

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

N216841715

FACILITY: GREAT LAKES GAS TRANSMISSION STATION #7		SRN / ID: N2168
LOCATION: 400 GREAT LAKES RD, WAKEFIELD		DISTRICT: Upper Peninsula
CITY: WAKEFIELD		COUNTY: GOGEBIC
CONTACT: Bruce Bendes , Environmental Specialist		ACTIVITY DATE: 09/10/2017
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled compliance inspection		
RESOLVED COMPLAINTS:		

FACILITY: Great Lakes Gas Transmission (GLGT) Crystal Falls Compressor Station #7 MI-ROP-N2168-2011

INSPECTION DATE: 9/10/2017

MDEQ-AQD STAFF:

- Joseph Scanlan, EQA

FACILITY REPRESENTATIVE:

- Brad Stermer, Environmental Specialist, TransCanada
- Chris Waltman, Senior Environmental Specialist, TransCanada

LOCATION:

The GLGT Crystal Falls Compressor Station #7 is located in Gogebic County, approximately 3 miles southeast of the city of Wakefield. 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:

Wakefield Compressor Station #7 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 #7 operates two (2) 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, two (2) natural gas-fired space heaters, one (1) AST for sweet condensate, and one (1) AST for diesel fuel storage.

HISTORY:

Wakefield Compressor Station #7 commenced operation in 1970 and consists of two natural gas-fired turbines:

- Compressor Building 701 houses EU-UNIT701 (Unit 701) which was installed in 1971 and modified in 1990 under PTI# 329-89 (replaced a General Electric LM2500 GA installed in 1970). EU-UNIT701 is an 31,000 horsepower General Electric Model LM2500 natural gas-fired turbine/compressor.
- Compressor Building 702 houses EU-UNIT702 (Unit 702) which was installed in 1969. EU-UNIT702 is a 16,000 horsepower Rolls Royce Avon Model 76G natural gas-fired turbine/compressor.

The four-stroke rich burn emergency generator (EUAPU) is a 250 horsepower Waukesha F1197G and was installed in 1969 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.

REGULATORY APPLICABILITY:

ROP# MI-ROP-N2168-2011

Wakefield Compressor Station #7 turbine compressors EU-UNIT701 and EU-UNIT702 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# 329-89. Future modifications of the process equipment may be subject to PSD requirements.

EU-UNIT 701 is subject to NSPS 40 CFR 60 Subpart GG Standards of Performance for Stationary Gas Turbines because it was modified after October 3, 1977.

EUAPU 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 M303338M Boiler (3.35 MMBtu/hr)	< 50 MMBtu/hr	R 336.1212(4)(b)	R 336.1282(b)(i)
2	EUHEATERS	Two (2) 0.2 MMBTU/hr natural gas-fired heaters			
3	EUCONDTANK	1100 gallon Condensate Storage Tank	< 40,000 gallons	R 336.1212(4)(c)	R 336.1284(e)
5	EUDIESELTANK	500 gallon Diesel Storage Tank	< 40,000 gallons & vapor pressure of ≤ 1.5 psia	R 336.1212(4)(c)	R 336.1284(i)

ARRIVAL:

On 9/27/2017 I received an email response from Mr. Chris Waltman, Senior Environmental Specialist for TransCanada, regarding GLGT Wakefield Compressor Station #7. Mr. Waltman provided me with detailed records of all emission units covered under MI-ROP-N2168-2011.

EU DETAILS:

No.	Emission Unit	Description	ROP/PTI #	Comp. Status
1	EU-UNIT701	General Electric LM2500 GE 31,000 hp natural gas-fired turbine/compressor (replaced a General Electric LM2500 GA installed in 1971)	ROP-N2168-2011; PTI# 382-89	C

2	EU-UNIT702	Rolls Royce Avon Model 76G 16,000 hp natural gas-fired turbine/compressor	ROP-N2168-2011	C
4	EUAPU	Waukesha Model F1197G natural gas-fired 250 hp	ROP-N2168-2011	C

Materials Limit

The turbine compressors EU-UNIT701 and EU-UNIT702 shall fire only natural gas to ensure compliance with the visible emission limitations of Rule 301.

- EU-UNIT701 and EU-UNIT702 continue to operate exclusively on natural gas.

Monitoring/Recordkeeping

Records of all fuel types fired in EU-UNIT701 and EU-UNIT702 shall be maintained on file for a period of five years. Mr. Stermer provided records when requested.

- EU-UNIT701 operated a total of 0 hours during the last 21 months (Jan 2016 – Sept 2017) consuming a total of 0.000 MMSCF of natural gas and last operated April 2014 for 5.0 hours; and
- EU-UNIT702 operated a total of 578.25 hours during the last 21 months (Jan 2016 – Sept 2017) consuming a total of 69.04 MMSCF of natural gas and last operated mid-Sept 2017 for 99.75 hours consuming an estimated 12.181 MMSCF of fuel.

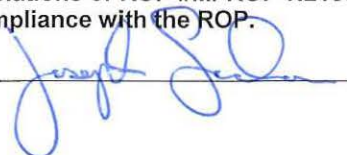
EUAPU records shall be maintained on file for a period of five years. Records include hours of operation in emergency and non-emergency modes and any maintenance performed on the stationary emergency generator.

- EUAPU operated a total of 6.4 hours in non-emergency mode and 0 hours in emergency mode over the last 13 months; and
- EUAPU had the following maintenance performed over the last 12 months
 - 1/19/2017 spark plug inspection--plugs were gapped and look good
 - 1/19/2017 air cleaner inspection;
 - 1/19/2017 belts and hoses inspection--belts and hoses in good shape;
 - 1/19/2017 oil sample collected—results from Fluid Life provided for last 6 samples (6/30/2014 thru 1/19/2017), all results were satisfactory
 - 1/19/2017 oil changed (SAE 30)

SUMMARY:

No violations of ROP #MI-ROP-N2168-2011 were observed at the time of this inspection and the facility appears to be in compliance with the ROP.

NAME



DATE

9/29/17

SUPERVISOR



