

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

N376031015

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: 08/20/2015
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced inspection of Title V source to determine compliance with MI-ROP-N3760-2011		
RESOLVED COMPLAINTS:		

**FACILITY:** Great Lakes Gas Transmission (GLGT) Crystal Falls Compressor Station #8, ROP# MI-ROP-N3760-2011

**INSPECTION DATE:** 8/20/2015

**MDEQ-AQD STAFF:**

- Joseph Scanlan, EQA

**FACILITY REPRESENTATIVE:**

- Brad Stermer, Environmental Specialist, TransCanada

**LOCATION:**

The GLGT Crystal Falls Compressor Station #8 is located in Iron County, seven miles west of the city of Crystal Falls and just north of US-2 on Oss Road. There is a 6' chain link security fence topped with barbed wire surrounding the property and a single gated entrance with an intercom system. The surrounding area is rural.

**SUMMARY OF OPERATIONS:**

Crystal Falls Compressor Station #8 is one of five stationary compressor stations in the Upper Peninsula used to maintain pressure in GLGT's mainline line to and from storage facilities located in the U.P. or to local distribution companies or other end users. These compressor stations ensure transportation and delivery of gas remains steady and uninterrupted. Compressor station #8 operates three natural gas-fired turbines to recompress gas during transmission. The gas turbine/compressor assembly system is comprised of three components: a gas generator, a power turbine, and a gas compressor. The units receive the gas from the pipeline transmission system, compresses the gas, and then discharges it to the pipeline transmission system at a higher pressure. The station does not operate a natural gas storage field or dehydration system. All stations may be operated via operators on site or remotely from the main control facility located in Texas.

The facility also has a natural gas-fired generator used to produce electrical power to the station in the event of a power outage and auxiliary equipment including a natural gas-fired boiler, seven (7) natural gas-fired space heaters and four (4) above-ground storage tanks.

**HISTORY:**

Crystal Falls Compressor Station #8 commenced operation in 1969 and consists of three natural gas-fired turbines:

- Compressor Building 801 houses EU-UNIT801 (Unit 801) which was installed in 1971. EU-UNIT801 is an 18,000 horsepower Rolls Royce Avon 101G natural gas-fired turbine/compressor.
- Compressor Building 802 houses EU-UNIT802 (Unit 802) which was installed in 1994 under PTI# 286-93. EU-UNIT802 is a 23,000 horsepower General Electric LM1600 natural gas-fired turbine/compressor.
- Compressor Building 803 houses EU-UNIT803 (Unit 803) which was installed in 1975. EU-UNIT803 is a 14,600 horsepower General Electric Model MS3000 natural gas-fired turbine/compressor.

The four-stroke rich burn emergency generator (EUAPU) is a 962 horsepower Caterpillar SP-4 and was installed in 1994 to provide power to the station in the event of a power outage. EUAPU operates exclusively on natural gas and is subject to the MACT standards in 40 CFR part 63 subpart ZZZZ for stationary RICE emergency generators.

CS#8 also operates a Safety-Kleen Cold Cleaner (EU-CLEANER) for miscellaneous maintenance and parts cleaning that was installed in 1969. The parts cleaner uses an aqueous-based cleaning solvent.

**REGULATORY APPLICABILITY:**

ROP# MI-ROP-N3760-2011

Crystal Falls Compressor Station #8 turbine compressors EUUNIT801, EUUNIT802and EUUNIT803 are subject to 40 CFR, Part 70 because of the potential emissions of NOx and CO exceeds 100 tons per year. This source is not considered a major source of HAP emissions—it is an area source—because the potential to emit of any single HAP regulated by the Clean Air Act, Section 112 is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

This source is not subject to Prevention of Significant Deterioration (PSD) regulations because the stationary source “netted out” of the PSD regulations for CO NOX during the process of issuing PTI# 286-93. Future modifications of the process equipment may be subject to PSD requirements.

EU-UNIT 802 is subject to NSPS 40 CFR 60 Subpart GG Standards of Performance for Stationary Gas Turbines because it was installed after October 3, 1977.

EUGENERATOR is subject to the stationary RICE emergency generator MACT standards, 40 CFR part 63 subpart ZZZZ.

