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

P098560289

FACILITY: Riverside Energy Michigan, LLC		**SRN / ID:** P0985
LOCATION: Chester 12 Sklarczyk C4-13 T30N-R2W Sec 13 NE NE SE, CHESTER TWP		**DISTRICT:** Gaylord
CITY: CHESTER TWP		**COUNTY:** OTSEGO
CONTACT: Natalie Schrader , Compliance Coordinator		**ACTIVITY DATE:** 09/20/2021
STAFF: Caryn Owens	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: On-Site Inspection and Records Review		
RESOLVED COMPLAINTS:		

On Monday, September 20. 2021, Caryn Owens with the Department of Environment, Great Lakes, and Energy (EGLE) - Air Quality Division (AQD) conducted an on-site field inspection of the Riverside Energy Michigan, LLC – Chester 12 Sklarczyk C4-13 facility (SRN: P0985) located in the northeast quarter of the northeast quarter of the southeast quarter of Section 13, Township 30 North, Range 2 West in Chester Township, Otsego County, Michigan. More specifically, the site is located on the north side of the Sklarczyk Seed Farm Property. The Sklarczyk Seed Farm Property is located on M-32, approximately 11 miles east of Gaylord and 2 miles west of Johannesburg, Michigan. The field inspection and records review were to determine compliance with permit to install (PTI) 119-18. This facility is currently considered a minor source. However, due to the PTI Condition VII.1 under Reporting for EUENGINE1 with regard to changing out an engine at the facility, this source should be considered an Opt-Out Source.

The site is an 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 engine at the facility is not considered "new" for purposes of the New Source Performance Standards (NSPS) because it was manufactured in 1995. It is not considered "new" for purposes of the NESHAP because it was relocated in its entirety; therefore, it doesn't count as being constructed at the Chester 12 Sklarczyk C4-13 facility. The NSPS under 40 CFR Part 60, Subpart JJJJ is for Stationary Spark Ignition Internal Combustion Engines. This NSPS was promulgated in 2008. Engines are that constructed after June 12, 2006 are potentially subject to this subpart. The date that construction commences is the date the engine is ordered by the owner or operator. This engine was order after that date; however, it also must be manufactured on or after July 1, 2008 and this engine was manufactured in 1995. Therefore, this engine is not subject to NSPS 40 CFR Part 60, Subpart JJJJ.

Evaluation Summary

The activities covered during this field inspection and records review appear to be in compliance with PTI 119-18. 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 sunny, with winds from the south at about 10 miles per hours, and 81 degrees Fahrenheit. The site consisted of one building that housed the compressor engine. The compressor building contains one engine that was operating during the inspection, which is utilized to compress the natural gas for movement along a pipeline. There were no tanks, glycol dehydrators, heaters, or flares at the site.

The compressor engine was a 215 horsepower (hp) Caterpillar 3406 4-stroke natural gas-fired engine, identified at the site as Unit #201817. The engine tag located on the eastern portion of the engine had a serial number of 45D0123. The engine contained a catalyst, and was operating at 1018 revolutions per minute, 190 degrees Fahrenheit, and 63 pounds per square inch of pressure. The catalyst inlet temperature was reported on the clipboard at 897 degrees Fahrenheit, and outlet temperature was reported at 831 degrees Fahrenheit. I took the catalyst temperatures off the clipboard because the readouts were not displayed during the inspection. The clipboard records the engine operating parameters on a daily basis and were up to date. The catalyst was not used for controll in the reported emissions discussed futher below. The engine stack contained a muffler and was

approximately 24 feet above ground surface (ags), no visible emissions were observed from the compressor engine stack.

Records Reviewed

EUENGINE1: This emission unit is for a 4-stroke rich burn (4SRB), 215 HP natural gas-fired compressor engine.

- **Emission Limits:** Emission limits were 55.0 tons of NOX per year based on a 12-month rolling time period. Based on the records reviewed from September 1, 2020 through August 31, 2021, the highest emissions reported were 19.58 tons of NOx per 12-month rolling time period, which were within the permitted emission limits. The NOx emissions were reported uncontrolled even though a catalyst is installed on the engine.
- **Materials/Fuels:** According to Riverside Energy, the engine burns natural gas only.
- **Process/Operational Parameters:** A Malfunction Abatement Plan (MAP) was submitted to AQD July 11, 2019 to address the Caterpillar rich burn engine at the facility. Based on the maintenance records, the engine was generally inspected on a regular basis. The engine was shut down for general maintenance on the engine, such as: replacing filters, replace spark plugs, and/or repair leaks. The records did not show maintenance concerns with the engine.

  Although the PTI does not address the work practice standards to the RICE MACT under 40 CFR Part 63, Subpart ZZZZ, the work practice standards for non-emergency, non-black start 4SRB stationary engines that are less than or equal to 500 HP are the following:

  - Change oil and filter every 1,440 hours of operation or annually, whichever comes first.

  - Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary, and

  - Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

  Based on the maintenance records reviewed, the spark plugs, hoses, and belts are observed and maintained on a regular basis. Additionally, the most recent oil and filter change was August 5, 2021.

- **Design/Equipment Parameters:** The facility monitors the natural gas on EUENGINE1 on a continuous basis. I observed the nameplate on the east side of the engine, but the horsepower was not indicated on the nameplate.
- **Testing Sampling Equipment:** The facility uses engine specific emission factors to calculate the emissions for NOx. Performance testing has not been completed at this facility.
- **Monitoring/Recordkeeping:** The facility monitors the natural gas usage for EUENGINE1 on a continuous basis and records the monthly fuel use for each engine at the facility. The facility records monthly and 12-month rolling time period records for NOx. The 12-month rolling time period emissions are discussed above under emission limits. The facility maintains a log of maintenance activities on EUENGINE1, which is discussed in more detail under Process/Operational Parameters above. The calculations and records are completed in an acceptable manner.
- **Reporting:** The facility has not swapped out an engine at the facility since the previous inspection report and most updated MAP.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stack of the engine appeared to be at least 21 feet ags and appeared to be 4-inches in diameter.
- **Other Requirements:**
  Although it is not included in the PTI, EUENGINE1 appears to be operating in accordance to the RICE MACT under 40 CFR Part 63, Subpart ZZZZ.

NAME Cam Owens DATE _____ SUPERVISOR Shane Nixon 2021.12.15 15:20:23 -05'00'