

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

N334124751

<b>FACILITY:</b> DTE Gas Company - Kalkaska Compressor Station		<b>SRN / ID:</b> N3341
<b>LOCATION:</b> 1250 MichCon Lane, KALKASKA		<b>DISTRICT:</b> Cadillac
<b>CITY:</b> KALKASKA		<b>COUNTY:</b> KALKASKA
<b>CONTACT:</b> Karla Shawhan-Bonnee , Manager, Transmission Storage and Operations		<b>ACTIVITY DATE:</b> 03/28/2014
<b>STAFF:</b> Bill Rogers	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Inspection for FCE		
<b>RESOLVED COMPLAINTS:</b>		

On March 28, 2014, I inspected the DTE Kalkaska Compressor Station. Ms. Karla Shawhan-Bonnee, Supervisor, showed me around. I didn't find any violations.

The facility operates three 2700 hp, two stroke lean burn reciprocating engines used to compress natural gas to propel it along the pipeline. The engines appear unmodified from previous inspections.

The facility's Renewable Operating Permit is MI-ROP-N3341-2011.

**EUBACKUPGENSET:** Backup Electric Generator, Waukesha L36GL natural gas engine, 800 horsepower

This is a natural gas-fired, reciprocating internal combustion engine. It was not in previous permits but has been included in the new one due to relatively new Federal standards for such engines in MACT ZZZZ (formally 40 CFR 63, Subpart ZZZZ).

The engine has no catalytic oxidizer and apparently no lean burn combustion system. As it is a relatively small engine used for emergency purposes, MACT ZZZZ does not require these, so the lack of these systems is not a violation.

The engine has an unresettable hour meter.

Condition III.2 of Table EUBACKUPGENSET of the permit allows operating the engine for maintenance checks and readiness testing, provided such tests are recommended by the manufacturer, vendor, or insurance company. Condition III.3 allows an additional 50 hours of operation per year. Ms. Shawhan-Bonnee told me the engine runs one hour each Wednesday. Hours of operation are logged with the records kept on site. They operate one hour per week, or 52 hours per year, to ensure that the generator will work when they need it. While on site I thought this was a problem because 52 hours per year is in excess of the 50 allowed by permit, but the 50 hours mentioned in the permit are in addition to maintenance and operational readiness demonstrations. Therefore 52 hours a year for maintenance and operational readiness demonstration is not a violation of the permit or of MACT ZZZZ.

The engine was not operating at the time of my inspection.

**FGGMVHS:** Compressor engines, three Cooper 2700 horsepower two stroke lean burn natural gas fired reciprocating engines.

Table FGGMVHS Condition I.1 sets a limit of 52.12 tons per year NO<sub>x</sub> for each engine. There are three engines. Ms. Shawhan-Bonnee provided me with records, attached, which indicate that for the 12 months before my inspection Engine 1 emitted 9.78 tons NO<sub>x</sub>, Engine 2 emitted 9.68, and Engine 3 emitted 2.15. This complies with the emission limit. Total emissions were 21.61 tons.

Condition 1.3 sets a limit of 28.68 tons of CO per engine per year. They emitted (1) 8.96 tons, (2) 8.28 tons, and (3) 2.19 tons. This complies with the emission limit. Total emissions were 19.43 tons.

Condition 1.5 sets a limit of 26.1 tons of VOC per engine per year. They emitted (1) 5.61 tons, (2) 5.11 tons, and (3) 1.39 tons. This complies with the emission limit. Total emissions were 12.11 tons.

Condition III.1 requires the lean burn combustion system for each engine be installed and operating properly. This is internal and integral to the engine, so there is no way to visually confirm its presence. However, Ms. Ms. Shawhan-Bonnee told me the engine has not been modified since the lean burn system was installed, and if installed the engine would not run without it, so I conclude it is probably in place and operating properly.

Condition IV.1 requires the permittee to use only sweet natural gas as fuel for the compressor engines. These engines have always run on pipeline quality natural gas only. I did not see any possible fuel tanks in the facility large enough to have provided an alternate fuel.

Condition V.1 requires the permittee to conduct emissions tests every five years. DTE last ran stack tests on the engines on May 21, 2013. This complies with the permit condition.

Condition VI.1 requires recording engine hours of operation. Example records showing engine hours and fuel consumption are attached.

Condition VIII.1 through VIII.3 require the engines to have exhaust stacks with a maximum diameter of 30 inches and minimum height of 40 feet. The stacks appear to meet these requirements.

#### COMMENTS

Engine 3 was operating at the time of my inspection. It was running at 314 RPM. There was no opacity.

The new permit doesn't have a table for parts washers, as the old one did. Ms. Shawhan-Bonnee told me there aren't any cold cleaners on site. There weren't any on site during previous inspections.

The facility has a small boiler used for service heating. It is natural gas-fired and rated at 2,930,000 BTU per hour heat input.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_