

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

N376047575

FACILITY: GREAT LAKES GAS TRANSMISSION STATION #8		SRN / ID: N3760
LOCATION: 151 OSS RD, CRYSTAL FALLS		DISTRICT: Upper Peninsula
CITY: CRYSTAL FALLS		COUNTY: IRON
CONTACT: Bruce Bendes , Environmental Specialist		ACTIVITY DATE: 01/10/2019
STAFF: Michael Conklin	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted inspection for compliance with MI-ROP-N3760-2016		
RESOLVED COMPLAINTS:		

Facility: Great Lakes Gas Transmission Station #8 (SRN: N3760)

Location: 151 OSS Rd, Crystal Falls, MI

Contacts: Bruce Bendes, Environmental Specialist, 313-720-3665

Ted Marheine , Technician, 906-282-1076

Regulatory Authority

Under the Authority of Section 5526 of Part 55 of NREPA, The Department of Environmental Quality may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

Facility Description

Great Lakes Gas Transmission (GLGT), headquartered in Houston, Texas, is a natural gas pipeline company that transports natural gas from western Canada into Minnesota, Michigan, Wisconsin, and eastern Canada. The pipeline system is 2,115 miles long and has an average design capacity of approximately 2,400 million cubic feet per day. The company has been in business since 1967 and is currently owned by the TransCanada Corporation, a major North American energy company based out of Calgary, Alberta, Canada.

Compressor stations, or booster stations, are part of the natural gas utility process that transport natural gas from well sites, to processing facilities, to end users. They are strategically utilized to maintain pressure and flow throughout the pipeline network. GLGT operates fourteen compressor stations, with five in the Upper Peninsula of Michigan. The Crystal Falls Station #8 is one of five in the Upper Peninsula and is used to maintain pressure throughout GLGT's pipeline to end users. This facility is located in Iron County, Michigan, an area that is in attainment for criteria pollutants, and operates three natural-gas-fired turbines. These systems are composed of a simple cycle gas turbine connected to a compressor by a shaft. The turbine provides the mechanical power via rotation of the shaft to power the compressor. Natural gas is fed through the compressor and exits at a higher pressure.

The facility also contains a natural gas-fired emergency engine, a natural gas-fired boiler, 18 natural gas-fired space heaters, and four above-ground storage tanks. The table below summarizes the emission units at this source.

Emission Unit ID	Description
EU-UNIT801	1971 Rolls Royce Avon 101G natural gas fired-turbine with a peak load rating of 18,000 HP
EU-UNIT802	1994 General Electric LM1600 natural gas-fired turbine with a peak load rating of 23,000 HP
EU-UNIT803	1975 General Electric MS3000 natural gas-fired turbine with a peak load rating of 14,600 HP*
	*Note: The nameplate of this unit states 12,200 HP at 1,000 ft and 80 F.
EU-COLDCLEANER	Cold cleaner with aqueous solvent and an air/vapor interface of 10 ft ² or less. Emissions are released into the general in-plant environment.

EU-APU	1993 natural gas-fired emergency engine with a maximum engine power output of 962 HP
EU-BOILER	6.1 MMBtu/hr natural gas-fired boiler
EU-LUBETK1	3000 gal lube oil storage tank
EU-LUBETK2	1800 gal lube oil storage tank
EU-COOLANTTK	1000 gal Ambient propylene glycol-based coolant storage tank
EU-DIESELTK	300 gal fuel oil storage tank
FG-SPACEHEATERS	18 natural gas-fired space heaters

The table below shows the facility's Michigan Air Emissions Reporting System (MAERS) 2017 submittal.

Pollutant	Pounds per Year (PPY)	Tons per Year (TPY)
CO	293971.45	147
NOx	253718.88	127
PM10	5594.91	2.8
PM2.5	5594.91	2.8
SO2	498.64	<1
VOC	1781.56	<1

Compliance History

The facility has not received any violation notices in the past five years. The facility was last inspected in 2016 and was found to be in compliance with all applicable air quality rules and regulations at that time.

Inspection

On January 10, 2019, Joe Scanlan and I (Michael Conklin) of the Air Quality Division conducted a targeted, unannounced inspection at the GLGT Station #8 in Crystal Falls, MI. We arrived at the facility at 11:30 AM and met with the station technician, Tedd Marheine. I explained to Mr. Marheine that the purpose of the inspection was to ensure compliance with facility's ROP (MI-ROP-N3760-2016). We began by inspecting the permitted equipment held in the ROP and then reviewed equipment considered to be exempt from permitting. Mr. Marheine stated that there have been no changes to the facility since the last inspection. The emission unit, EU-UNIT802, was unable to be inspected since the unit was in operation and the company does not allow visitors to enter the building of the unit when it is in operating for safety reasons.

