1, EUPLT2BLR2, EUP2BLR, EUSHOPBLR, EUDEHYREGENHTR, EUSTORAGEHTR1 and EUSTORAGEHTR2 are exempt from NSR permitting since the facility is operating these emission units under permitting exemption Rule 282 (2)(b)(i) for sweet natural gas-fired equipment with a heat input rating of less than 50 MMBTU/hr being used for space heating, service water heating, or indirect heating.

B) Federal Regulations

1) Prevention of Significant Deterioration (PSD)

- Not applicable since all of the process equipment was constructed/installed prior to June 19, 1978. Future additions/modifications with emission greater than 250 tpy may be subject.

2) New Source Performance Standards (NSPS)

40 CFR Part 60, Subparts A & Dc (Industrial-Commercial-Institutional Steam Generating Units)

- EUDEHYREGENHTR (12.4 MMBTU/hr), EUSTORAGEHTR1 (19.4 MMBTU/hr) and EUSTORAGEHTR2 (19.4 MMBTU/hr) are subject since each emission unit has a maximum heat input capacity of greater than or equal to 10 MMBTU/hr and were installed after June 9, 1989.

40 CFR Part 60, Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines)

- Does not apply to the existing compressor engines since they were ordered prior to December of 2006.

3) National Emission Standards for Hazardous Air Pollutants (NESHAPs)

40 CFR Part 63, Subparts A and DDDDD (Major Source Industrial, Commercial and Institutional Boilers and Process Heaters)

- EUPLT1BLR1, EUPLT1BLR2, EUPLT2BLR1, EUPLT2BLR2, EUP2BLR, EUSHOPBLR, EUDEHYREGENHTR, EUSTORAGEHTR1 and EUSTORAGEHTR2 at the stationary source are subject since Taggart is a major source of HAPs and these boilers are considered to be industrial boilers, as defined by 63.7575.

40 CFR Part 63 Subpart ZZZZ (RICE MACT) (HAP emissions from existing, new, and reconstructed stationary reciprocating internal combustion engines (RICE) located at both major and minor sources of HAPs)

- Compressor Engines: Since All of the compressor engines at the facility are greater than 500 hp, natural gas fired and were installed prior to 2002 these engines are subject to this regulation but have no applicable requirements.

- The emergency generators: Engines constructed prior to December 19, 2002 have no applicable requirements but are still subject to this standard. EUAUX1 is an existing emergency stationary RICE with a site rating of more than 500 brake HP that was relocated to the site prior to December 19, 2002.

Although EUAUX2 was not relocated to the site until August 2007, it is also considered an existing emergency stationary RICE under 40 CFR Part 63, Subpart ZZZZ. Per 40 CFR 63.6590(b)(3)(iii), neither EUAUX1 or EUAUX2 have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ or 40 CFR Part 63, Subpart A, including the initial notification requirements because both of these emergency generators were manufactured prior to 1967. The RICE MACT defines construction as “the on-site fabrication, erection, or installation of an affected source” specifying that “construction does not include the removal of all equipment comprising an affected source from an existing location and reinstalling of such equipment at a new location.”

40 CFR Part 63, Subpart HHH (Natural Gas Transmission and Storage Facilities)

- Although Taggart is subject to this rule, the requirements only apply to facilities that utilize glycol dehydrators. Taggart’s dehydration system is a Sorbead desiccant system that does not use glycol and, therefore, not subject to any requirements of Subpart HHH.

COMPLIANCE EVALUATION

A) ROP No. MI-ROP-N3392-2020

Annual Certifications and semi-annual reports, as required in ROP Special Conditions (SC) VII.1-3 of Flexible Groups FGINGERSOLLRAND, FGBOILERS-SMALL, FGBOILERS-LARGE, FGNSPDC and FGRULE285 (mm), have been submitted on time and complete. The most recent reports were received on March 11, 2020 with no deviations or issues reported. All emission units located at this facility are natural gas fired only and records are maintained for a minimum of 5 years.

