

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

N605067776

FACILITY: RIVERSIDE - HAWK LAKE CPF		SRN / ID: N6050
LOCATION: NE NE T29N R5W SEC 21, MANCELONA		DISTRICT: Cadillac
CITY: MANCELONA		COUNTY: ANTRIM
CONTACT: Natalie Schrader , SR. Production assistant		ACTIVITY DATE: 11/22/2022
STAFF: Jodi Lindgren	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY23 on-site inspection and review of records		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

On November 22, 2022, Jodi Lindgren of the Department of Environmental, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted an unannounced field inspection and a review of records for Riverside Energy Michigan, LLC (Riverside) – Hawk Lake CPF located south off Mancelona Road in Section 21, T29N-R5W of Mancelona Township, Antrim County, Michigan, 49659. The access road is approximately one mile west of the intersection of N Crooked Lake Road and Mancelona Road and approximately 7.5 miles east of Mancelona, MI.

The Hawk Lake CPF is an opt-out facility with PTI 601-96 issued on November 21, 1996. The facility's equipment permitted under Rule 201 includes a compressor engine and glycol dehydrator with associated process heaters. The facility is reported to be producing natural gas from the Antrim Formation. All the records from November 1, 2021, through October 31, 2022, were reviewed.

SCHEDULED INSPECTION

A. COMPRESSOR ENGINE – One 500 hp CAT 398 TA lean burn natural gas fired reciprocating engine with no emission control. The engine serial number is 73B0817 with a rebuild date of May 6, 2009, and skid unit number 936. The day of the inspection, the engine was running with an RPM of 1163, engine oil pressure of 30 psi, coolant system temperature of 215°F, a compressor oil pressure of 60 psi, and 51,868 hours of operation.

1. Emission Limits – PTI 601-96 established facility wide emission limits of 89 tpy NO_x, 89 tpy CO, and 89 tpy VOC. Emission limits for Individual emission units were not established. However, the records supplied by Riverside provide individual emission calculations for the engine and glycol dehydration unit (dehy). The records indicate emissions for the engine total 25.77 tpy of NO_x, 43.38 tpy of CO, and 0.03 tpy of VOC calculated for a 12-month rolling time period of November 1, 2021, through October 31, 2022. PTI 601-96 also established an individual HAP limit of 9 tpy and aggregate HAP limit as 22.5 tpy. Riverside reported that all HAP emissions would be included in the VOC emission totals. Therefore, the total HAP emissions are well below the permitted limits.

2. Material Limits – There are no material limits associated with this emission unit; therefore, this section is not applicable.

3. Process/Operational Restrictions – PTI 601-96 dictates proper installation, maintenance, and operation of all the components of the process equipment. Thorough operation monitoring and maintenance records provided by Riverside demonstrate daily monitoring of the various system

parameters and regular preventative maintenance necessary to ensure the engine is functioning within safe operational constraints. A provided maintenance log indicates the performance of routine maintenance including engine oil and filter changes, spark plug replacement, sensor cleaning and calibration, valve replacement, and electrical system testing.

4. Equipment Parameters – There are no equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing – No testing was conducted during the time constraints of this compliance evaluation.

6. Monitoring – PTI 601-96 mandates natural gas usage for all on-site equipment be monitored on a continuous basis. Riverside provided AQD staff with an engine fuel usage log for the time period of November 1, 2021, through October 31, 2022. The provided documentation reports monthly fuel usage, which was 2.091 MMCF in October 2022, and a total usage of 22.868 MMCF for a 12-month rolling time period of November 2021 to October 2022 indicating compliance with PTI 601-96.

7. Recordkeeping/Reporting/notification – The recordkeeping and reporting requirements for all emission calculations, natural gas usage, and monitoring and maintenance activities logs was completed in a timely fashion.

8. Stack/Vent Restrictions – There are no stack nor vent restrictions associated with the engine; therefore, this section is not applicable.

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

B. GLYCOL DEHYDRATOR – Glycol dehydration system (dehy) equipped with process heaters and pump processing natural gas from the Antrim Formation. The dehy is identified as exempt from R 336.1201(1) by meeting the requirements of exemption R 336.1288(2)(b)(ii), which limits processing to only Antrim natural gas. Records for emissions and fuel usage of the dehy were available to comply with facility wide requirements.

