DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

ACTIVITY REPORT: Scheduled Inspection

B723455221

FACILITY: GREAT LAKES GAS TRAI	SRN / ID: B7234	
LOCATION: WORTH RD, MORAN TV	DISTRICT: Marquette	
CITY: MORAN TWP	COUNTY: MACKINAC	
CONTACT: Casey Shanley , Electrica	ACTIVITY DATE: 07/16/2020	
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Announced inspection of N	foran Station 10A to ensure compliance with P	TI# 214-80
RESOLVED COMPLAINTS:		

FACILITY: Great Lakes Gas Transmission—Brevort Compressor Station 10A

INSPECTION DATE: 7/16/2020

MDEQ-AQD STAFF: Joseph Scanlan, EQA

<u>FACILITY REPRESENTATIVES</u>: Casey Shanley, Electrical Instrument Controls Technician for Compressor Stations 10 and 10A; Ruth Jensen, Air Quality Specialist (TC Energy)

LOCATION:

Great Lakes Gas Transmission Brevort Compressor Station 10A is located on Worth Road in Moran Township, Mackinac County.

SOURCE DESCRIPTION

To ensure essential natural gas transmission throughout the Upper Midwest, Great Lakes Gas Transmission (GLGT), owned by TC Energy, operates compressor stations to maintain ideal operating pressure within the GLGT Pipeline System. The GLGT Pipeline originates in Emerson, Manitoba, and traverses Minnesota, Wisconsin, and Michigan, terminating at St. Clair, Michigan. The GLGT Pipeline consists of 2100 miles of two 36" diameter pipelines with a peak capacity of 2.3 Bcf/d.

The Brevort compressor station is the smallest of five compressor stations in the Upper Peninsula and is often unmanned and remotely operated, either from the Naubinway Compressor Station or from TC Energy's main operations facility in Houston, Texas. GLGT has regional offices in Duluth, Minnesota, and Troy, Michigan.

At the Brevort Station, pressure in the mainline is maintained via two Saturn model 1,100 horsepower turbine-powered compressors. The two turbines were manufactured by Solar Turbine International, a Caterpillar subsidiary. The facility also has a natural gas-fired emergency generator used to produce electrical power to the station in the event of a power outage.

REGULATORY APPLICABILITY:

The stationary source is located in Mackinac County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

Brevort Compressor Station operates two turbine compressors, UNIT 10A01 and UNIT 10A02, which do not have potential emissions of NOx and CO that exceed 100 tons per year and therefore the facility is not subject to 40 CFR, Part 70, and is a minor source.

CS-10A BREVORT Auxiliary Power Unit (APU) is subject to the stationary RICE emergency generator MACT standards, 40 CFR part 63 subpart ZZZZ.

INSPECTION

On 7/16/2020 I conducted a scheduled visit to the GLGT Brevort facility in central Mackinac County. PPE worn during this inspection included steel-toed boots, facemask, safety vest, safety glasses, hardhat, and hearing protection.

Occasionally this station is unmanned and gated; however due to Covid-19 issues I had contacted the company in advance to comply with their health policy and ensure someone was on site the day of my visit. I met with Electrical Instrument Controls Technician Mr. Casey Shanley upon entering the office and turbine control room. Mr. Shanley confirmed there had been no changes in operation and or equipment modified/added/deleted since the last inspection.

At the time of inspection Unit 10A-A-01 was operating; Unit 10A-A-02 was idle but had been operating as recently as 3:34 AM that morning. SC 9 of PTI #214-80 specifies opacity shall be less than or equal to 20%. I observed no opacity from the stack for Unit 10A-A-01. SC 10 has stack height and diameter restrictions, however the stacks have not been modified since their original installation.

We did not access the turbine house for safety reasons. It is against company policy to enter the turbine house while the turbine is operating due to the high RPMs of the units; if a mechanical failure occurred the result could be catastrophic. The Saturn turbine compressor units have had no major overhauls recently and have undergone only regular maintenance.

Mr. Shanley and I inspected the 125 horsepower Caterpillar natural gas-fired emergency generator and 85 KW alternator set (CS-10A BREVORT APU) and went over the maintenance records. The engine log showed the generator set is operated bi-weekly for less than 1 hour for RICE MACT requirements and to ensure reliability and was last run on 7/02/2020. The most recent mechanical inspection and oil change was 10/23/2019. The maintenance and records are consistent with the requirements of the RICE MACT and records are on file in the Brevort facility.

