DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B857370985

FACILITY: Great Lakes Gas Trans - Boyne Falls Comp Station		**SRN / ID:** B8573
LOCATION: 10339 GREAT LAKES RD, BOYNE FALLS		**DISTRICT:** Gaylord
CITY: BOYNE FALLS		**COUNTY:** CHARLEVOIX
CONTACT:		**ACTIVITY DATE:** 03/04/2024
STAFF: David Bowman	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FY24 scheduled inspection		
RESOLVED COMPLAINTS:		

On 4 March 2024 I, David Bowman MI EGLE AQD, conducted a site inspection of B8573 great Lakes Gas Transmission Company, LP Boyne Falls Compressor Station, operating under the conditions of MI-ROP-B8573-2019. They have their renewal ROP in process with the renewal application (202300141) determined to be administratively complete 10 Oct 2023.

The site is located at 10339 Great Lakes Road, Boyne Falls in Charlevoix County. It is very rural with no houses within one half mile of the facility. To get to the site travel North on Old US 27 from I-75 Exit 290. Turn North on Old US 27 and travel for 2.7 miles. Turn West onto Thumb Lake Rd traveling for 3.5 miles. Turn North onto Magee Rd for 5 miles. Turn West on Great Lakes Rd for 0.5 miles and arrive at the facility. It is on the North side of the Great Lakes Rd. The weather conditions at the time of the inspection were sunny, 62 ^{o}F; winds were 5-10 mph from the south. There was no VE or heat shimmer from any stack and no odors detected. I drove the roads that are in the general vicinity of the plant and there were no detectable odors in the areas around the site.

Upon arrival I met with Lisa Fishbeck, Mike Coy, and Brett (site manager). We completed the site -specific safety orientation and started the inspection. The site is very clean, there was no indication of spills or damage on the property. The site has a small footprint, approximately 170 yds by 170 yds at the fence line, although the company owns a larger area of land in total 23 acres surrounding the facility. At the time of inspection, the site was not operating. It is a booster station that only runs when conditions require additional pressure to move the natural gas in the pipeline. Records reviewed and discussion onsite indicate that the engines (FGAVONS) normally run an average of 2000 hours per year. Due to a mild winter the site has not run much this year. The records have been reviewed separately and the 2022 MAERS has been reviewed. Although MAERS has been replaced by MI Enviro Portal for FY 2023 reporting, the review for FY 2022 was conducted using the old system.

Emission Units (EU):

EU ID	Description	Install Date	FG ID
EUUNIT1101	Natural Gas Fired Rolls-Royce Avon 76G turbine unit, rated at 16,000 hp (158.8 MMBtu/hr) at ISO conditions.	06/01/1971	FGAVONS
EUUNIT1102		06/01/1971	FGAVONS

	Natural Gas Fired Rolls-Royce Avon 76G turbine unit, rated at 16,000 hp (158.8 MMBtu/hr) at ISO conditions.		
EUAPU	**Existing emergency use, 408 hp natural gas fired, spark ignition, rich burn reciprocating internal combustion engine with 3.26 MMBtu/hr heat input driving an electrical generator. This engine is subject to the requirements of 40 CFR Part 63 Subpart ZZZZ. An existing engine is defined as one for which construction or reconstruction was commenced before 12 June 2006.**	**06/01/1971**	**NA**

And Flexible Groups (FG)

FG ID	Description	Associated EU
FGAVONS	**Two Rolls-Royce Avon 76G natural gas fired stationary turbines rated at 16,000 hp (158.8 MMBtu/hr0 each**	**EUUNIT1101** **EUUNIT1102**

EUAPU

Is a Kohler GV12-525IPG Generator Engine, 408 hp, spark ignition, rich burn, with 3.26 MMBtu/hr heat input, driving an electrical generator. The data plate was hard to read but the serial number appeared to read 10218838. There are no emission limits and no stack requirements for EUAPU. The EU is located in the basement of the main building and appears to be maintained and is clean. The stack vents out through the roof of that building in what appears to be a 6-8" vent pipe that extends above the roof line. There were no apparent changes from the last inspection. The engine has a non-resettable hour meter (EUAPU SC IV.1.). Records for compliance with 40 CFR Part 63 Subpart ZZZZ were reviewed in the records review, but they are also stored at the doorway leading into the generator room in the basement. There are older dates handwritten on the EU for maintenance, but the site decided it was better to keep documentation and use an electronic maintenance system to track the requirements.

Earlier in the year the source reported an issue that led to an exempt release of natural gas due to a failure of EUAPU to meet the needs of the site after a power failure. The amount of the natural gas release was exempt under R285(2)(mm)(A) and (B). The site trouble shot the issue and resolved it. There is a small diaphragm that determines load based upon pressure. That diaphragm had a small tear in it and once replaced EUAPU was able to meet the load requirements for the site in the event of power failure. This is a rare part failure and would not

have been determined on a test run or during routine maintenance. Based upon the actions that were taken by the source I do not believe that any more action is required for this event.

FGAVONS

As stated earlier the engines were not operating at the time of the inspection. We began with EUUNIT1101 an then proceeded to EUUNIT1102. In the conversation with site staff, they told me that approximately every 4000 operating hours, or around 2 years' operating time, each turbine is sent back to Rolls-Royce for maintenance. The site personnel estimated that the average per year of usage was approximately 2000 hours on each engine. Each EU has sensors on them to ensure that the bearings are not starting to fail in between those service intervals. Bearing failure is the most common major failure that can occur to them. The data plates were present but hard to read, I was able to confirm that the model number for the turbines is 1533-76G for each.

FGAVONS V.1 and V.2 require stack testing for NOx and CO to be completed every five years. The last test date was 21 Oct 2021, and that data is used to verify the emissions from each EU. Records have been reviewed in a separate report for FGAVONS and no issues were found with emission limits.

FGAVONS VIII. Stack/vent restriction

Stack ID	Max Exhaust dimension	Est Exhaust dimension	Min. Height	Est. Height
SVUNIT1101	135.6"	No more than 135'	45'	46'
SVUNIT1102	135.6"	No more than 135'	45'	46'

Height estimates were determined using a Nikon Forestry Pro III handheld laser range finder. The stack is rectangular, and the estimate of dimension was done by estimating each side of the stack by eye.

NAME  DATE 5-9-24 SUPERVISOR