

**Michigan Department of Environment, Great Lakes and Energy Air
Quality Division**

INSPECTION REPORT

P038753242

Facility Name: RIVERSIDE ENERGY MICHIGAN, LLC -	SRN/ID: P0387
Address: T31N-R3E, SEC 21, SW SW NE	Source Class: MINOR
City: HILLMAN	
County: MONTMORENCY	Staff: LEBLANCS
District: Gaylord	

Inspection Date: 3/16/2020 **Inspection Type:** SELF INSP **Compliance Status:** COMP

Inspection Comment: self initiated site inspection during 2019 calendar year. sgl

Inspection Remarks

INTRODUCTION

On March 16, 2020, Gaylord District Staff conducted a self-initiated site inspection of the Riverside Energy Michigan, LLC (Riverside) Hillbilly Central Processing Facility (CPF) (P0387). The referenced Facility is located in T31N-R3E, Section 21, SW SW NE, Hillman Township, Montmorency County, Michigan. The referenced facility operates Permit to Install (PTI) 160-12. The most recent site inspection was conducted on August 28, 2015, no compliance issues were reported as a result of the referenced inspection.

FACILITY

The Hillbilly CPF is an unmanned Facility located amongst large, undeveloped, wooded properties owned by the State of Michigan and to a lesser extent large privately owned acreages. Natural Gas (NG) collected from NG wells in the area is dehydrated and compressed at the Facility prior to flowing to sales points.

Readily available aerials indicate that the Facility was constructed between May of 1992 and April of 1998. The only notable changes in the aerials appears to be the number of above ground brine tanks, which numbered three in 1998, two in 2005 and one in 2013.

The Facility is located NE of Atlanta, Michigan and W-NW of Hillman, Michigan. To get to the Facility, District Staff traveled County Road 624 west from Hillman, Michigan, then travelled approximately 3-miles south of County Road 624, on Voyer Lake Road (AKA Scenic Route #1). The gated Facility was located on the east side of the road, in clear view of the road. It should be noted that Voyer Lake Road is very narrow, unpaved and in some locations the equivalent of a well-used 2-track. Travelers on Voyer Lake Road should use caution when coming up to hills, as oncoming traffic is not visible.

District Files contain notification dated May 10, 2016, notifying the Air Quality Division (AQD) of Chevron Michigan, LLC's name change to Riverside Energy Michigan, LLC.

PERMITTING

District files contain a copy of a February 27, 2009, Permit Applicability Determination, submitted by Atlas Gas & Oil Company. The document identified the following exemptions to permitting for equipment onsite:

**EU
Exemption**

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Critical Factor

Compressor Engine
Rule 285 (g)
< 10 Million BTU/Hr Max Heat Input Rate
Glycol Dehydrator
Rule 290 (a)
<1000 lbs VOC per month>
Glycol Reboiler Burner
Rule 282 (b)(i)
<125K Heat Input Capacity>

One permit (160-12) is of record for the referenced Facility and was issued on November 1, 2012, to Chevron Michigan, LLC. AQD District staff were notified of the installation of the permitted compressor in electronic correspondence dated August 28, 2013. The PTI was issued as an opt-out permit and allows for replacement of the permitted engine with an equivalent or lower emitting engine with notification to the District Supervisor, and submittal of appropriate documentation of emissions (Special Condition (SC) VII.1).

Though not identified in the permit, the facility may be subject to Federal Regulation. Subparts frequently associated with oil and gas facilities are identified below. Note however, that compliance with these subparts has not been determined as part of this inspection.

REGULATORY

· classifications based on Potential to Emit (PTE) and other significant comments:

**PARAMETER
CLASSIFICATION
COMMENT**

NOx
Minor
10 TPY limit
SO2
Minor

CO
Minor
20 TPY limit
Pb
Minor

PM
Minor

VOC
Minor

HAPs

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Area

Federal Regulations - The referenced facility does not process or store petroleum liquids and is therefore not be subject to 40 CFR Part 60 (New Source Performance Standards AKA NSPS) Subparts;

- K, Ka or Kb (Storage vessels for Petroleum Liquids);
- KKK (Equipment Leaks of VOC from onshore NG Processing Plants);
- VV (Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry);

In addition, based on information provided in the engineers eval form for PTI 160-12, the engine is reported to have a manufacture date as early as 2001 (pre 2006) that would exempt the RICE from NSPS Subparts JJJ for Spark Ignition (SI) RICE.

With respect to 40 CFR Part 63 (Maximum Achievable Control Technology Standards) the following Subparts may apply:

- Subpart HH (HAPS from Oil and NG Production Facilities)
- Subpart ZZZZ (RICE)

With respect to Subpart HH, the affected unit is believed to be dehy units. Riverside staff report that the Facility is not subject to Subpart HH as the flowrate to the dehy is under 85,000MMcf/day.