Mr. Shanley has access to pertinent records referenced in PTI 241-80 on file in the Brevort facility. However, I received the bulk of this information from Ms. Ruth Jensen who is based out of the TC Energy office in Omaha, Nebraska. Ms. Jensen provided me with the information within 24 hours of my email request. Ms. Jensen is currently handling all GLGT Michigan facilities for air permit compliance issues.

Records were requested for the last 12 months, from July 2019 through June 2020. Total operating hours for UNIT 10A-A-01 from July 2019 through June 2020 were 920.5. Total operating hours for UNIT 10A-A-02 were 3,318.4 hours. Total turbine compressor operating hours (both units) was 4,238.9 hours.

12-month total fuel usage for UNIT 10A-A-01 was 11,253 MCF; for UNIT 10A-A-02 48,741 MCF. Total 12-month natural gas fuel usage for both turbine compressor units was 59,994 MCF.

SC 11 has NOx limits of 5 lbs/hr or 22 tons per year. 12-month total NOx emissions for UNIT 10A-A-01 was 0.821 tons. 12-month total NOx emissions for UNIT 10A-A-02 was 2.759 tons. Total NOx emissions for the facility were 3.58 tons over a 12-month rolling time period from July 2019 through June 2020. These NOx emissions were calculated using test results from 9/12/1995 when both units were tested. The NOx emission totals for the facility are well below the emission limits set forth in the PTI.

SUMMARY

No violations or issues were observed during the compliance inspection and records review. The facility appears to be in compliance with PTI# 214-80.

Description of Emission Unit	PTI#/Reg	Installation/ Modification Date	Compliance Status		
Two (2) Solar Turbine International Saturn Model T- SA-2 Natural Gas-fired IC Turbine	241-80	January 1981	С		
125 HP Caterpillar Nat Gas-fired engine w/85 KW alternator Emergency Generator	RICE MACT	January 1981	С		

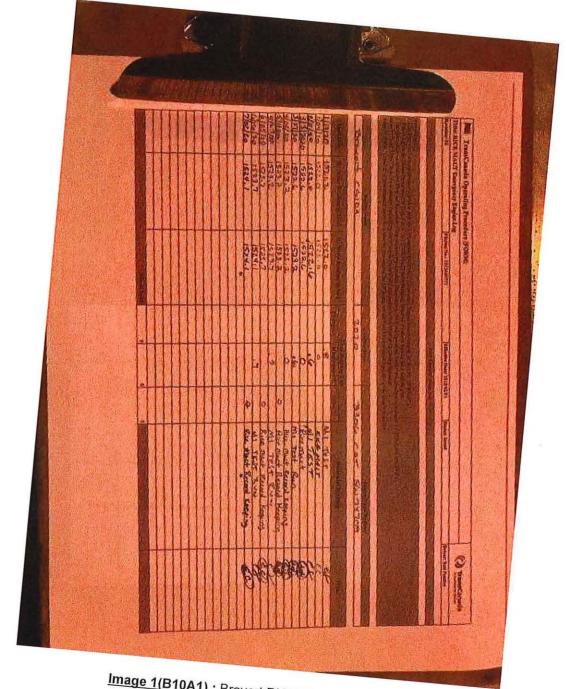


Image 1(B10A1): Brevort RICE MACT engine log

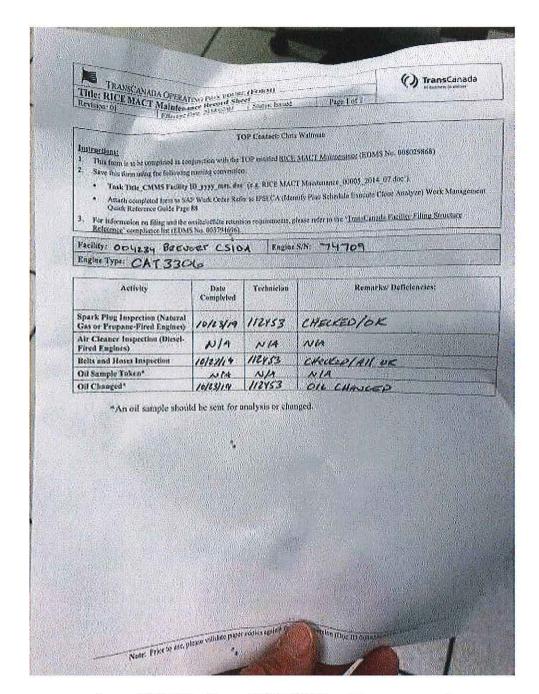


Image 2(B10A2): Brevort RICE MACT maintenance record

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Image 3(B10A3): Brevort turbine hours/fuel usage/NOx emissions

NAME Joe Scanlan ESS

DATE 10/1/20 SUPERVISOR ESS