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

N709358280

FACILITY: RIVERSIDE - KEARNEY 9 CPF		**SRN / ID:** N7093
LOCATION: SW NW SEC 10 T30N R7W, BELLAIRE		**DISTRICT:** Cadillac
CITY: BELLAIRE		**COUNTY:** ANTRIM
CONTACT: Natalie Schrader , Environmental Technician		**ACTIVITY DATE:** 12/01/2020
STAFF: Jodi Lindgren	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

On Tuesday, December 1 2020, 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) – Kearney 9 CPF (N7093) located on the east side of Montgomery Road approximately 0.23 miles north of the intersection of Kladder Road and Montgomery Road in section 10, T30N-R7W, Kearney Township, Antrim County, Michigan, 49622. The facility was unmanned at the time of inspection.

The Kearney 9 CPF is an opt-out facility with PTI 327-06 issued on December 13, 2006. The facility has two compressor buildings each housing a compressor and compressor engine. The eastern building houses EUENGINE1 as well as a glycol dehydrator (dehy) and dehy flash tank. The western building houses EUENGINE2

SCHEDULED INSPECTION

A. FGENGINES – Two natural gas fired reciprocating engines, EUENGINE1 and EUENGINE2. EUENGINE1 is a 1265 hp CAT G3516 lean burn engine. The engine serial number is 4EK03785 with a rebuild date of November 17, 2015 and unit number 1244. At the time of the inspection, the engine was running with a RPM of 1395, oil temperature of 189°F, oil pressure of 61 psi, coolant system temperature of 200°F, a compressor oil temperature of 193°F, a compressor oil pressure of 59 psi, and 80,044 hours of operation. This was consistent with the records kept on site which indicated that on November 31, 2020, the engine was running with an RPM of 1400, engine oil pressure 60 psi, coolant system temperature of 187°F, a compressor oil temperature of 191°F, and a compressor oil pressure of 59 psi. EUENGINE2 is a 830 hp CAT G399 turbo aspirated rich burn engine with a three-way catalytic converter. The engine name plate could not be located, but records identify the engine serial number as 49C1121. The unit number was verified to be 381. At the time of the inspection, the engine was running with a RPM of 1152, oil temperature of 203°F, oil pressure of 48 psi, coolant system temperature of 198°F, a compressor oil temperature of 120°F, and a compressor oil pressure of 62 psi. This was consistent with the records kept on site which indicated that on November 31, 2020, the engine was running with an RPM of 1150, engine oil temperature of 200°F, engine oil pressure 50 psi, coolant system temperature of 198°F, a compressor oil temperature of 120°F, and a compressor oil pressure of 61 psi.

1. Emission Limits – For EUENGINE1, PTI 327-06 established a NOx limit of 49.4 tons per year (tpy) and a CO limit of 23.2 tpy calculated at the end of each month using a 12-month rolling time period. Records provided by Riverside indicate 16.44 tpy of NOx emissions and 15.62 tpy CO

emissions calculated without control for a 12-month rolling time period of November 2019 to October 2020. For EUENGINE2, PTI 327-06 established a NOx limit of 16.5 tons per year (tpy) and a CO limit of 13.0 tpy calculated at the end of each month using a 12-month rolling time period. Records provided by Riverside indicate 2.78 tpy of NOx emissions and 7.04 tpy CO emissions calculated with catalytic control for a 12-month rolling time period of November 2019 to October 2020. These records indicate compliance with the emission limits established in PTI 327-06.

2. Process/Operational Restrictions – PTI 327-06 requires an AQD approve preventative maintenance/malfunction abatement plan (PM/MAP). A PM/MAP was submitted, and the maintenance records demonstrate compliance with the plan. Riverside provided AQD with records demonstrating appropriate recordkeeping of engine and/or control device malfunction and downtime. The engine was not operated without a properly operating control device during the inspection period.

3. Equipment – PTI 327-06 requires proper operation and maintenance of control devices. Riverside provided records demonstrating proper maintenance and monitoring of operational parameters for the EUENGINE2 control device.

4. Testing – PTI 327-06 dictates that the AQD District Supervisor may request testing NOx and CO emission verification. No testing has been requested by the AQD Supervisor during the time constraints of this compliance evaluation.

5. Monitoring – PTI 327-06 dictates the installation, calibration, maintenance, and operation of a monitoring device to measure natural gas usage of EUENGINE1 and EUENGINE2 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 November 2019 to October 2020.

6. Recordkeeping/Reporting/Notification – Riverside demonstrated compliance with recordkeeping and reporting requirements of PTI 327-06 to document natural gas usage and calculate NOx and CO emission for EUENGINE1 and EUENGINE2. A maintenance log conducted according to the approved PM/MAP is mandated in the PTI 327-06 as well. Riverside provided AQD staff the required documentation upon request.

7. Stack/Vent Restrictions – PTI 327-06 requires both EUENGINE1 and EUENGINE2 to have a stack with a maximum diameter of eight inches and a minimum height above ground level of 36 feet. The engine exhaust stacks appeared to meet these requirements during the inspection.

B. FGFACILITY – All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

1. Material Limits – PTI 327-06 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. Riverside does not burn sour gas.

2. Testing – PTI 327-06 dictates that the AQD District Supervisor may request verification of 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.

EVALUATION SUMMARY

Conclusion – Based upon the Full Compliance Evaluation, it appears the source was in compliance with PTI 327-06 at the time of the evaluation.

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