1. Emission Limits – PTI 601-96 established facility wide emission limits of 89 tpy NO_x, 89 tpy CO, and 89 tpy VOC. Emission limits for Individual emission units were not established. However, the records supplied by Riverside provide individual emission calculations for the engine and glycol dehydration unit (dehy). The records indicate emissions for the engine total 0.54 tpy of NO_x, 0.14 tpy of CO, and 0.01 tpy of VOC calculated for a 12-month rolling time period of November 1, 2021, through October 31, 2022. PTI 601-96 also established an individual HAP limit of 9 tpy and aggregate HAP limit as 22.5 tpy. Riverside reported that all HAP emissions would be included in the VOC emission totals. Therefore, the total HAP emissions are well below the permitted limits.

2. Material Limits – There are no material limits associated 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; therefore, this section is not applicable.

4. Equipment Parameters – There are no equipment parameters associated with this emission unit; therefore, this section is not applicable.

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

6. Monitoring – PTI 601-96 mandates natural gas usage for all on-site equipment be monitored on a continuous basis. Riverside provided AQD staff with a dehy fuel usage log for the time period of November 2021 to October 2022. The provided documentation reports monthly fuel usage, which was 0.66 MMCF in October 2022, and a total usage of 7.775 MMCF for a 12-month rolling time period of November 2021 to October 2022 indicating compliance with PTI 601-96.

7. Recordkeeping/Reporting/notification – There are no recordkeeping, reporting, nor notification requirements associated with this emission unit; therefore, this section is not applicable.

8. Stack/Vent Restrictions – There are no stack nor vent restrictions associated with the dehy; therefore, this section is not applicable.

9. Other Requirements – The dehy has been reported to meet an exemption (40 CFR 63.764(e)(1)(i)) from MACT 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 an actual annual average flow rate of 646 cubic meters per day.

C. FACILITY – One 500 hp CAT 398 TA lean burn natural gas fired reciprocating engine with no emission control and a Glycol dehydration system (dehy) processing natural gas from the Antrim Formation.

1. Emission Limits – PTI 601-96 established a NO_x emission limit of 89.9 tons per year (tpy), a CO emission limit of 89.9 tpy, VOC emission limit of 89.9 tpy, and HAP emission limit of 9 tpy calculated at the end of each month using a 12-month rolling time period. Records provided by Riverside indicate emissions for the facility total 26.32 tpy of NO_x, 43.52 tpy of CO, 0.04 tpy of VOC, and less than 0.04 tpy of HAPs calculated for a 12-month rolling time period of November 2021 to October 2022. These records indicate compliance with the emission limits established in PTI 601-96.

2. Material Limits – PTI 601-96 dictates only sweet natural gas may be processed at the facility. Riverside stated that only sweet natural gas is processed at the facility.

3. Process/Operational Restrictions – PTI 601-96 mandates a log of all significant maintenance activities and repairs at the facility be kept on file. Riverside provided records indicate compliance with the maintenance and repair requirements of PTI 601-96.

4. Equipment Parameters – There are no equipment parameters associated with the facility; therefore, this section is not applicable.

5. Testing – No testing was conducted during the time constraints of this compliance evaluation

6. Monitoring – PTI 601-96 mandates that natural gas usage and natural gas production for at the facility be monitored, recorded, and maintained on a continuous basis. Riverside provided AQD staff with a fuel usage log and facility production data for the time period of November 2021 to October 2022. The provided documentation reports a monthly facility fuel usage, which was

2.751 MMCF in October 2022, and a total facility fuel usage of 30.643 MMCF for a 12-month rolling time period of November 2021 to October 2022 indicating compliance with PTI 601-96.

7. Recordkeeping/Reporting/notification – PTI 601-96 establishes recordkeeping for all emissions calculations, facility natural gas usage, and monitoring and maintenance activities logs. Riverside provided documentation for the required calculations denoting compliance with PTI 601-96.

8. Stack/Vent Restrictions – There are no stack nor vent restrictions associated with the facility; therefore, this section is not applicable.

9. Other Requirements – PTI 601-96 required an applicability determination of 40 CFR Part 60 Subpart KKK (NSPS KKK) be completed and compliance with the regulation if applicable. It was determined that the facility did not meet the definition of a natural gas processing plant and therefore not subject to NSPS KKK.

NAME 

DATE 11-14-23

SUPERVISOR 