

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

N598963117

FACILITY: SEMCO ENERGY Gas Company - Morton Wells Facility		SRN / ID: N5989
LOCATION: 1100 GRATIOT AVE, MARYSVILLE		DISTRICT: Warren
CITY: MARYSVILLE		COUNTY: SAINT CLAIR
CONTACT: Elisabeth Barr , EOH&S Analyst		ACTIVITY DATE: 05/26/2022
STAFF: Robert Elmouchi	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled on-site inspection.		
RESOLVED COMPLAINTS:		

On Thursday, May 26, 2022, I conducted a scheduled inspection of the Southeastern Michigan Gas Company (SEMCO), Morton Wells facility, located at 1100 Gratiot, Marysville, Michigan. This facility is uniquely identified by the Air Quality Division with the State Registration Number (SRN) of N5989. 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 Permit to Install (PTI) No. 126-07B.

This facility is a natural gas underground storage and transmission facility, which uses two (2) engines to drive compressors that pump natural gas in underground formations. I entered the facility and met with Ms. Elizabeth Barr, EOH&S; and Mr. Scott Sheperd, Compressor Operator.

PTI No. 126-07B

PTI No. 126-07B approved the installation and operation of two (2) four-stroke lean-burn natural gas-fired reciprocating internal combustion engines (RICE); EUCOMPENG3 and EUENGINE4. Only EUENGINE4 is subject to 40 CFR Part 60 Subpart JJJJ. Neither engine is EPA certified. This permit consists of three Flexible Group tables (no Emission Unit tables); FGENGINES, FGNSPSENGINES, and FGFACILITY.

EMISSION UNIT EUCOMPENG3

This engine was not operating during this inspection. I observed the natural gas fuel meter, which displayed 050109 MCF (thousand cubic feet).

Emission Unit Nameplate

SERIAL NO.: WPW01532

Low Emission

AR NO. 273-3036

Comp. Ratio: 8.0 to 1

Aftercooler Temperature: DEG. C 54, DEG. F 130.

Power: 999 kW, 1340 HP

Full Load: RPM 1400

EMISSION UNIT EUENGINE4

This engine was not operating during this inspection. I observed the natural gas meter, which displayed 033491 MCF.

Emission Unit Nameplate

SERIAL NO.: JEF02302,

Low Emission,

AR. No. 3308202,

Comp. Ratio: 8 to 1,

Advertised Power: 1029 kW, 1380 HP,

Full Load Speed: RPM 1400,

MFG DATE 06/2013.

FLEXIBLE GROUP - FGENGINES

EMISSION LIMITS

I reviewed the 12-month rolling total emissions records from May 2021 through April 2022. The summary below indicates compliance with the permitted emission limits.

EUCOMPENG3 emissions

NOx: 2.37 tpy (limit = 17.71 tpy)

CO: 0.02 tpy (limit = 28.45 tpy)

SO2: 0.00 tpy (no permit limit)

VOC: 0.66 tpy (no permit limit)

PM: 0.00 tpy (no permit limit)

EUENGINE4 emissions

NOx: 0.60 tpy (limit = 8 tpy)

CO: 0.00 tpy (limit = 4 tpy)

SO2: 0.00 tpy (no permit limit)

VOC: 0.53 tpy (no permit limit)

PM: 0.00 tpy (no permit limit)

MATERIAL LIMITS

In compliance with SCII.1, only natural gas is the only fuel combusted.

PROCESS/OPERATIONAL RESTRICTIONS

As required per SC III.1, Elizabeth Barr provided a copy of the preventative maintenance/malfunction abatement plan.

SC III. 2. I was informed that the add-on control device (oxidation catalyst on EUENGINE4) is maintained and always working when the engine operates. I observed that EUCOMPENG3 appeared to have an oxidation catalyst installed in the exhaust stack, which is not required per the permit. SEMCO does not operate either engine without the add-on control device even though allowed up to 200 hours per engine per year, per SC III.2.

DESIGN/EQUIPMENT PARAMETERS

Per SC IV.1, Elizabeth Barr provided records for each engine that demonstrate compliance with the requirement to maintain and operate FGENGINES in a satisfactory manner.

MONITORING/RECORDKEEPING

Per SC VI. 2, each engine has a meter to monitor natural gas usage on a continuous basis. This permit does not limit natural gas use. Fuel use records are required to calculate 12-month total rolling emissions, which, are then used to determine compliance with SC I.1-4. I received monthly natural gas use records, which demonstrate compliance with SC VI.2.

FLEXIBLE GROUP - FGNSPSENGINES

This flexible group consists only of EUENGINE4, which was manufactured on 6/2013. Therefore, this engine is subject to the 40 CFR Part 60 Subpart JJJJ emission limits for engines manufactured on 7/1/2010 or later.

EUENGINE4 emission limits:

NOx: 1.0 g/bhp-hr.

CO: 2.0 g/bhp-hr.

VOC: 0.7 g/bhp-hr.

Test results:

NOx: 0.49 g/bhp-hr.

CO: 0.02 g/bhp-hr.

VOC: 0.31 g/bhp-hr.

Test results indicate compliance with the NSPS JJJJ emission limits.

FLEXIBLE GROUP FGFACILITY

FGFACILITY contains only two special conditions, which address the sulfur content of natural gas.

SC II.1 states, "The permittee shall not burn any sour natural gas in FGFACILITY. Sour gas is defined as any gas containing more than 1 grain of hydrogen sulfide or more than 10 grains of total sulfur per 100 standard cubic feet."

SC V.1 states, "Verification of H₂S and/or sulfur content of the natural gas burned in FGFACILITY may be required upon request by the AQD District Supervisor. This condition is necessary to ensure compliance with SC II.1."

On June 9, 2022, requested gas analysis sulfur content records were provided via email. Total Sulfur Content (TSC) was measured daily. From May 1, 2022, through June 6, 2022, TSC ranged from 0.8112 to 1.2990 grains per 100 scf. TSC records

indicate compliance with the SC II.1 permit limit of 10 grains of total sulfur per 100 scf and verification required per SC V.1.

CONCLUSION

The Southeastern Michigan Gas Company, Morton Wells facility, appears to be in compliance with all evaluated permit conditions.

NAME *Robert Elmarchi*

DATE 6/15/2022

SUPERVISOR *Joyce*