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

B648047102

FACILITY: DTE Gas Company - Columbus Compressor Station		**SRN / ID:** B6480
LOCATION: 1647 CAUGHILL RD., RICHMOND		**DISTRICT:** Southeast Michigan
CITY: RICHMOND		**COUNTY:** SAINT CLAIR
CONTACT: Joe Kotwicki , Environmental Specialist		**ACTIVITY DATE:** 10/15/2018
STAFF: Shamim Ahammod	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Conducted a scheduled inspection to determine the company's compliance with the requirements of the federal Clean Air Act, and the conditions of ROP No. MI-ROP-B6480-2018.		
RESOLVED COMPLAINTS:		

On Monday, October 15, 2018, at about 12:00 PM, I (Shamim Ahammod), Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) staff, conducted a scheduled inspection of DTE Gas Company-Columbus Compressor Station located at 1647 Caughill, Columbus, Michigan. The purpose of the inspection was to determine the company's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and the conditions of ROP No. MI-ROP-B6480-2018.

SOURCE DESCRIPTION:
The facility is a natural gas storage and transmission facility. It uses two reciprocating internal combustion engines (RICE) under FGDELAVALS to compress natural gas for storage during summer months and transmission throughout the pipeline transmission system to customers during the winter months. The facility operates two glycol dehydration units under FGDEHYDRATORS to remove moisture from natural gas when it is withdrawn from the storage field at reduced pressure. The facility also operates an emergency generator under EUBACKUPGENSET.

INSPECTION:
At the facility, I met with Mr. Joe Kotwicki, Associate Environmental Specialist and Mr. Ben Parrotta, Supervisor SETSO. I introduced myself, provided credentials and stated the purpose of the inspection.

During the pre-inspection meeting, we discussed the facility's operations and emissions units those are subject to current ROP. After that we toured the plant to get an idea of the overall operations at the facility. During the inspection, EUDEHY1and EUDEHY2 were not in operation. I was informed that these emission units only need to be operated when withdrawing natural gas from the storage field and only when moisture content of the natural gas exceeds pipeline quality standards. No gas was being withdrawn from the storage field at the time of the inspection. No visible emissions were observed from EUDEHY1 and EUDEHY2 stack.

At the time of inspection, both compressors were operating and sending natural gas into the storage field. I recorded the following information:

Unit 1 DEL AVAL 2000 HP Engine
Trq 93.5%
Speed 530 rpm
Suction 1257 PSIG

Discharge 1697 PSIG

Unit 2 DEL AVAL 2000 HP Engine
Trq 94.7%
Speed 530 rpm
Suction 1259 PSIG
Discharge 1695PSIG
No visible emissions were observed from any of the facility operations.

POST INSPECTION & REGULATORY ANALYSIS:
After completing a brief tour to the facility, I discussed the conditions of ROP No. MI-ROP-B6480-2018 with Mr. Joe Kotwicki and reviewed the records.

SOURCE-WIDE CONDITIONS

VI. MONITORING/RECORDING
As required in SC VII.1, Mr. Joe Kotwicki provided me the source wide natural gas consumption rate from January 2014 through September 2018.

FGDEHY
FLEXIBLE GROUP CONDITIONS

FGDEHYDRATORS consists of two glycol dehydration units, EUDEHY1 (also identified by DTE as Train 1) and EUDEHY2 (also identified by DTE as Train 2), each with emissions controlled by a thermal oxidizer. The purpose of glycol dehydration unit is to remove excess moisture from natural gas when it is withdrawn from the storage field at reduced pressure.

Pollution Control Equipment: Enclosed flare

I. Emission Limits
I was provided a copy of a VOC emission records. I reviewed this record and hard copy of records are attached to this inspection report.

Equipment	Pollutant	VOC emissions October 2017 through September 2018	Limit, basis on 12-month rolling time period
EUDEHY1	1. VOC	259.73 lbs	12,400 lbs
EUDEHY2	2. VOC	139 lbs	2600 lbs

VOC emissions from both dehydrators were far below the permit limits. This satisfies the permit conditions set forth in SC I.1 and SC I.2.

