

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

N381862696

FACILITY: Great Lakes Gas Transmission Station #13		SRN / ID: N3818
LOCATION: 7500 E Dodge Rd, OTISVILLE		DISTRICT: Lansing
CITY: OTISVILLE		COUNTY: GENESEE
CONTACT: Nicholas Rudolph , Area Manager, St. Clair - Great Lakes Region		ACTIVITY DATE: 04/12/2022
STAFF: Samantha Davis	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Joint unannounced inspection with EPA's David Sutlin and Brittany Cobb as part of an inspection initiative in Flint and surrounding areas.		
RESOLVED COMPLAINTS:		

N3818- Great Lakes Gas Transmission (GLGT), Otisville #13**Facility Contacts:**

Nick Rudolph, Area Manager, 248-205-7664, Nicholas_rudolph@tcenergy.com

Chris McFarlane, Environmental Specialist, 832-320-5490, chris_mcfarlane@tcenergy.com (not present for inspection)

AQD Personnel:

Samantha Davis – (517) 282-1373, daviss46@michigan.gov

EPA Personnel:

David Sutlin

Brittany Cobb

Facility Description:

GLGT Station #13 is one of many natural gas (ng) compression stations along a pipeline that begins in Canada and extends down through the UP, under the straights of Mackinac, through northern lower Michigan and down through Otisville. The pipeline is pressurized up to 900psi. The compressors may or may not run depending on demand. Trans Canada, parent company, has recently underwent a name change in Spring 2019 and is now called TC

Energy.

Reports to MAERS: Category 1 facility due to Major Source status for nitrogen oxides (NOx) and carbon monoxide (CO).

Safety Equipment Required:

Eye protection, hard hat, steel toe, cotton clothing, and depending on the activity fire resistant clothing.

Location:

The station is located 2 miles southwest of Otisville. The area is predominantly agricultural with scattered residences surrounding the site. There are 5 buildings onsite; the office on the SE side of the facility, the shop where EU-OVAPU and EUBOILER is located on the NE side and then an individual building for each turbine in the order of

EUUNIT1303, EU-UNIT1301, and EU-UNIT1302 working north to south on the west side. There is also a deck of NG cooling fans on the SW side of the property.

Applicable Regulations:

-MI-ROP-N3818-2016

-40CGR60 GG- Standards of Performance for Stationary Gas Turbines

-40CFR63 ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating

Internal Combustion Engines

Previous Violations:

On 12/12/2019, the day the stack testing was to be performed, EU-UNIT1303 did not achieve a high enough load as desired by TC Energy, nothing in Subpart GG prevented the test from proceeding. Furthermore, the decision to not start the testing was made after the preliminary NOX lb/hr emissions were found to be exceeding the limit; not when the issue with unit load was discovered earlier in the morning.

Retesting occurred on 11/12/2020 and the unit passed; therefore, the violation was considered resolved.

Emission Unit Summary Table:

Emission Unit	Description	Compliance (Y/N)
EU-UNIT1301	Model Avon 76G stationary natural gas fired turbine used to power a natural gas pipeline compressor. Turbine rated at 16,000 horsepower. Installed 12/01/1970	Y
EU-UNIT1302	Model Avon 76G stationary natural gas fired turbine used to power a natural gas pipeline compressor. Turbine rated at 16,000 horsepower. Installed 10/01/1970	Y
EU-UNIT1303	Model LM1600 stationary natural gas fired turbine used to power a natural gas pipeline compressor. Turbine rated at 23,000 horsepower. Installed 7/28/1994.	Y
EU-OVAPU		Y

	4SRB natural gas fired Caterpillar 3512 emergency generator engine rated 790 horsepower. Installed 7/28/1994	
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Inspection Summary:

This inspection was a joint inspection with EPA inspectors David Sutlin and Brittany Cobb. Great Lakes Gas Transmission Station – Otisville was chosen as one of the sources to be inspected for EPA Region 5's inspection initiative. Several sources in and around the city of Flint, MI were selected to be inspected.

This was an unannounced, scheduled inspection for compliance with MI-ROP-N3818-2016 and applicable state and federal regulations.

We arrived around 8am, and I did not initially observe any visible emissions or any odors. We started the inspection by going through GLGT's safety training. We then had a pre-meeting with Nick to discuss background on the facility and how they operate. EPA brought their FDIR camera which is a tool used to pick up emissions that you may not be able to see with the naked eye.

A walk through of the site was performed. We observed a stack on the outside of the housing for Unit 1303. There is a small stack that we were told belonged to the demister vent that had what I thought to be about a 10-15% opacity. We were informed that what we were seeing should be steam because the purpose of the demister vent is to pull air/moisture from the oil.

Below are the permit conditions and results from the inspection and records review.

EU-UNIT1303

This turbine was installed on 7/28/94 and is thus subject to 40CFR60 GG-Standards of Performance for Stationary Gas Turbines per paragraph 60.330(b).