Regulatory Analysis

GLGT Station #8 is currently subject to the Title V program and holds MI-ROP-N3760-2016 because the potential to emit (PTE) for nitrogen oxides and carbon monoxide exceeds 100 tpy. The facility is considered an area source for hazardous air pollutants (HAP) because the potential to emit of any single HAP is less than 10 tpy and aggregate HAP emissions are less than 25 tpy. EU-UNIT802 is subject to 40 CFR Part 60 Subpart GG-NSPS for Stationary Gas Turbines because it was constructed after October 3, 1977 and has a heat input peak load rating of greater than 10 MMBtu/hr. EU-UNIT801 and EU-UNIT803 are not subject to NSPS Subpart GG because the turbines were constructed prior to October 3, 1977. EU-Unit801, EU-UUNIT802, and EU-UNIT803 are not subject to the NESHAP Subpart YYYYY for Stationary Combustion Turbines because the turbines are located at an area source for HAP emissions. EU-APU is subject to 40 CFR Part 63 Subpart ZZZZ-NESHAP for Stationary Reciprocating Internal Combustion Engines because the emission unit is a stationary RICE at an area source of HAP emissions. EU-APU is not subject to the NSPS Subpart JJJJ for Stationary Spark Ignition Internal Combustion Engines because the engine was constructed prior to June 12, 2006. This source is not subject to the Prevention of Significant Deterioration (PSD) regulations because the source "netted out" of the PSD regulations for nitrogen oxides and carbon monoxide during the process of issuing PTI No. 286-93. EU-COLDCLEANER is not subject to 40 CFR Part 63 Subpart T-NESHAP for Halogenated Solvent Cleaning because there are material conditions that limit the use of solvents that contain greater than 5% by weight of methylene chloride, perchloroethylene, 1,1,1-trichloroethane, trichloroethylene, chloroform, and carbon tetrachloride.

EU-UNIT801 and EU-UNIT803

These emission units are required to burn only pipeline quality natural gas. During the inspection of these units, it was observed that the only source of fuel was piped gas from the main pipeline. This

fulfills SC II.1 for both emission units. It should be noted that during the inspection on EU-Unit803 that the nameplate shows a power output of 12,200 HP not 14,600 HP as stated in the description of the emission unit in the ROP. This was clarified in a followed-up email with Chris Waltman, Environmental Specialist for TransCanada. The nameplate power output on the unit is for conditions at 60 degrees F and 1,000 ft of elevation, whereas the ISO rating is what the unit is capable of producing at sea level and 20 degrees F. Conditions in the Upper Peninsula of Michigan can be very low temperatures and high atmospheric pressure allowing the unit to exceed the nameplate power output rating of 12,200 hp. With having operation data that the unit is capable of producing more than 12,200 HP, GLGT is requesting to keep the ISO rating (14,600) for the unit in the ROP.

EU-UNIT802

This emission unit is required to burn only pipeline quality natural gas. The turbine was not able to be inspected since it was in operation. Emission limits for carbon monoxide, nitrogen oxides, and sulfur dioxide are enforced through emissions testing that occurs once during the 5-year term of the ROP. Testing has not occurred yet for this ROP, but the company has until 2021 to conduct emission testing for this unit.

EU-COLDCLEANER

This emission unit is a cold parts cleaner. GLGT is required to maintain a copy of the SDS for each solvent used in EU-COLDCLEANER. The solvent being used cannot be more than 5% by weight of the following chemicals or combination thereof: methylene chloride, perchloroethylene, 1,1,1-trichloroethane, trichloroethylene, chloroform, and carbon tetrachloride. The cold parts cleaner uses only AquaWorks MPC Concentrate, an aqueous, alkaline, concentrated cleaner. None of the chemicals listed above are in this solution. Also, GLGT is required to keep a list of operational procedures near the cold cleaner as stated in SC III.1 and SC VI.2. Two signs were observed directly above the cold cleaner. One was for keeping a cover over the cleaner at all times when parts are not being handled, and the other was for not moving the parts away from the cold cleaner until they are finish dripping. It was also observed that there were closed containers of waste solvent that are collected for off-site disposal. These observations fulfill SC III.1.

EU-APU

GLGT is required to keep records of operation of EU-APU per calendar year. EU-APU is allowed to operate up to 100 hours per calendar year for maintenance and readiness testing, and 50 of those hours can be used for non-emergency situations. Hours of operation are tracked through a non-resettable hour meter on the unit. This hour meter was observed on the unit and showed a total of 411 hours of operation. A maintenance log was shown that states which engine parameters were last checked and what they were reporting. For the calendar year 2018, the engine log stated a total of 5.9 hours of run time and reasons for operating, such as a monthly test run and RICE MACT maintenance. This fulfills SC III.1.

The following table lists equipment that is considered to be exempt at the source.

Emission Unit	Description	ROP Exemption	PTI Exemption
EU-BOILER	6.1 MMBtu/hr natural gas-fired boiler	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EU-LUBETK1	3000 gal lube oil storage tank	R 336.1212(4)(c)	R 336.1284(2)(c)
EU-LUBETK2	1800 gal lube oil storage tank	R 336.1212(4)(c)	R 336.1284(2)(c)
EU-COOLANTTK	1000 gal Ambitol propylene glycol-based coolant storage tank	R 336.1212(4)(c)	R 336.1284(2)(c)
EU-DIESELTK	300 gal fuel oil storage tank	R 336.1212(4)(c)	R 336.1284(2)(d)
FG-SPACEHEATERS	18 natural gas-fired space heaters	R 336.1212(4)(b)	R 336.1282(2)(b)(i)

GLGT has been prompt and complete in submitting semi-annual and annual report certifications.

Compliance

Based on this inspection, it appears that the Great Lakes Gas Transmission Station #8 is in compliance with MI-ROP-N3760-2016.

NAME Michael Lakin

DATE 1/14/2019

SUPERVISOR ELF