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

N558146359

FACILITY: Great Lakes Gas - Farwell Compressor Station 12		**SRN / ID:** N5581
LOCATION: 3400 HICKORY RD, LAKE GEORGE		**DISTRICT:** Saginaw Bay
CITY: LAKE GEORGE		**COUNTY:** CLARE
CONTACT: Chris Waltman , Senior Environmental Specialist		**ACTIVITY DATE:** 07/25/2018
STAFF: Matthew Karl	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled inspection and records review.		
RESOLVED COMPLAINTS:		

On Wednesday (7/25/18) Ben Witkopp and I (Matt Karl) arrived on site to conduct a scheduled compliance inspection of the Great Lakes Gas Transmission, LP – Farwell Compressor Station No. 12 located at 3400 Hickory Road, Lake George, Michigan. The purpose of this inspection was to check the source's 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; Michigan Department of Environmental Quality – Air Quality Divison (MDEQ-AQD) Administrative Rules and Renewable Operating Permit (ROP) Permit No. MI-ROP-N5581-2018. Mr. Barry Robison, Instrument Technician assisted during the inspection and Mr. Chris Waltman, Senior Environmental Specialist provided requested records.

Source Description:
The Great Lakes Transmission, LP – Farwell Compressor Station No. 12 is a natural gas compression and transmission station that operates five reciprocating engines, a turbine, and three boilers. The reciprocating engines and turbines are used to drive six compressors which raise the pressure of gas in the pipeline and provide the force required to move gas through the pipeline. The following table summarizes the emission units:

Emission Unit ID	Emission Unit Description	Manufacturer	Model/Type	Rated Capacity (hp)	Heat Input (MMBtu/hr)	Install/Mod Date
EU-UNIT1201	Nat. Gas Reciprocating Engine	Cooper Bessemer	10V-250	3,400	~8.7	6/1/1968
EU-UNIT1202	Nat. Gas Reciprocating Engine	Cooper Bessemer	10V-250	3,400	~8.7	6/1/1968
EU-UNIT1203	Nat. Gas Reciprocating Engine	Cooper Bessemer	10V-250	3,400	~8.7	6/1/1968
EU-UNIT1204	Nat. Gas Reciprocating Engine	Cooper Bessemer	10V-250	3,400	~8.7	6/1/1969
EU-UNIT1205	Nat. Gas Reciprocating Engine	Cooper Bessemer	16W330	8,000	~20	6/1/1975
EU-UNIT1206	Nat. Gas Turbine	Solar	Taurus 70	9,700	~25	4/30/1998 **Replaced 07/2018***
EU-BOILER1	Nat. Gas Boiler	Hurst	S3-G-150-15-W	-	4.18	1998
EU-BOILER2	Nat. Gas Boiler	Hurst	S3-G-150-15-W	-	4.18	1999
EU-BOILER3	Nat. Gas Boiler	Weil-McLain	PFG-7	-	0.39	1990

Facility Inspection:
Upon arrival, we checked in with the facility office. Barry Robison then provided us with a tour of the facility. We checked on the emission units listed in the table above in the following order. First, we went to the building that houses the Taurus 70 turbine (EU-UNIT1206). We were informed that the turbine had been switched out with a replacement Taurus 70 turbine at the end of June or start of July by Barry Robison. The turbine has an

approximate 10-year life-span before requiring refurbishment and rebuilds. The previous Taurus 70 turbine will likely be warehoused or sent to Compressor Station No. 1 in Minnesota.

We then went to the building where the first natural gas boiler (EU-BOILER1) was housed. This Hurst Boiler was installed in 1998 and is run to provide heated water for the turbine. It has run approximately 1 day. It had a 2014 maintenance inspection tag on it, and Barry Robison stated that it had recently been updated.

We then proceeded to the building that housed the Cooper-Bessemer reciprocating engines (EU-UNIT1201 through EU-UNIT1205). The engine EU-UNIT1205 had 1 cylinder changed earlier in the summer of 2018. The engine EU-UNIT1204 had been rebuilt approximately 2 years ago, and currently was undergoing minor maintenance for a fuel valve, plug. Engines EU-UNIT1201 through EU-UNIT1203 were onsite and appeared to be in good condition.

We then went to a separate building that housed an exempt water-based cold cleaner parts washer. It appeared to be in good condition and working order.

Finally, we examined the building that housed the remaining two natural gas boilers (EU-BOILER2 and EU-BOILER3). These boilers were currently not being operated. Later this year, when the outside ambient air temperature is around 50-60 F, they will begin operation. EU-BOILER2 had an 11/2018 inspection tag visible on it. EU-BOILER3 was onsite and appeared to be in good condition.

