

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

B648030936

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 , ASSOCIATE ENVIRONMENTAL SPECIALIST		ACTIVITY DATE: 08/17/2015
STAFF: Rem Pinga	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Level 2 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On August 17, 2015, I conducted a scheduled LEVEL 2 inspection of Michigan Consolidated Gas Company, Columbus Compressor Station, located at 1647 Caughill Road, Columbus, Michigan. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; and the conditions of Renewable Operating Permit (ROP) No. MI-ROP-B6480-2012b. During the inspection, I was accompanied by Mr. Joe Kotwicki, Associate Environmental Specialist and facility contact, and Mr. Tyler Gage, Staff Engineer-Environmental Management and Resources. During the pre-inspection conference, I conducted the pre-inspection routine of showing my ID Badge, stated the purpose of my visit, and gave a copy of the pamphlet "Environmental Inspections: Rights and Responsibilities".

ROP No. MI-ROP-B6480-2012b was issued to this facility as revision to the original ROP issued November 1, 2012. The revision became effective on November 12, 2014. The current ROP contains EUBACKUPGENSET emission unit and the flexible groups FGDEHYDRATORS, FGDELAVALS, FGFEXISTINGNESHAPZZZZ, and FGCOLDCLEANERS.

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 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 The facility operates two glycol dehydration units under FGDEHYDRATORS to remove moisture from natural gas when it is withdrawn from the storage field and an emergency generator under EUBACKUPGENSET. During field inspection, I also observed 3 pairs of natural gas fired heating units with each unit rated at 5 MMBTU/hr. and utilized to melt any frozen moisture/substance that may come with the gas being withdrawn during the winter months. The heating occurs through indirect tubing at around 190°F, 50% glycol with 50% water, and operates similar to a boiler. I observed 2 other older units (1972) about twice the size of around 10 MMBTU/hr. heat input. I observed a parts washer and a small gas fired boiler.

EUBACKUPGENSET - This generator was rebuilt in the summer of 2005. I observed the single emergency generator and it did not appear that there were any significant changes made to this emission unit. The emergency generator is manufactured by Waukesha-Pearce Industries. The generator was shutdown and I did not verify the reading on the kilowatt-hour meter. The submitted recordkeeping showed 468 hours through August 2015 and within MI-ROP-B6480-2012b special condition EUBACKUPGENSET(III)(2). Data showed 46 hours of operation from January through December 2014 and 12 hours from January 2015 through August 2015 which is less than 50 hours per MI-ROP-B6480-2012b special condition EUBACKUPGENSET(III)(5). I was informed that this unit will be replaced this fall.

FGDEHYDRATORS - The 2 glycol dehydration units (EUDEHY1 & EUDEHY2) each has a pilot flame flare to control emissions. Mr. Kotwicki submitted copies of wet gas stream analysis, amount of natural gas processed through the emission unit per month, hours of operation and VOC 12-month rolling emissions for each dehydrator. For EUDEHY2, the average monthly glycol recirculation rate showed 11.25 gpm for January 2015 and 12.125 gpm for February 2015 which were higher than the MI-ROP-B6480-2012b special condition FGDEHYDRATORS(III)(1) permit limit of 10 gpm. Per submitted records and the MI-ROP-B6480-2012b special condition FGDEHYDRATORS(I)(1), the calculated 12-month rolling total VOC emission rate for EUDEHY1 was less than 300 lb. and way below the 12,400 lb. permit limit. Per submitted records and the MI-ROP-B6480-2012b special condition FGDEHYDRATORS(I)(2), the calculated 12-month rolling total VOC emission rate for EUDEHY1 was less than 100 lb. and way below the 2600 lb. permit limit. Per MI-ROP-B6480-2012b special condition FGDEHYDRATORS(III)(2), the dehydrators were not operating but were equipped with a flare on each unit. Per MI-ROP-B6480-2012b special condition FGDEHYDRATORS(IV)(3), the dehydrators were equipped with a flame detector and temperature monitor on each unit.

FGDELAVALS – Both compressors were operating during inspection and sending natural gas into the caverns for storage. I recorded the following:

**Compressor 1:**

Catalyst Inlet Temperature: 923°F

Catalyst Outlet Temperature: 919°F

Catalyst Pressure Drop in Inches of Water Column, H<sub>2</sub>O: 1.7

**Compressor 2:**

Catalyst Inlet Temperature: 921°F

Catalyst Outlet Temperature: 920°F

Catalyst Pressure Drop in Inches of Water Column, H<sub>2</sub>O: 0.8

Per MI-ROP-B6480-2012b special condition FGDELAVALS(III)(1), Mr. Kotwicki confirmed the compressor engines are fired only with pipeline natural gas. Both of the 2000 horsepower DeLaval engines were installed in 1972 and at that time natural gas-fired engines were exempt from the requirement to obtain a permit to install. Per MI-ROP-B6480-2012b special condition FGDELAVALS(VI)(1), the facility kept records of the natural gas consumption on a monthly basis.

FGEXISTINGNESHAPZZZZ – This flexible group pertains to applicable requirements on the MACT standard, 40 CFR Part 63 Subpart ZZZZ. The engines affected are the 2 compressor engines. Per MI-ROP-B6480-2012b special condition FGEXISTINGNESHAPZZZZ (I)(1 & V), the facility chose to comply with 93% CO reduction and conducted initial testing on August 28, 2013 which showed 99.2% CO reduction for engine1 and 95.7% CO reduction for engine2. Per MI-ROP-B6480-2012b special condition FGEXISTINGNESHAPZZZZ (VI), the facility conducted annual testing of CO on September 5, 2014 and showed 95.0% CO reduction for engine1 and 97.2% CO reduction for engine2. Per Mr. Kotwicki, the facility is opting to shutdown if the instantaneous temperature data for any of the compressor engines is  $< 450^{\circ}\text{F}$  or  $> 1350^{\circ}\text{F}$  which is more stringent than a 4 hour average.

FGCOLDCLEANERS - The facility has one parts washer with an air/vapor interface of less than 10 square feet. The parts washer was covered during inspection and operating procedures were posted on the side.

Per the above noncompliance issue, I will be sending the facility a Violation Notice.

NAME A. M. H. DATE 9/2/2015 SUPERVISOR CJE