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

N381849339

FACILITY: Great Lakes Gas Transmission Station #13		**SRN / ID:** N3818
LOCATION: 7500 E Dodge Rd, OTISVILLE		**DISTRICT:** Lansing
CITY: OTISVILLE		**COUNTY:** GENESEE
CONTACT: Bruce Bendes , Enviromental Specialist, CS&E		**ACTIVITY DATE:** 06/26/2019
STAFF: Samantha Braman	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Announced scheduled inspection as part of a Full Compliance Evaluation (FCE).		
RESOLVED COMPLAINTS:		

N3818- Great Lakes Gas Transmission (GLGT), Otisville #13

Facility Contacts:
Bruce Bendes- Environmental Specialist, (284) 205-7674, bruce_bendes@transcanada.com
Chris Waltman - Environmental Specialist, (715) 758-3341, chris_waltman@transcanada.com

MDEQ AQD Personnel:
Samantha Braman – (517) 282-1373, bramans1@michigan.gov
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.

Upon my arrival we went through a short safety training.

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 EU-BOILER is located on the NE side and then an individual building for each turbine in the order of EU-UNIT1303, 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:
Fall 2016 – VN written by Nathan Hude for the following:
1. Failure to provide adequate oil analysis data of base sample for comparison with annual samples; reference ROP III.6.a.i. and 40CFR63 63.6625(j)
2. Failure to provide documentation of oil analysis for 2015; reference ROP III.6.a.i. and 40CFR63 63.6625(j)
3. Failure to provide deviation ROP report for lack of oil analysis during the 2015 maintenance period; reference ROP VII.1. and VII.2.
4. Failure to provide adequate documentation for maintenance procedures; reference ROP III.6.b. and III.6.c.,

Correction on page 3 of this report made by sam braman on 7/15/19 -SB

and 40CFR63 63.6655(e)(2)

Was considered resolved on 12/08/16.

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

Inspection Summary
This was an announced and scheduled inspection.

I arrived at 10:00am and did not observe any visible emissions or any odors. I entered the office building where I met Bruce and Chris and provided each of them with my business card. A walk through of the site was performed followed by a review of some records. The engines were not running during my visit. Unit 1303 was getting some maintenance done to the stack outside of the building. Chris had majority of the records printed for me prior to me asking for them.

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. NOx 175.2 ppm@15%O2
3. NOx 89.0 lbs/hr
4. CO 31.9 ppm@15% O2
5. CO 22.0 lbs/hr

The 3/10/11 test provided passing results, the emission results were as follows:
High Load: NOx 117.8 ppm@15%O2, NOx 67.2 lbs/hr, CO 24.5 ppm@15% O2, CO 8.8 lbs/hr
Mid-High Load: NOx 97.0 ppm@15%O2, NOx 46.7 lbs/hr, CO 20.5 ppm@15% O2, CO 6.0 lbs/hr
Low-Mid Load: NOx 78.1 ppm@15%O2, NOx 31.7 lbs/hr, CO 25.2 ppm@15% O2, CO 6.2 lbs/hr
Low Load: NOx 61.0 ppm@15%O2, NOx 20.8 lbs/hr, CO 23.0 ppm@15% O2, CO 4.8 lbs/hr

The emission testing for this unit, which is supposed to be once per the life of the ROP, is tentatively scheduled for December 2019.

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 next test is tentatively scheduled for December 2019.

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

VI Monitoring / Recordkeeping
1. The Permittee shall monitor and record the hours of operation and fuel consumption for the turbine each calendar month. (R 336.1213(3))

According to records received from Chris on 06/26/19, this unit did not operate in 2016 or 2017. In 2018 it ran 2,369.33 hours with 250.88 MMSCF of fuel used, and 396.16 hours for 2019 so far with 40.63 MMSCF of fuel used. The emission limits testing is tentatively scheduled for December 2019.

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 to 2017 found that all have been marked as "all monitoring and associated recordkeeping requirements of the ROP were met and no deviations from these requirements or any other terms or conditions occurred."

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 18239.9 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 the year (12 month rolling 10/12/15-10/10/16) was 27.2 hours of which 10.9 hours were during an emergency situation due to a loss of commercial power and the remaining 16.3 hours was for monthly maintenance checks which ran the engine 0.5-1.9 hours per month.

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))

Total hours for 2018 was 50.8 hours. There was 33.2 hours of emergency run time and 17.6 hours of maintenance run time.

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 for 2018 was ~~33.2~~ 17.6 hours SB

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 for 2018 that indicated an oil sample was taken on 9/07/2018. I was also given an oil analysis that has the results of the oil analyses of 2007, 2008, and 2016-2019. 2018 and 2019 indicate that all tests performed were within the RICE MACT specifications. 2017 said to monitor water content, but all other tests performed were within specification. I requested that they also provide me maintenance record sheet for 2016 and 2017 as well. They were unable to produce these while I was on site but sent them to me via email very promptly by 6/27/19. These sheets indicate the date that spark plugs, air cleaner, and when belts and hoses were all inspected and details on maintenance provided.

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 18,239.9 hours

VII. Reporting
There are some mistakes in this paragraph, there are two number 2's. For the purpose of clarity, this report is written by how the paragraph should be numbered.

VII. 1-3. are requirements regarding standard ROP reports of deviations, and certification of compliance. Semi-annual reports are being received on time and a review back to 2018 found that since then all have been marked as "all monitoring and associated recordkeeping requirements of the ROP were met and no deviations from these requirements or any other terms or conditions occurred."

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: Both Bruce and Chris stated that GLGT does not operate this engine in the 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 JJJJJJ 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. Bruce and Chris stated that due to the lack of use of the turbines, the fans also have not been used for some time.

I left the site at 11:30 am.

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

NAME _____ DATE 7/8/19 SUPERVISOR _____