I. Emission Limits

1. SO₂ 0.015% by volume corrected to 15% O₂
2. NO_x 175.2 ppm@15%O₂
3. NO_x 89.0 lbs/hr
4. CO 31.9 ppm@15% O₂
5. CO 22.0 lbs/hr

The 11/12/2020 test provided passing results, the emission results were as follows:

High Load: NO_x 157.5 ppm@15%O₂, NO_x 88.3lbs/hr, CO 13.3 ppm@15% O₂, CO 4.5 lbs/hr

Mid-High Load: NO_x 120.1 ppm@15%O₂, NO_x 52.2 lbs/hr, CO 11.6 ppm@15% O₂, CO 3.1 lbs/hr

Mid-Low Load: NO_x 103.7 ppm@15%O₂, NO_x 37.8 lbs/hr, CO 11.6 ppm@15% O₂, CO 2.6 lbs/hr

Low Load: NO_x 87.8 ppm@15%O₂, NO_x 26.4 lbs/hr, CO 16.9 ppm@15% O₂, CO 3.1 lbs/hr

III. Process / Operational Restrictions

1. Permittee shall combust only natural gas in EU-UNIT1303 as defined in 40 CFR 60.331. (R 336.1213(3))

There is no other option as no other type of fuel container is onsite that could fuel the turbine.

V. Testing and Sampling:

The turbine is to be tested once during the permit term. The unit was tested on 11/12/21, and passed.

V. 3-5 are paragraphs with standard language regarding the process of notification regarding testing and when the results are due.

VII. Reporting:

1-3 are requirements regarding standard ROP reports for deviations, and certification of compliance.

Semi-annual reports are being received on time and a review back shows no deviations.

VIII. Stack/Vent Restrictions:

1. Maximum inches 70, Minimum Height Above Ground 40 feet

The stack for this turbine appeared to meet the requirements as required.

EU-OVAPU

While onsite, the APU hours were at 18307.6 hours.

III.2. There is no time limit on the use of emergency stationary RICE in emergency situations. (40 CFR 63.6640(f)(1))

-Inspection Result: Total hours for 2022 (1/7/22 through 4/4/22) was 20.4 hours. Maintenance checks consisted of 4 hours, while 16.1 hours (8.2 hours on 2/4 and 7.9 on 3/18) was for emergency for power loss.

III.3. The permittee shall not allow the engine(s) to exceed 100 hours for maintenance checks and readiness testing and emergency demand response. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. (40 CFR 63.6640(f)(2)(ii))

Unit operating hours does not exceed 100 hours.

III.4. The permittee may operate the engines up to 50 hours per year for non-emergency situations, but those hours are to be counted towards the 100 hrs/year for maintenance and testing and emergency demand response, as allowed in 40 CFR 63.6640(f)(3). (40 CFR 63.6640(f)(1)(iii))

Total non-emergency hours does not exceed 50 hours/year.

III.6. The permittee must meet the following requirements except during periods of startup:

- a. Change oil and filter every 500 hours of operation or annually, whichever comes first.
- i. An oil analysis program may be used to satisfy this requirement if done so in accordance with 63.6625
- (j). The oil analysis must be performed at the same frequency as oil changes are required.
- b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

I was given a maintenance record sheet that indicated RICE MACT Maintenance on 2/09/2022. I was also given a record of an oil analysis that was performed in February and March of 2022.

IV. Design / Equipment Parameters:

- 1. The permittee shall equip EU-OVAPU with a non-resettable hour meter. (R 336.1213(3))

The meter is installed and read 18307.6 hours

VII. Reporting:

VII. 1-3. are requirements regarding standard ROP reports of deviations, and certification of compliance.

Semi-annual reports are being received on time.

VII.4. Discusses requirements if the unit operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in III.5.

-Inspection Result: GLGT does not operate this engine in this manner.

FG-AVONS

These turbines are grandfathered due to being installed in 12/01/1970 for EU-UNIT1301 and 10/01/1970 for EU-UNIT1302.

These turbines are not considered "Grandfathered" for permitting purposes due to installation after the effective date of the Air Pollution Act which became effective on August 15, 1967.

These turbines are grandfathered according to 40CFR60 GG-Standards of Performance for Stationary Gas Turbines per paragraph 60.330(b).

EU-CLEANER

This is a small parts cleaner with approx. 6ft of surface area, that is serviced by an outside source, and uses a water based cleaning solution.

EU-OVBOILER

This boiler is located in the same building as EU-OVAPU and is rated at 6.1 MMBtu and is thus exempt from permitting per R336.1282(b)(i) as equipment used for space heating using sweet natural gas and less than 50

MMBtu. Due to the facility being an "Area Source of HAPs" 40CFR63 DDDDD does not apply. Due to the boiler being fueled by natural gas; the unit is exempt of the requirements of 40CFR63 JJJJJ per 63.11195(e).

Cooling Fans

Also onsite is a bank of cooling fans that are located on the southwest side of the property. These devices are used for cooling if the gas exceeds a certain temperature during the compression cycle. The cooling of the natural gas allows for easier compression. These units had not been used for some time but were recently rebuilt in 2020 because of anticipation of higher demand. They would only be used on peak load days when all 3 units are running.

I left the site at 11:00 am.

Great Lakes Gas Transmission Station #13 appears to be in compliance with MI-ROP-N3818-2016 and other applicable air regulations.

NAME Samantha Davis

DATE 5/27/22

SUPERVISOR BM