II. Material Limits: NA

III. Process/operational Restrictions:
Per SC III.1, the permittee is required to keep the average glycol recirculation rate

for EUDEHY2 below 14 gallons per minute. I received train 2 glycol recirculation rate via email from Joseph Kotwicki. Based on records, the Columbus dehy #2 started operating on January 4th, 2018 and had its last operating day on March 23rd, 2018. During the other months, the unit was not operating. The maximum glycol recirculation rate for EUDEHY2 was 12.1 gallons per minute which was in compliance with the limit of 14 gallons per minute This satisfies the permit conditions set forth in SC III.1. There is no operational restriction for EUDEHY2. EUDEHY1 and EUDEHY2 were not operating at the time of inspection. I did not observe any burning pilot flame.

IV. Design/Equipment parameters:
During the inspection, I observed flash tank and it appears to be properly installed and maintained which satisfies the permit conditions set forth in SC IV.1. The enclosed flare is appeared to be properly installed and maintained as required by SC IV.2.

V. Testing/sampling
As specified in SC V.1, the permittee is required to analyze the natural gas for nitrogen, carbon dioxide, hydrogen sulfide, C1 through C 6 series hydrocarbons, benzene, toluene, xylene ethylbenzene, and heptane. I was provided a gas analysis report for DEHY 1 and DEHY 2. I reviewed these reports and are attached to this inspection report. This satisfies the permit conditions set forth in SC V.1 as well as SC VI.8.

VI. Monitoring/Record keeping:
I was provided the records of the amount of natural gas processed through each dehydrator (EUDEHY1 and EUDEHY 2) for each calendar month and 12-month rolling period from January 2016 through September 2018. I reviewed these documents and are attached to this inspection report. This satisfies the permit conditions set forth in SC VI.1, SC VI.2, and. SC VI.6.

I received the records of glycol re-circulation rate via email from Joseph Kotwicki which satisfies the permit conditions set forth in SC VI.3 and SC VI.7.

Per SC VI.4, the permittee recorded the operating temperature for Dehydrator 1 & 2 thermal oxidizer and submitted to me via email.

At the time of inspection, Mr. Joe Kotwicki provided me wet gas analysis report with wet gas composition for Dehy 1 and Dehy2, which is required by SC VI.8.

VII. Reporting
Per SC VII.2 and SC VII.3, semiannual and annual reports are being performed in a timely manner. During the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met and no deviations were observed.

VIII. Stack/vent restrictions

Stack and vent ID	Maximum Exhaust Dimensions	Minimum Height Above	Compliance (Yes/No)

	(inches)	ground	
1. SVDEHYDRATOR1	48.0	30	Yes
2. SVDEHYDRATOR2	Not restricted	17	Yes

Based on my observations, the exhaust stacks appeared vertical and unobstructed and the SVDEHYDRATOR 1 stack diameter appeared 48 inches or less in diameter and appeared to be at least 30 feet above ground in height. The SVDEHYDRATOR2 exhaust stack diameter does not have a maximum permitted diameter. SVDEHYDRATOR2 appeared to satisfy the minimum height of 17 feet above ground.

IX. Other Requirements: NA

FGDELAVALS:

FGDELAVALS consists of two DeLaval 2000 horsepower, 4-cycles, lean-burn, spark ignition, natural gas-fired, reciprocating internal combustion engines, which are used to power natural gas pipeline compressors.

Emission Units: EU007, and EU008

Pollution control equipment: Catalytic Oxidizers (DVCATOX1, DVCATOX2)

I. Emission Limits

Per my request, I received an emissions test report for carbon monoxide (CO) emissions for engines 1 & 2 for DTE Gas Columbus Compressor station via email from Mr. Joe Kotwicki. The test was performed on September 6, 2018. The results of the testing indicate that the average Carbon Monoxide Reduction Efficiency for engines 1 and 2 are 98.4 and 99.9 respectively. It appears that the Engines 1 and 2 are in compliance with permit requirements for CO of 93% destruction efficiency.