Records Review:
Ben Witkopp requested the following information from Chris Waltman on 8/10/18 and received it via email on 9/5/18. The following records are in the District office files.

- RICE MACT Emergency Engine Log records for 2017, 2018
- Engine 01-05 and Turbine operating hours for 2017, 2018 January-Aug
- Engine 01-05 and Turbine fuel use for 2017, 2018 January-Aug

EU-UNIT1206: Compliant
Solar Taurus 70 natural gas turbine.

SC VI.1. The permittee shall monitor and record the hours of operation and fuel consumption for the turbine each calendar month.

From the 2017 fuel usage record, EU-UNIT1206 (12-B-06) used a total of 5.055 MMSCF of natural gas, with maximum use of 3.2345 in November 2017 and 1.4634 and 0.3571 MMCSF/month fuel usages in March and February 2017 respectively.

From the 2017 fuel usage record, EU-UNIT1206 (12-B-06) used a total of 5.055 MMSCF of natural gas, with maximum use of 3.2345 in November 2017 and 1.4634 and 0.3571 MMCSF/month fuel usages in March and February 2017 respectively.

40 CFR Part 60, Subpart GG: Unkown
The facility changed out the Solar Taurus 70 turbine with another Solar Taurus 70 turbine by 7/2018. This is part of the source's normal maintenance program, which specifies a rebuild/replacement of the turbine every ~20,000 hours of operation. This meets permit to install exemption R 336.1285(2)(vi) replacement of engines, compressors or turbines as part of a normal maintenance program. The source meets the SO2 emission limits by combusting only "pipeline quality" natural gas in the turbine. The source meets the NOx emission limits by operating the replacement unit at the same operating parameters that the previous unit used. The turbine is up for emission testing in 2021, but will likely test in 2019 or 2020 depending on scheduling.

Records were not received to determine compliance with this requirement. A request for additional information was sent to Chris Waltman via email on 10/2/18. A compliance evaluation report will follow receipt of those records.

FG-ENGINES: Compliant
This flexible group consists of reciprocating engines EU-UNIT1201 through EU-UNIT1205.

From the 2017 fuel usage record, reciprocating engines EU-UNIT1201 through 1205 used a yearly total of

107.43 MMCF natural gas fuel. The maximum monthly usage was 20.395 MMCF for EU-UNIT1203 in April 2017. The unit that used the most fuel was EU-UNIT1201, which used a yearly total of 64.4326 MMCF.

From the 2018 fuel usage record, reciprocating engines EU-UNIT1201 through 1205 used a yearly total of 154.6942 MMCF natural gas fuel. The maximum monthly usage was 22.5962 MMCF for EU-UNIT1205 in March 2018. The unit that used the most fuel was EU-UNIT1204, which used a yearly total of 91 MMCF.

40 CFR Part 63, Subpart ZZZZ: Compliant

The RICE MACT Emergency Engine Log 2017 contained the following information:

The unit had run 18 times from 1/24/17 to 12/15/17. The hour meter recorder indicated the unit ran for a total of 14.8 hours. 1.4 hours of this running time was for maintenance "monthly run tests in January and April". The unit ran for 14 emergency outages, for 2.1 to 0.6 hours at a time. The unit also performed a monthly test run for 1.1 hours on 1/24/17 and for 0.8 hours on 12/15/17.

The RICE MACT Emergency Engine Log 2018 contained the following information:

The unit had run 10 times from 1/18/18 to 8/10/18. The hour meter recorder indicated the unit ran for a total of 20.5 hours. 5.7 hours of this running time was for test runs. The unit ran for 4 emergency outages, from 6.7 to 0.6 hours at a time.

FG-BOILERMACT: Unknown
This flexible group consists of the natural gas boiler EU-BOILER1 through EU-BOILER3.

40 CFR Part 60, Subpart DDDDD:
Records were not received to determine compliance with this requirement. A request for additional information was sent to Chris Waltman via email on 10/2/18. A compliance evaluation report will follow receipt of those records.

Summary:
At the time of our 7/25/18 scheduled compliance inspection, the Great Lakes Gas Transmission, LP – Farwell Compressor Station No. 12 appeared to be in compliance with the requirements of ROP No. MI-ROP-N5581-2018.

NAME Matthew M. Laurel DATE 10-9-2018 SUPERVISOR C. Hare