FGINGERSOLLRAND

The facility is required by their ROP to monitor and record the monthly natural gas consumption rate, which is continuously monitored for each engine. This is tracked daily by use of fuel meter readings. Records are attached. Depending on demand for natural gas, Taggart will either “compress” or “free flow” inject natural gas into the underground reservoir, which is known as the Michigan Stray formation, for storage and transmission. Free flow means that the pressure in the system creates the required differential pressure necessary to create flow naturally without having to operate the compressor engines. Typically, during the winter months this facility operates in compression, due to increased demand, requiring the use of the compressor engines.

Emission Unit ID	Emission Unit Description	Install/Mod Dates
EUENGINE101 & 102	Two (2) Ingersoll Rand Compressor Engines 1,000 HP natural gas fired reciprocating engines used to drive natural gas pipeline compressors	1955/NA
EUENGINE103 - 111	Nineteen (19) Ingersoll Rand Compressor Engines, 2,000 HP natural gas fired reciprocating engines used to drive natural gas pipeline compressors	
EUENGINE201 - 210		1959/NA
EUAUX1	Waukesha 925 HP natural gas fired emergency engine, 4SLB	*01-01-1995/NA
EUAUX2	Waukesha 758 HP natural gas fired emergency engine, 4SLB	*08-01-2007/NA

* These engines were manufactured prior to 1967 but installed at Taggart at a later date.

FGBOILERS-SMALL, FGBOILERS-LARGE & FGNSPDC

This facility has nine (9) natural gas-fired boilers (see table below) all of which were claimed to be exempt from Rule 201 permitting requirements per Rule 282(2)(b)(i). These emission units are subject to the NESHAPS for boilers/process heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

Emission Unit ID	Emission Unit Description	Frequency of Tune-ups	Date of Most Recent Tune-up
EUPLT1BLR1 EUPLT1BLR2	Plant 1 Boilers – existing 0.375 MMBTU/hr natural gas fired boiler	5 years (61 mths)	12/4/2020
EUPLT2BLR1 EUPLT2BLR2	Plant 2 Boilers – existing 0.375 MMBTU/hr natural gas fired boiler		
EUP2BLR	Plant 2 Boiler – existing 2.51 MMBTU/hr natural gas fired boiler		12/4/2020

EUSHOPBLR	Shop Boiler – existing 2.51 MMBTU/hr natural gas fired boiler		
EUDEHYREGENHTR	Existing 12.9 MMBTU/hr natural gas-fired heating unit used to heat the natural gas that is used in the dehydration regeneration process.	Annually (13 mths)	12/4/2020
EUSTORAGEHTR1	Line Heaters – new 19.4 MMBTU/hr natural gas fired indirect water bath heaters		
EUSTORAGEHTR2			

Process heater EUDEHYREGENHTR was installed in 2001 and is used for regenerating (drying) the sorbead desiccant used for removing moisture from the natural gas stream. This process heater is natural gas fired only, uses no glycol, and has an inlet heat rating of 12.9 MMBtu's/hr and an outlet heat rating of 10.8MMBtu's/hour.

Two (2) identical Schlumberger natural gas fired only gas heaters (EUSTORAGEHTR1 & EUSTORAGEHTR2) were installed in 2018. Each unit has a maximum input heat rating of 19.4 MMBtu's/hr and an output heat rating of 13 MMBtu's/hr. Both of these units appear to be exempt from Rule 201 permitting requirements per Rule 282(2)(b)(i) for "fuel burning equipment used for indirect heating with a heat capacity of not more than 50 MMBtu's/hr fired on sweet natural gas". However, these units do appear to be subject to the Boiler NESHAP for boilers/process heaters promulgated in 40 CFR Part 63, Subparts A and 5(D) as well as NSPS for "Small-Industrial-Commercial-Institutional Steam Generating Units" promulgated in 40 CFR Part 60 Subpart Dc.