**Exempt Sources:**

No.	Emission Unit	Description	Basis of Exemption	RO Permit Exemption	NSR Permit Exemption
1	EUBOILER	Natural gas-fired York Shipley SPWV-150-N096138 Boiler (5.02 MMBtu/hr)	< 50 MMBtu/hr	R 336.1212(4)(b)	R 336.1282(b)(i)
2	EUSPACEHEATER	Seven (7) Natural gas-fired Space Heaters			
3	LUBETK1	3000 gallon Lube Oil Storage Tank	< 40,000 gallons	R 336.1212(4)(c)	R 336.1284(e)
4	LUBETK2	1800 gallon Lube Oil Storage Tank			
5	AMBITROLTK	1000 gallon Ambitrol Storage Tank	< 40,000 gallons & vapor pressure of ≤ 1.5 psia	R 336.1212(4)(c)	R 336.1284(i)
6	DIESELTK	300 gallon Diesel Storage Tank			

**ARRIVAL:**

On 8/20/2015 I conducted an unscheduled visit of GLGT Crystal Falls Compressor Station #8. PPE worn during this inspection included steel-toed boots, safety vest, safety glasses and hardhat. Due to delays in reaching the site it was past normal office hours and there were no staff on site to escort me through the facility for an inspection. I communicated with TransCanada Environmental Specialist Mr. Brad Stermer, based out of Detroit, who provided me with detailed records of all emission units covered under MI-ROP-N3760-2011.

**EU DETAILS:**

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No.	Emission Unit	Description	ROP/PTI #	Status
1	EU-UNIT801	Rolls Royce Avon 101G 18,000 hp natural gas-fired turbine/compressor	ROP-N3760-2011	C
2	EU-UNIT802	General Electric LM1600 23,000 hp natural gas-fired turbine/compressor	ROP-N3760-2011 PTI# 286-93	C
3	EU-UNIT803	General Electric MS3000 14,600 hp natural gas-fired turbine/compressor	ROP-N3760-2011	C
4	EUAPU	Waukesha Model F1197G natural gas-fired 201 hp	ROP-N3760-2011	C
5	EU-CLEANER	Safety-Kleen Cold Cleaner w/aqueous solvent	ROP-N3760-2011	C

#### Materials Limit

The turbine compressors EU-UNIT801, EU-UNIT802, and EU-UNIT803 shall fire only natural gas to ensure compliance with the visible emission limitations of Rule 301.

- EU-UNIT801, EU-UNIT802, and EU-UNIT803 continue to operate exclusively on natural gas.

#### Monitoring/Recordkeeping

Records of all fuel types fired in EU-UNIT801, EU-UNIT802, and EU-UNIT803 shall be maintained on file for a period of five years. Mr. Stermer provided records when requested.

- EU-UNIT801 operated a total of 1582.09 hours during the last 12 months (July 2014 – July 2015) consuming a total of 227.311 MMSCF of natural gas and last operated July 2015 for 138.58 hours consuming 18.318 MMSCF of fuel; and
- EU-UNIT802 operated a total of 3568.75 hours during the last 12 months (July 2014 – July 2015) consuming a total of 275.4152MMSCF of natural gas and last operated July 2015 for 8.00 hours consuming 0.861 MMSCF of fuel.
- EU-UNIT803 operated a total of 1333.5 hours during the last 12 months (July 2014 – July 2015) consuming a total of 108.9808 MMSCF of natural gas and last operated July 2015 for 435.25 hours consuming 29.885 MMSCF of fuel.

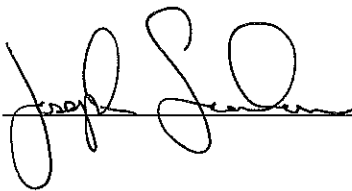
EUAPU records shall be maintained on file for a period of five years. Records include hours of operation in emergency and non-emergency modes and any maintenance performed on the stationary emergency generator.

- EUAPU operated a total of 2.7 hours in non-emergency mode and 1.7 hours in emergency mode over the last 7 months; and
- EUAPU had the following maintenance performed over the last 12 months

- o 1/23/2015 spark plug inspection--plugs were gapped and look good;
- o 1/23/2015 belts and hoses inspection--belts and hoses in good shape;
- o 1/23/2015 oil sample collected--OK

**SUMMARY:**

No violations of ROP #MI-ROP-N3760-2011 were observed at the time of this inspection and the facility appears to be in compliance with the ROP.

NAME 

DATE 10/6/15

SUPERVISOR \_\_\_\_\_