

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

B722136718

FACILITY: DTE GAS CO. - MILFORD COMPRESSOR STATION		SRN / ID: B7221
LOCATION: 3515 CHILDS LAKE RD., MILFORD		DISTRICT: Southeast Michigan
CITY: MILFORD		COUNTY: OAKLAND
CONTACT: Chris Conley , Manager - Transmission and Storage Ops		ACTIVITY DATE: 08/11/2016
STAFF: Kerry Kelly	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Based on this inspection, DTE Gas Company-Milford Compressor Station appears to be in compliance with the conditions in ROP and applicable air rules and regulations that were evaluated.		
RESOLVED COMPLAINTS:		

On August 11, 2016, I (Kerry Kelly) conducted a targeted inspection of DTE Gas Company-Milford Compressor Station located at 3515 Childs Lake Road in Milford, Michigan. 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; and the conditions of ROP No. MI-ROP-B7221-2015 issued on August 20, 2015.

FACILITY OVERVIEW

DTE Gas Company-Milford Compressor Station is a natural gas transmission facility. The facility serves as a pipeline pressure booster station. Four identical DeLaval natural gas-fired reciprocating internal combustion engines (RICE) are used to pump natural gas from the facility through regional natural gas supply lines. The DeLaval engines do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ for reciprocating internal combustion engines pursuant to 40 CFR Subpart ZZZZ 63.6590(b)(3)(i). The company was issued Prevention of Signification Deterioration (PSD) Permit EPA-5-A-79-32 for the DeLaval engines by the Environmental Protection Agency (EPA) in 1979. Conditions in EPA-5A-79-32 limit NOx emissions to 11.5 gm/HP hour, CO emissions to 1.75 gm/HP hour, facility-wide VOC emissions to 49 tons, and states that "Michigan Consolidated Gas Company shall use no more than four, 4,000 HP DeLaval natural gas-fired reciprocating internal combustion engines." The conditions in EPA-5-A-79-32 were incorporated into the MI-ROP-B7221-2015 under FGDELAVALS SC I.1, I.2., and I.3. and FGDELAVALS SC IX.1. and IX.2.

In addition to the DeLaval engines, the following processes or process equipment are included in MI-ROP-B7221-2015: a Waukesha natural gas-fired emergency generator (EUWAUKESHA) used to provide electricity to the compressor building in the event of the power outage; a 450,000 Btu/hour natural gas-fired emergency generator (EUOFFICEGENSET) used to provide electricity to the office building and maintenance garage; a 2.51 MMBtu/hour natural gas-fired boiler (EUCOMPBLDGBLR) used to provide heat to the compressor and auxiliary buildings; and 2 cold cleaners (FGCOLDCLEANERS).

A Permit to Install (PTI 185-15) was issued to DTE for five internal combustion turbines, two boilers and one emergency generator on June 3, 2016.

INSPECTION AND COMPLIANCE EVALUATION

I (Kerry Kelly) arrived at DTE – Milford Compressor Station at approximately 9:15 AM on August 11, 2016. I entered the office at DTE, showed my DEQ photo credentials, explained the purpose of the inspection, and gave a copy of the pamphlet “Environmental Inspections: Rights and Responsibilities to Chris Conley, Manager – Transmission & Storage Ops. Mr. Tyler Gage, Staff Engineer and Mr. Joe Kotwicki, Associate Environmental Specialist provided records during and following the inspection but were not present during the opening meeting, facility walk through, or closing meeting. In the opening meeting I asked Mr. Conley basic questions about Milford Compressor Station operations and about the general and special conditions set forth in MI-ROP-B7221-2015.

EUWAUKESHA

EUWAUKESHA is a VHP5108 Model, natural gas-fired reciprocating internal combustion engine (RICE) used to supply electricity in the event of a power outage. The rated capacity at 900 RPM is approximately 550 brake horsepower (attachment 1). According to the ROP, EUWAUKESHA was installed on June 10, 1980 and does not have to meet the requirements 40 CFR Part 63 Subpart ZZZZ pursuant to 40 CFR 63.6590(b)(3)(i). 40 CFR 63.6590(b)(3)(i) does state existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ. The only condition required in the ROP for this engine is that it burns pipeline quality natural gas. According to Mr. Conley only pipeline quality natural gas is burned in this engine.

EUOFFICEGENSET

EUOFFICEGENSET was manufactured February 21, 2012 and has an engine displacement of 2351 cc according to the certification on the engine. EUGENSET is subject to NSPS Subpart JJJJ for Spark Ignition Internal Combustion Engines.