II. Material Limits: NA

III. Process/Operational Restrictions

As required in SC III.7 and as specified in 40 CFR 72.2, I was provided the records of natural gas usage per engine from January 2011 through March of 2017. The reciprocating engines are fired only with pipeline natural gas and therefore the source appears to be in compliance with the SC III.7

IV. Design/Equipment Parameters

Per SC IV.1, the catalysts were installed, maintained and operated in a satisfactory manner. The permittee does not track four hour rolling average. Instead, the permittee has controls and shut downs in place to immediately shutdown the engine if the catalyst inlet temperature exceeds 1350 degrees F. As noted in the SSMP (Startup, shutdown, and malfunction plan), there are alarms and shutdowns in place that will shut the system down before the temperature exceeds 1350 degrees F. This satisfies the permit conditions set forth in SC IV.1.a that "immediately shutting down the engine if the catalyst inlet temperature exceeds

1350 degrees F".

V. Testing/Sampling
On September 6, 2018, the permittee performed emissions test for carbon monoxide (CO) emissions for engines 1 & 2 for DTE Gas Columbus Compressor station to demonstrate compliance 40 CFR, Part 63, Subpart ZZZZ regulations.

VI. Monitoring/Record keeping

As specified in SC VI.9, the permittee shall record the FGDELAVALS natural gas consumption rate for each calendar month. Mr. Joe Kotwicki provided records of natural gas consumption of DELAVAL #1 and DELAVAL#2 from January 2014 through September 2018. This document is attached to this inspection report.

VII. Reporting
As specified in SC VII.2 and VII.3, semiannual and annual reports are being submitted in a timely manner and no deviations were noticed.

VIII. Stack/vent Restrictions: NA

IX. Other Requirements

As mentioned in SC IX.1, the permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. On September 6, 2018, an emission testing was performed on engines 1 & 2 at the inlet and outlet of each engine's catalyst to satisfy the requirements of 40 CFR Part 63 NESHAP Subpart ZZZZ.

EUEMERGEN engine

This facility has one emergency generator. The emergency generator engine is used during the emergencies to generate electricity. There is no pollution control equipment for emergency generator.

I. Emission Limits
Mr. Joe Kotwicki sent a copy of emergency engine EPA certification to me via email. Since the engine is certified, the facility does not require to maintain SC I.1-3, according to SC VI.3 and VI.4.

II. Material Limits: NA

III. Process/Operational restrictions
As required in SC III.1, Mr. Joe Kotwicki provided a copy of emergency engine EPA certification which shows that the engine's fuel type is natural gas.

IV. Design/Equipment Parameters
During the inspection, the hours meter displayed 304.5. It indicates that the total hours of operation of emergency generator were 304.5 hours until October 15, 2018.

V. Testing/Sampling
Since the engine is certified, the permittee does not require testing the engine

VI. Monitoring/recordkeeping
As required in SC VI.1, Mr. Joe Kotwicki provided me a hard copy of records mentioning operation hours of emergency generator and this hard copy has been attached in this inspection report. Based on his record, the total operation hours of emergency generator were 83.9 hours. Among them, 52 hours were spent for emergency operation and 31.9 hours were run for non-emergency situations. This satisfies the permit conditions set forth in SC VI.1.

Per SC VI.3, I received the documentation that engine is certified, and the certificate is attached to this report.

VII. Reporting
Semiannual and annual reports are being submitted in a timely manner.

VIII. Stack/Vent Restrictions: NA

FG-COLD Cleaners:

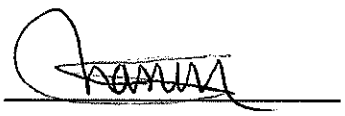
Emission Unit: EUCOLDCLEANER

Pollution Control Equipment: NA

As required in SC VI.2, the permittee provided the following information:

Station	Location	Model	Serial	Interface Area	Install Date	Solvent	Reid Vapor Pressure	Exemption
COL	Compressor Building	906601	87765	7.96 sqft	8/1/2001	Zep Dyna 143	0.067 kPA	281(h0

Based on onsite inspection, review of records, and discussion with facility staff, the facility appears to be in compliance with the conditions of ROP No. MI-ROP-B6480-2018.

NAME  DATE 11.30.2018 SUPERVISOR SK