

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

N615170223

FACILITY: RIVERSIDE - SAGE CREEK CPF		SRN / ID: N6151
LOCATION: SE4 NE4 NW4 T29N R2E SEC 13, ALBERT TWP		DISTRICT: Gaylord
CITY: ALBERT 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 & Records Review		
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 – Sage Creek CPF (SRN: N6151) located in the southeast quarter of the northeast quarter of the northwest quarter of Section 13, Township 29 North, Range 2 East. More specifically, the site is located approximately 1.4 miles west of County Road-487, off Harwood Road on the west side of Sage Creek Road and Harwood Road intersection.

The field inspection and records review were to determine compliance with the permit to install (PTI) 710-96. The facility is considered an opt-out source from major source applicability by limiting the operational and/or production limits potential to emit (PTE) to be below the major source thresholds.

The site is an area source for National Emission Standards for Hazardous Air Pollutants (NESHAP) from Oil and Natural Gas Production facilities (40 CFR, Part 63, Subpart HH), and NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ). Compliance with the federal requirements in accordance with the site was not reviewed by the AQD at the time of this report. It should be noted that the site is not subject to 40 CFR Part 60 Subpart KKK, the New Source Performance Standards (NSPS) for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for which construction, reconstruction, or modification, since the facility does not process or store petroleum liquids, nor store them onsite.

Summary:

The activities covered during this full compliance evaluation (FCE) appear to be in compliance with PTI 710-96. Review of the records for the facility indicates the facility was in compliance with emission limits in accordance with the PTI. No further actions are necessary at this time. Specific permit conditions that were reviewed are discussed below.

On-site Inspection:

During the field inspection it was mostly cloudy and winds approximately 5 to 10 miles per hour out of the north-northwest, and approximately 32 degrees Fahrenheit. The facility consisted of: one building that appeared to be two separate buildings at one time, but were connected in the middle to access both buildings at some time. The engine was in the southernmost portion of the building. The engine was operating at 63 psi, 1128 RPM, and a temperature of 184degrees Fahrenheit. The engine was model number 4030, and listed as a Caterpillar 3512 TALE 825 hp, the paperwork was all filled out and updated correctly and left by the engine. There were two stacks associated with the engine that were approximately 10 feet above ground surface above the doors on the southern portion of the southernmost building. There was a crank shaft venting on the southern portion of the engine, where visible emissions were observed, this was inside a dark building with poor lighting, so a Method 9 test observation was not performed at this time. The emissions from the crank shaft vent dissipated quickly. There was also a third stack that extruded out the northern portion of the southernmost building, that contained a muffler below ground surface and exhausted through a rectangle square vent approximately 5 feet above ground surface. There was a heat shimmer on this square stack.

A glycol dehydrator was in the northernmost building. There was a heat shimmer from the glycol dehydrator re-boiler, which was approximately 18 feet above ground surface the there was a steam plume and could smell orders from the glycol dehydrator. However, the odors did not travel offsite, the glycol dehydrators stack was approximately 13 feet above ground surface on the south side of the northernmost building.

There was a tank battery on the northeast side of the site that contained two above ground storage tanks, one approximately 300-barrel, and one approximate 400-barrel tank. There was an on-site well on the western portion of the property that reportedly is from the Antrim formation. The onsite activities consist of consist of separation of gas and brine from the incoming gas stream removing the water from the gas stream, and compressing the gas for further transmission in the pipeline. There was a small sales shed on the northernmost portion of the property.

PTI 710-96 Compliance Evaluation:

- **Emission Limits:**

The Emission Limits are 89 tons per year based on a 12-month rolling time-period for Nitrogen Oxides (NOx), Carbon Monoxide (CO), and Volatile Organic Compounds (VOCs). Based on records from October 1, 2022 through September 30, 2023, the highest emissions reported were 11.05 tons of NOx per 12-month rolling time period, 8.84 tons of CO per 12-month rolling time period, and 0.22 tons of VOCs per 12-month rolling time period. The emissions were reported within the permitted limits.

Additionally, the Emission Limits for hazardous air pollutants (HAPs) are less than 9 tons per year based on a 12-month rolling time period for an individual HAP, and less than 22.5 tons per year based on a 12-month rolling time period for aggregate HAPs. It is determined the highest HAP pollutant would be formaldehyde, which is also a VOC, and since the VOC concentrations are so low, the HAP emissions would be even lower. The HAP emissions were below the permitted limits.

- **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:**

The maintenance records indicate general maintenance such as: fixing valves, and servicing the engine when it was down. Based on the records, the engine is serviced approximately one to five times per month. The records did not show maintenance concerns with the engine.

- **Design/Equipment Parameters:**

There were no pollution control devices associated with the engine at the site.

- **Testing/Sampling:**

The facility uses engine specific emission factors to calculate the emissions for NOx, CO, VOC, and HAP emissions. Performance testing has not been completed at this facility.

- **Monitoring/Recordkeeping:**

The facility records monthly and 12-month rolling time period calculations for NOx, CO, VOCs and HAPs (when needed). The 12-month rolling time period emissions are discussed above, under Emission Limits. The facility also monitors and records the natural gas usage on a monthly and 12-month rolling time period basis. The facility maintains a log of all significant activities at the facility. Additionally, the facility maintains the amount of glycol circulated through the glycol reboiler. It should be noted, this facility does not produce crude oil or hydrocarbon liquids.

- **Reporting:**

The 2022 Emissions Inventory MAERS report was reviewed and was complete, it also indicated compliance with the emission limits.

- **Stack/Vent Restrictions:**

There are no stack/vent restrictions in the permit to install.

- **Other Requirements:**

Although the PTI does not address "Other Requirements" for the engine, the facility is subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ) and NESHAP from Oil and Natural Gas Production Facilities (40 CFR Part 63 Subpart HH). Compliance with the federal requirements in accordance with the facility were not reviewed by the AQD at this time.

In addition, the existing engine has manufactured date no later than 1995, which would make it not subject to NSPS Subparts JJJJ for Spark Ignition (SI) RICE.

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 Owens

DATE 2-1-24

SUPERVISOR Shane Nixon