Natural gas is the only fuel, with the exception of up to 100 hours of usage per year using propane as an alternative fuel source, permitted to be used in EUOFFICEGENSET according to EUOFFICEGENSET SC II.1. Mr. Conley stated the engine only uses natural gas.

The hours of operation of EUOFFICEGENSET are limited to 100 hours per year for non-emergency purposes per EUOFFICEGENSET SC III.2. There is no time restriction on the use of EUOFFICEGENSET during emergency situations according to EUOFFICEGENSET SC III.1. Operational records for the EUOFFICEGENSET are required to be maintained per EUOFFICEGENSET SC VI.1. Mr. Conley provided records of the hours of operation and the purpose of the use of EUOFFICEGENSET (attachment 2). According to these records EUOFFICEGENSET operates 12 minutes a week for testing purposes. The yearly hours of operation records provided by Mr. Conley (attachment 3) indicate that between January 2016 and July 2016 EUOFFICEGENSET operated for a total of 8.5 hours. Of the 8.5 hours hours of operation in 2016, EUOFFICEGENSET ran

for 6 hours for maintenance/readiness checks and 2.5 hours for power outages.

I inspected EUOFFICEGENSET and observed a non-resettable hour meter on the engine as required per of EUOFFICEGENSET SC IV.1. The non-resettable meter displayed 112 hours during the inspection.

Records of the type and quantity of fuel used each year in EUOFFICEGENSET are required per EUOFFICEGENSET SC VI.2. Mr. Conley provided records of monthly and yearly fuel use (attachment 3) and stated only natural gas is used in EUOFFICEGENSET.

Records of the maintenance performed on EUOFFICEGENSET, required per EUOFFICEGENSET SC VI.3., were provided by Mr. Conley (attachment 4).

A list of EPA Certified Gas Commercial QT Series Engines manufactured by Generac and a picture of the engine certification, required in EUOFFICEGENSET SC VI.4., is attached to this report (attachment 5).

EUOFFICEGENSET SC VII. 1. requires prompt reporting of deviations pursuant to General Conditions (GC) 21 and 22 of Part A. Mr. Conley stated that there were no deviations to GC 21 and 22.

Semi-annual and deviation reports, required in EUOFFICEGENSET SC VII. 2. and 3, were received by AQD on time (March 4, 2016 and August 17, 2016). No deviations were reported for EUOFFICEGENSET.

FGDELAVALS

The ROP states the DeLaval engines are existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions and as such do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ for reciprocating internal combustion engines per 40 CFR 63.6590(b)(3)(i). I inspected the nameplates on each of the engines in FGDELAVALS and confirmed the information in the ROP. The engines were not operating at the time of the inspection.

The 12-month rolling non-methane hydrocarbon emissions are limited to 49 tons for the compressor station in FGDELAVALS SC I.1. Emission limits of 11.5 gram/hp-hour and 1.75 gram/hp-hour emission for NOx and CO, respectively, for each engine are set forth in FGDELAVALS SC I.2. and 3. A stack test was performed on Engines 501, 502, and 503 on February 22 – 23, 2011 and on Engine 504 on April 13, 2011. The stack tests indicated that each engine is in compliance with the aforementioned emission limits. The emission factors developed during the test are used to calculate emissions from the engines as required per FGDELAVALS SC VI.4. The average NOx and CO emissions from the stack test are listed in the table below:

Parameter	Engine 501	Engine 502	Engine 503	Engine 504
Average NOx Emissions reported for 2011 Stack Test (gram/GHP-Hr)	9.16	7.55	1.24	7.68
Average CO Emissions reported for 2011 Stack Test (gram/GHP-Hr)	1.37	0.79	1.14	0.66

Emission records, fuel usage records, and hourly operational records, required in FGDELAVALS SC VI. 1., 2., and 4., for each engine in FGDELAVALS from January 2010 through June 2016 were provided by Mr. Conley (attachment 6). The highest reported 12-month rolling non-methane hydrocarbon emissions for FGDELAVALS for January 2015 through June 2016 was 0.99 tons reported in May 2016. Facility-wide 12-month rolling non-methane hydrocarbon emissions were not submitted. The greatest source of non-methane hydrocarbon emissions at Milford Compressor Station currently is FGDELAVALS. Since the reported non-methane hydrocarbon emissions for FGDELAVALS, again which are the largest source of non-methane hydrocarbon emissions at Milford Compressor Station, were far less than the 49 ton facility-wide limit, it is expected that the facility-wide non-methane hydrocarbon emissions are less than 49 tons. I informed Mr. Kotwicki, via telephone on September 23, 2016, of the requirement to keep 12-month rolling facility-wide non-methane hydrocarbon emissions records to demonstrate compliance with FGDELAVALS SC I.1. and EPA-5-A-79-32.