Energy assessments and initial/subsequent tune-ups have been completed as required for the boilers/process heaters. With the exception of EUDEHYREGENHTR, EUSTORAGEHTR1 and EUSTORAGEHTR2, tune-ups are required to be conducted every five (5) years because these boilers are rated at less than 5 MMBtu's/hr. Process heaters EUDEHYREGENHTR, EUSTORAGEHTR1 and EUSTORAGEHTR2 tune-ups are conducted annually because the heat ratings are greater than 10 MMBtu's/hr. The annual inspections and tune-ups were conducted on December 4, 2020. Boiler maintenance is conducted as needed to ensure the units remain in good working order. Maintenance records are attached to each boiler and have been reviewed onsite during previous inspections. Since the inspections and tune-ups were recently completed a certified Notification of Compliance Status report (FGBOILERS-SMALL SC VII.4 and FGBOILERS-LARGE SC VII.5) has not yet been received by the AQD. These reports are due to both the AQD and EPA by March 15, 2021. In the past, the facility has submitted these reports electronically, as required, using EPA's Compliance and Emissions Data Reporting Interface (CEDRI). Although FGBOILERS-SMALL SC VII.4 and FGBOILERS-LARGE SC VII.5 only requires submittal to CEDRI, general condition no. 23 requires all reports to also be submitted certified to the AQD. Tune-ups are conducted as required by SC III.1 of FGBOILERS-SMALL and FGBOILERS-LARGE to demonstrate continual compliance with this rule.

EUDEHYREGENHTR, EUSTORAGEHTR1, and EUSTORAGEHTR2 are also subject to the NSPS for boilers between 10-100MMBtu's/hr installed after June 9, 1989 promulgated in 40 CFR Part 60, Subpart Dc which requires an Initial Notification and fuel monitoring. The Initial Notification for EUDEHYREGENHTR was received on September 27, 2017, and the Initial Notification for EUSTORAGEHTR1, and EUSTORAGEHTR2 was received on April 16, 2018. Fuel usage is tracked daily.

FGRULE285(2)(mm)

This flexible group includes any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278, 278a and 285(2)(mm). This rule requires the facility to report venting of natural gas as follows:

- Notify the AQD prior to scheduled venting if amount is greater than 1MMcf due to maintenance or relocation of transmission and distribution systems.
- Notify the pollution emergency alert system within 24 hours per emergency event if amount is greater than 1MMcf.

Mr. Steel was aware of these reporting requirements. A log was provided and is attached. There have been no "blow down" events for this facility where more than 1mmcf of natural gas was vented since at least the previous 2018 inspection.

B) Rule 201 Permitting Exemptions

The facility utilizes two (2) Smart washer parts washing systems, manufactured by Chemfree. Per Chemfree's website (www.chemfree.com) the cleaner used in these units is an aqueous based degreasing solution called

“Ozzyjuice” with little VOC’s and contains safe, naturally occurring microbes. The microbes bioremediate the cleaner, as it is used, eliminating hazardous waste. The facility provided an SDS during a previous inspection. No changes have been made since, which Mr. Steel confirmed. Based on that SDS the vapor pressure is less than 0.1 mm Hg @ 20°C. Therefore, this system appears exempt per Rule 281(2)(e).

C) 2019 MAERS Submittal

Emissions data for 2019 was submitted to MAERS on time and complete. The AQD reviewed this submission on May 19, 2020 and accepted it as is. This data is summarized in the table below.

Pollutant	Amount (tons)
CO	146.52
NOx	1,042.45
PM10	0.007
PM2.5	7.41
SO2	0.22
VOC	46.90

COMPLIANCE DETERMINATION

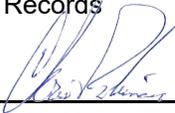
Based on observations, discussions and a records review, Taggart appears to be in compliance with all applicable air quality rules and regulations including the requirements established in ROP No. MI-ROP-N3392 -2020.

Attachments

Fuel Records

Venting Records

NAME



DATE 12/18/2020

SUPERVISOR