With respect to Subpart ZZZZ, the Facility RICE are subject to 40 CFR Part 63, Subpart ZZZZ. These requirements appear to have been incorporated into the Site Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) received by District Stall on January 11, 2013 and approved on March 6, 2013.

Applicable Federal Requirements:

EMISSION UNIT

40 CFR SUBPART

TITLE

Source

Part 70

State Operating Permit Program

EU-FPENGINE

Part 63, Subpart A and ZZZZ

National Emission Standards for HAPs for Stationary Reciprocating Internal Combustion Engines (RICE)

EQUIPMENT

At the time of permitting, the Facility was operating with an existing NG-fired compressor engine. PTI 160-12 was issued for the replacement of the existing engine with a CAT G398 TA Rich Burn, 625 HP engine equipped with a catalytic converter and an Automatic Fuel Ratio Controller (AFRC) (EUENGINE1). The site also was reported to have a 4015V glycol dehydrator (EUDEHY) with process heater and two 400-barrel (Bbls) brine tanks onsite.

Readily available aerial photos indicate that sometime before May 2013 one of the two brine tanks was removed from site.

ENGINE

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ID
INSTALLATION DATE
REMOVAL DATE
CAT 3412 LE, Lean Burn
637 HP
UNK
UNK
August 16, 2013
CAT 398 TA, Rich Burn
625 HP
with catalyst and AFRC
EUENGINE1
S/N 67B01601
August 16, 2013
NA

Equipment operational parameters for EUENGINE1 recorded at the time of the site inspection included:

- RPM – 1108
- Catalyst Inlet Temp – 843
- Catalyst Outlet Temp - 888

Maintenance activities for EUENGINE are presently contracted through ArchRock. In addition, Riverside operators monitor the site daily for changes in operational parameters. Documentation was provided.

COMPLIANCE

No complaints, Notices of Violation, or enforcement activities are of record for the Hillbilly CPF. Compliance status for the facility had been based on information provided during the March 16, 2020, site inspection, as well as on supplemental data and reports submitted upon request or to meet permit requirements identified under PTI 160-12.

MAERS- Annual reporting of actual emissions for the facility under the MAERs program appears to have only been required of the site for the 2013 calendar year.

EUDEHY- The referenced EU consists of one glycol dehydrator and associated reboiler. Permit conditions associated with the EU consist of a high level citation to 40 CFR Part 63, Subpart HH (S.C. III.1). In addition, S.C. VII.1 requires the permittee to complete any 40 CFR Part 63, Subpart HH reporting required under 40 CFR 63.775. As previously indicated, the Facility indicates that it's flowrate is below the 85K MMcf/day applicability threshold and is not subject at this time. Stack Height for EUDEHY under PTI 160-12 S.C. VIII.1 includes a maximum diameter of 6-inches, and a minimum height of 23 feet above land surface. The Facility reports that the stack meets the permit requirements.

EUENGINE1- The referenced EU consists of one NG-fired, CAT 398 TA, Rich Burn, 625 Hp, RICE (EUENGINE1). No material limits are associated with EUENGINE1, however S.C. IV.2, VI.2 and VI.5 requires that the permittee installs, calibrates, maintains and operates in a satisfactory manner a device to continuously record the NG usage for each engine. Records provided were sufficient to confirm compliance with permit conditions.

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EUENGINE1 at the time of permitting was equipped with an add-on control device (Miratech IQ-RE-16-EC) and the following special conditions are applicable:

- Operational limit of 200 hours per year for engine without it's control device. (SC III.2)
 - Proper installation, operation and maintenance of the add-on control device (SC IV.1 and VI.3)
 - Documentation of the hours of engine operation without it's control device (SC VI.4)
- Records provided by Riverside indicate that EUENGINE1 at the Hillbilly CPF has not operated without a control device for 2019 or 2020.

OPERATION LIMITS – No later than 90 days after the issuance of Permit 160-12 the permittee is required to submit for review and approval a Preventative Maintenance/Malfunction Abatement Plan (PM/MAP). Records indicate that the required document was submitted in a timely manner (received January 11, 2013) in compliance with the permit condition. (SC III.1) As previously indicated the required document has been submitted and is considered to have met the permit condition.

The PM/MAP includes the following engine maintenance activities:

- Monthly monitoring of AFRC O2 content.

Should the O2 content be outside of the normal operating range of 0-1% for rich burn or 0-0.8% for lean burn engines, the unit should be adjusted and retested.

Every 60-90 days of operation:

- Check and adjust valves
- Check engine compression
- Check timing, fuel pressure and all kil

Sharon LeBlanc

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Shane Nixon

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