Natural gas is the only fuel permitted to be used in FGDELAVALS according to FGDELAVALS SC II.1. Mr. Conley stated the engines in FGDELAVALS only uses natural gas.

FGDELAVALS SC V.1. requires a stack test, to determine non-methane hydrocarbon, nitrogen oxide, and CO emissions, be performed on each engine in FGDELAVALS once per renewal cycle. Stack test plans must be submitted to AQD prior to testing according to FGDELAVALS SC V.2. Notification of stack test dates must be submitted to AQD 30 days prior to the test date per FGDELAVALS SC V.3. Stack test results must be submitted to AQD within 60 days following the last date of the stack test according to FGDELAVALS SC V.4. The ROP for Milford Compressor Station was renewed August 20, 2015. The stack test results for the previous renewal cycle are on file at the DEQ-AQD Southeast Michigan District Office. To date, AQD has not received a stack test plan or notification of testing for the current renewal cycle.

Mr. Kotwicki provided records of maintenance events conducted on each engine in FGDELAVALS, required in FGDELAVALS SC VI.3, for August 2015 through August 2016 (attachment 7).

FGDELAVALS SC VII. 1. requires prompt reporting of deviations pursuant to

General Conditions (GC) 21 and 22 of Part A. No deviations were reported for FGDELAVALS in the semi-annual and annual deviation reports submitted March 4, 2016 and August 17, 2016.

Semi-annual and annual deviation reports, required in FGDELAVALS SC VII. 2. and 3, were received by AQD on time (March 4, 2016 and August 17, 2016). No deviations were reported for FGDELAVALS.

The underlying applicable requirements for FGDELAVALS SC IX.1. and SC IX.2. is EPA-5-A-79-32 and 40 CFR 52.21. FGDELAVALS SC IX.1.states "the permittee shall only operate four, 4,000 HP DeLaval reciprocating internal combustion engines at this facility." The condition in EPA-5-A-79-32 states "Michigan Consolidated Gas Company shall use no more than four, 4,000 HP DeLaval natural gas-fired reciprocating internal combustion engines." FGDELAVALS SC IX.2. states "the permittee shall not substitute the four DeLaval reciprocating combustion engines with any other type of engines without first going through the Permit New Source Review process. The use of the DeLaval engines, along with the NOx and CO emission limits in the Federal PSD Permit No. EPA-5-A-79-32, was BACT for no control at the time of PSD Permit issuance." Michigan Consolidated Gas Company requested the USEPA void EPA-5-A-79-32 maintaining the Michigan Department of Natural Resources issued a State permit for the facility under the PSD rules following delegation of the PSD program to the State. On April 27, 1998, the USEPA denied Michigan Consolidated Gas Company's request to void EPA-5-A-79-32 stating the State permit (149-80) did not address CO or non-methane hydrocarbons and, therefore, was not issued pursuant to 40 CFR 52.21 and the Offset Ruling. Currently there is other fuel burning equipment at this facility. In addition, a Permit to Install (PTI 185-15) was issued for five internal combustion turbines, two boilers and one emergency generator at this facility on June 3, 2016. To date, the equipment in PTI 185-15 has not been installed. According to Mr. Conley, DTE intends to continue to use the DeLaval engines after the equipment in PTI 185-15 is installed. The other fuel burning equipment and the equipment permitted in PTI 185-15 appear to contradict FGDELAVALS SC IX.1. and SC IX.2. I informed DTE of the contradiction between SC IX. 1. and PTI 185-15 and that the EPA has the final decision regarding removing the condition that states no more than four, 4,000 HP DeLaval natural gas-fired reciprocating internal combustion engines can be used. DTE has offered support to AQD permit section in conversations with EPA regarding how to accurately portray the conditions in EPA-5-A-79-32 (attachment 8). Compliance with FGDELAVALS SC IX.1. and SC IX.2. will be evaluated following EPA's decision regarding how DTE and AQD Permit Section can accurately represent EPA-5-A-79-32 conditions.

FGCOLDCLEANERS

There are 2 cold cleaners at Milford Compressor Station. Both cold cleaners have an air/vapor interface of not more than ten square feet and are equipped with a device for draining parts as required by FGCOLDCLEANERS SC IV.1.a and

2. During the inspection the lids to the cold cleaners were closed as required by FGCOLDCLEANERS SC IV.3. The solvent used in the units is ZEP DYNA 143 which has a Reid Vapor Pressure of 0.067 kPa (approximately 0.0097 psia). Records of the size of the cold cleaners (attachment 9) and the SDS (attachment 10) of the solvent used, as required by FGCOLDCLEANERS SC VI.2 were provided by Mr. Conley.

