

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

N782670233

FACILITY: RIVERSIDE - WEBBER CREEK BOOSTER STATION		SRN / ID: N7826
LOCATION: SE NW SEC 10, RUST TWP		DISTRICT: Gaylord
CITY: RUST TWP		COUNTY: MONTMORENCY
CONTACT: Natalie Schrader , Compliance Coordinator		ACTIVITY DATE: 12/05/2023
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: On-site Inspection and Records Request		
RESOLVED COMPLAINTS:		

On Tuesday, December 5, 2023, Caryn Owens and Lindsey Wells of the Department of Environment, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted an on-site field inspection of Riverside Energy of Michigan, LLC – S. Rust B2-1 (Webber Creek) CPF (SRN: N7826) located in the southeast quarter of the northwest quarter of Section 10, Township 29 North, Range 4 East in Rust Township, Montmorency County, Michigan. More specifically, the entrance of the site is located on the north side of Webber Creek Road, approximately ½ mile west of the Webber Creek Road and Farrier Road intersection in Hillman, Michigan. The field inspection and records review were to determine compliance with permit to install (PTI) 15-21. This facility is currently considered an existing synthetic minor source and area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ – RICE MACT). The manufactured date for the engine is 11/3/2000, which is before the applicable manufacture date for the New Source Performance Standard (NSPS) in 40 CFR Part 60, Subpart JJJJ for Spark Ignition (SI) RICE.

Evaluation Summary

The activities covered during this field inspection and records review appear to be in compliance with PTI 15-21. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

Source Description:

AQD was unaccompanied during the field inspection. The weather conditions were mostly cloudy, with winds from the north-northwest at about 5-10 miles per hours, and 32 degrees Fahrenheit. Activities onsite are limited to compression of natural gas, which pushes it through the pipeline to a dehydrator which removes water from the natural gas stream. There were large holes in the ground filled with standing water on the southern portion of the site with a few soil piles next to the holes. Looking at aerial photographs, the area is a former tank battery. There were also monitoring wells observed around the former tank battery area. The aerial photograph also shows two buildings onsite, and during the inspection, only one building was on site. Historically the facility contained two engines, but in 2021 the facility was re-permitted with only one engine.

During the inspection, the compressor engine was a 405 horsepower (hp) Caterpillar 3408 TA natural gas engine, operating at 1,693 revolutions per minute, 189 degrees Fahrenheit, and 42 pounds per square inch (psi) of pressure. It should be noted, the daily work log at the facility, listed the engine as a Caterpillar 3304 NA engine, Unit #52 (former exempt engine at the site). Through discussions with Natalie Schrader of Riverside, the daily work logs are mis-labeled and will be updated for future use. The engine at the site contained a 3-way catalyst and the most recent reading on the updated spreadsheet indicated the inlet temperature was at 968 degrees Fahrenheit and the outlet temperature was at 958 degrees Fahrenheit. There was a readout for the catalyst, but I didn't want to press buttons on the monitor to read it. The engine stack was located on the western portion of the building and contained a muffler. The stack was approximately 30 feet above ground surface (ags), no visible emissions were observed from the compressor engine stack.

Records Reviewed

EUENGINE: A 405 hp CAT 3408 TA natural gas fired reciprocating engine, with a three-way catalytic converter used for control.

- **Emission Limits:** Emission limits were 5 tons of NOx per year based on a 12-month rolling time period. Based on the records reviewed from November 1, 2022 through October 31, 2023, the highest emissions reported were 2.94 tons of NOx per 12-month rolling time period, which were within the permitted emission limits. The NOx emissions had control taken into account for the reported emissions. The emissions were within the permitted limits for NOx.
- **Material Limits:** The facility processes natural gas from the Antrim formation. This field gas is not known to contain hydrogen sulfide (H2S) in the gas stream and is considered a sweet gas and therefore within the permitted limits.
- **Process/Operational Restrictions:** A Malfunction Abatement Plan (MAP) had been submitted for the engine, dated June 3, 2021, and was approved by District Staff on June 7, 2021. The facility submitted maintenance

records which indicated general maintenance such as: servicing for high discharge pressure, low engine oil levels, oxygen issues, and repairing oil leaks. Based on the records, the engine is generally serviced approximately one to three times per month. There was one month where the engine was serviced eight different days. The records did not show maintenance concerns with the engine.

Additionally, the facility shall not operate the engine equipped with a catalyst for more than 200 hours per year without that control device. The 200 hours shall include times after an engine change-out occurs and general maintenance performed as allowed by the malfunction abatement plan (MAP) and based on a 12-month rolling time period as determined at the end of each calendar month. Based on the records reviewed, the catalyst is inspected annual, and there are frequent emissions testing from the catalyst, but the engines has not operated without the catalyst operating.

- **Design/Equipment Parameters:** As previously stated the engine has not operated without an operating catalyst. Based on the records reviewed, it appears the catalyst is operating properly. It should be noted that there are many times the catalyst has a lower outlet temperature than the inlet temperature, but the facility has taken handheld emission readings which show the catalyst is still reducing the NOx emissions approximately 92 percent. It appears the differential pressure is positive and recorded as 2.6 and 3.2.
- **Testing/Sampling:** The facility uses engine specific emission factors to calculate the emissions for NOx emissions. Performance testing has not been completed at this facility.
- **Monitoring/Recordkeeping:** The facility monitors the natural gas usage for EUENGINE on a continuous basis and records the monthly fuel use for each engine at the facility. The facility calculates records monthly and 12-month rolling time-period records for NOx. The 12-month rolling time-period emissions are discussed above under emission limits.
- **Reporting:** The facility has not swapped out an engine at the facility since the previous inspection report.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stack of the engine appeared to be at least 30 feet ags and appeared to be 10-inches in diameter.
- **Other Requirements:** The facility is subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ). Compliance with the federal requirements in accordance with the facility were not reviewed by the AQD at this time.
Subpart OOOO would apply to onshore affected facilities that are constructed, modified or reconstructed after August 23, 2011. Based on available information it appears that the referenced subpart is not applicable at this time but that future changes may be subject to the referenced subpart.

NAME Camp OwensDATE 2-1-24SUPERVISOR Shane Nixon