

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

N709259511

FACILITY: RIVERSIDE - CLEARWATER 2 CPF		SRN / ID: N7092
LOCATION: CLEARWATER 2, RAPID CITY		DISTRICT: Cadillac
CITY: RAPID CITY		COUNTY: KALKASKA
CONTACT: Natalie Schrader , SR. Production assistant		ACTIVITY DATE: 02/02/2021
STAFF: Jodi Lindgren	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY21 Inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

On Tuesday, February 2 2021, Jodi Lindgren of the Department of Environmental, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted an unannounced field inspection of Riverside Energy Michigan, LLC (Riverside) – Clearwater 2 CPF (N7092) located at the end of an access road 0.25 miles west of Ruttan Road. The access road is approximately 0.5 miles north of the intersection of Plum Valley Road and Ruttan Road in section 2, T28N-R8W, Clearwater Township, Kalkaska County, Michigan, 49612. The facility was unmanned at the time of inspection.

The Clearwater 2 CPF is an opt-out facility with PTI 14-10 issued on February 18, 2010. The facility is subject to 40 CFR Part 63 Subpart ZZZZ and 40 CFR Part 63 Subpart HH which EGLE-AQD is not delegated to enforce. The facility consists of a fixed roof 400-barrel storage tank and one compressor building that houses a compressor, compressor engine, glycol dehydrator (dehy), dehy flash tank, and process equipment. The glycol dehydrator, process heater, and fixed roof tank are reported as exempt from Rule 201, the requirement to obtain a permit to install.

SCHEDULED INSPECTION

A. EUDEHY – Glycol dehydration system processing natural gas from the Antrim zone. The dehy is exempt from R 336.1201(1) as it meets the requirements of exemption R 336.1288(2)(b)(ii) because it processes only Antrim natural gas. The Dehy is subject to 40 CFR Part 63, Subpart HH (NESHAP HH), which the State of Michigan is not delegated to enforce.

1. Emission Limits – There are no emission limits established in PTI 14-10 associated with this emission unit; therefore, this section is not applicable.
2. Material Limits – There are no material limits established in PTI 14-10 with this emission unit; therefore, this section is not applicable.
3. Process/Operational Restrictions – There are no process or operational restrictions associated with this emission unit beyond compliance with NESHAP HH regulations. However, the dehy is exempt from NESHAP HH with documentation of an actual annual average flow rate of natural gas less than 85,000 cubic meters per day or 3 MMCF/day. Records provided by Riverside indicate the greatest total monthly throughput was 0.713 MMCF during the inspection time period.
4. Design/Equipment Parameters – There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. **Testing/Sampling** – There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** – monitoring and recordkeeping to document actual annual average flow rate of natural gas to satisfy the NESHAP HH exemption criteria in 40 CFR 63.764(e) (1)(i). Riverside provided documentation to satisfy this exemption.

7. **Reporting** – Reporting requirements pursuant PTI 14-10 were provided to AQD staff upon request.

8. **Stack/Vent Restrictions** – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

9. **Other Requirements** – There are no other requirements associated with this emission unit; therefore, this section is not applicable.

B. EUENGINE1 – One natural gas fired reciprocating engine that is a 1265 hp CAT 3516 lean burn engine with no emission control equipment. The engine serial number is 4EK00301 with a rebuild date of August 30, 2016 and unit number 997. At the time of the inspection, the engine was running with an RPM of 1163, engine oil temperature of 203°F, engine oil pressure of 52 psi, coolant system temperature of 201°F, a compressor oil temperature of 189°F, a compressor oil pressure of 61 psi, and 32,000.1 hours of operation. This was consistent with the records kept on site which indicated that on February 2, 2021, the engine was running with an RPM of 1166, engine oil pressure 51 psi, coolant system temperature of 201°F, a compressor oil temperature of 191°F, and a compressor oil pressure of 61 psi.

1. **Emission Limits** – For EUENGINE1, PTI 14-10 established a NOx limit of 60 tons per year (tpy) and a CO limit of 30 tpy calculated at the end of each month using a 12-month rolling time period. Records provided by Riverside indicate 16.96 tpy of NOx emissions and 16.11 tpy CO emissions calculated for a 12-month rolling time period of March 2020 to February 2021. These records indicate compliance with the emission limits established in PTI 14-10.

2. **Material Limits** – PTI 14-10 prohibits the burning of sour natural gas, which is defined as more than one grain of hydrogen sulfide or more than ten grains of total sulfur per 100 standard cubic feet. An iron sponge system is utilized at the facility to reduce hydrogen sulfide. Riverside provided AQD staff with hydrogen sulfide monitoring data post iron sponge. The data indicated compliance with the sour gas restrictions defined in PTI 14-10.

3. **Process/Operational Restrictions** – PTI 14-10 requires an AQD approve preventative maintenance/malfunction abatement plan (PM/MAP). A PM/MAP was submitted on July 8, 2010 and approved by AQD. The PM/MAP dictates the engine shall receive routine monitoring and maintenance including, daily performance monitoring, basic service checks every 60 to 90 days, motor oil and filter changes every 3,000 operation hours, and an engine rebuild or replacement every 85,000 operation hours. Monitoring records provided by Riverside demonstrate daily monitoring of the various system parameters necessary to ensure the engine is functioning within safe operational constraints. A provided maintenance log for EUENGINE1 indicates the performance of routine maintenance including six basic service checks and three engine oil and filter changes in the time period of March 2020 to February 2021. At the time of the inspection, the engine did not require a rebuild or replacement having 32,000.1 operation hours. These

records indicate compliance with the AQD approved PM/MAP. PTI 312-08A states any engine equipped with an add-on control device shall not operate for more than 200 hours per engine per year without that control device consistent with the PM/MAP. EUENGINE1 is not equipped with an add-on control device thus compliant with PTI 312-08A.

4. Design/Equipment Parameters – PTI 14-10 dictates the proper installation, maintenance, and operation of any add-on engine control device. EUENGINE1 is not equipped with an add-on control device thus compliant with PTI 14-10. In addition, PTI 14-10 requires the installation, calibration, maintenance, and operation of a monitoring devices to measure natural gas usage of EUENGINE1 on a continuous basis. Riverside demonstrated compliance by provided AQD staff with a calibration and maintenance record as well as a natural gas usage report for the time period March 2020 to February 2021.

5. Testing/Sampling – PTI 14-10 dictates that the AQD District Supervisor may request testing for NOx and CO emission verification and hydrogen sulfide and/or sulfur content of the natural gas burned. No testing has been requested by the AQD District Supervisor during the time constraints of this compliance evaluation.

6. Monitoring/Recordkeeping – Riverside demonstrated compliance with monitoring and recordkeeping requirements of PTI 14-10 to document natural gas usage and calculate NOx and CO emission for FGENGINES. A maintenance log conducted according to the approved PM/MAP is mandated in the PTI 14-10 as well. Riverside provided AQD staff the required documentation upon request.

7. Reporting – Reporting requirements pursuant PTI 14-10 were provided to AQD staff upon request.

8. Stack/Vent Restrictions – PTI 14-10 requires EUENGINE1 to have a stack with a maximum diameter of twelve inches and a minimum height above ground level of 48 feet. The engine exhaust stack appeared to meet these requirements during the inspection.

9. Other Requirements – There are no other requirements associated with this emission unit; therefore, this section is not applicable.

EVALUATION SUMMARY

Conclusion – Based upon the Full Compliance Evaluation, it appears the source was in compliance with PTI 14-10 at the time of the evaluation.

NAME _____

DATE _____

SUPERVISOR _____