I inspected the cold cleaners and waste storage. The operating procedures for the cold cleaners were posted in a conspicuous area near the cold cleaner as required by FGCOLDCLEANERS SC VI. 3. The solvent waste drums I observed were covered as required by FGCOLDCLEANERS SC VI.4.

FGCOLDCLEANERS SC VII. 1. requires prompt reporting of deviations pursuant to General Conditions (GC) 21 and 22 of Part A. No deviations were reported for FGCOLDCLEANERS.

Semi-annual and deviation reports, required in FGCOLDCLEANERS SC VII. 2. and 3, were received by AQD on time (March 4, 2016 and August 17, 2016). No deviations were reported for FGCOLDCLEANERS.

FGRULE285(mm)

FGRULE285(mm) pertains to routine and emergency venting of natural gas from transmission and distribution systems. According to Mr. Conley there are emergency vents for each unit and for the station.

FGRULE285(mm) SC VII. 1. requires prompt reporting of deviations pursuant to General Conditions (GC) 21 and 22 of Part A. Mr. Conley said an annual emergency shut-down, in which 422,000 scf of natural gas was vented, occurred July 13, 2016. There have been no instances of releases greater than 1,000,000 scf to Mr. Conley's knowledge. No deviations were reported for FGRULE285(mm) in the March 4, 2016 and August 17, 2016 deviation reports submitted.

Semi-annual and deviation reports, required in FGRULE285(mm) SC VII. 2. and 3, were received by AQD on time (March 4, 2016 and August 17, 2016). No deviations were reported for FGRULE285(mm).

FG-BOILERS

DTE Gas Company-Milford Compressor Station has one boiler subject to the 40 CFR 63 Subpart DDDDD (EUCOMPBLDGBLR). I inspected EUCOMPBLDGBLR and noted it is a Model CB-700-60, 2.51 MMBTU/hr, natural gas-fired boiler manufactured May 25, 1979. EUCOMPBLDGBLR provides heat to the compressor and auxiliary buildings at the location.

FG-BOILERS SC III.1, 4., and 5. require a one-time Energy Assessment on the boiler by the effective compliance date and a tune-up on the boiler every 5 years. The one-time energy assessment on EUCOMPBLDGBLR was conducted on May

14, 2015, by Environmental Resources Management, Inc. Mr. Conley provided the One-time Energy Assessment report (attachment 11). The required tune-up was completed November 6, 2015, by D.J. Conley Commercial & Industrial Heating, Sales, Service, and Parts of Troy, Michigan. A copy of the tune-up report was provided by Mr. Conley (attachment 12). The records provided by Mr. Conley indicate compliance with FG-BOILERS SC VI 1. and 2.

The boiler at Milford Compressor Station is required to be maintained and operated in a manner consistent with safety and good air pollution control practices for minimizing emissions per FG-BOILERS SC III. 2. According to Mr. Conley the boiler is maintained and inspected by D.J. Conley Commercial & Industrial Heating, Sales, Service, and Parts. Inspections take place annually. If the DTE operator notices any unusual noises or emissions while the boiler is operating D.J. Conley will be called in to inspect and conduct maintenance on the boiler.

FG-BOILERS SC VII. 1. requires prompt reporting of deviations pursuant to General Conditions (GC) 21 and 22 of Part A. No deviations were reported for FGDELAVALS in the semi-annual and annual deviation reports submitted March 4, 2016 and August 17, 2016.

Semi-annual and annual deviation reports, required in FG-BOILERS SC VII. 2. and 3, were received by AQD on time (March 4, 2016 and August 17, 2016). No deviations were reported for FGDELAVALS.

Within 60 days of the completion of the tune-up, the facility is required to submit a Notification of Compliance Status Report demonstrating that a tune-up had been completed to the satisfaction of MACT Subpart DDDDD requirements per FG-BOILERS SC VII.4 and 6. AQD received a complete Notification of Compliance Status January 12, 2016.

Records of the boiler tune-up and inspection report and service report submitted by Mr. Conley (attachments 12 and 13) indicate the methods for demonstrating continuous compliance listed in FG-BOILERS SC IX.4 were completed.

CONCLUSION

Based on this inspection, DTE Gas Company-Milford Compressor Station appears to be in compliance with the conditions in ROP and applicable air rules and regulations that were evaluated.

NAME K. Kelly DATE 9/23/16 SUPERVISOR SK

