

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

N593370118

FACILITY: VCP Michigan - Vienna Charlton		SRN / ID: N5933
LOCATION: Sec. 12, T30N, R01W, GAYLORD		DISTRICT: Cadillac
CITY: GAYLORD		COUNTY: OTSEGO
CONTACT:		ACTIVITY DATE: 10/17/2023
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY2024 onsite inspection and records review for FCE. Note that contact is J. Lewandowski of ECT, Traverse City, MI.		
RESOLVED COMPLAINTS:		

INTRODUCTION

On October 17, 2023, AQD District Staff conducted a, scheduled site inspection of the VCP Michigan LLC (VCP), Vienna-Charlton Central Processing Facility (CPF) (N5933). The referenced facility is located in the SW ¼, NE ¼, SE1/4 of Section12, Township 30N, Range 1W, Charlton Township, Otsego County, Michigan.

The referenced facility is considered a synthetic minor opt-out and operates under Permit to Install (PTI) No. 105-96B. The last compliance inspections of record were conducted on October 10, 2019 and March 28, 2016. At that time no compliance issues were noted, and the facility was determined in compliance with their permit.

The facility is a fenced, gated and unmanned facility is located on what appears to be a larger agricultural parcel. Adjacent properties appear to consist of larger residential and agricultural property.

Records required to make a compliance determination for the facility were requested electronically on October 6, 2023. The data provided (December 7th, 2023) has been reviewed and incorporated into this document.

FACILITY

The referenced site is located north of Vienna, Michigan. To reach the site Staff traveled east on M-32 until it meets Meridian Line Road (495) in Vienna, Michigan. At the intersection turn North, and travel on Meridian Line Road approximately 2.5 miles. Just before the gate and drive to the site you will pass Heatherton Road (on your left) and then Briley Road (on your right). The gate for the Facility is on the left, and the drive is approximately 0.25-mile long. Old State Road (620) on your right means that you have just passed the gate to the site.

A review of readily available aerials indicate that the Facility appears on aerials as early as May 1992, and would be consistent with a 1988 construction date as reported in MAERS. The Facility represented in the aerial appears to be consistent with the existing site footprint.

At the time of the October 17, 2023, site inspection, weather conditions included overcast skies, with temps of approximately 45 degrees Fahrenheit. Winds were noted to be approximately 5-10 mph and from the W-SW. No emissions were noted from the stacks onsite. No odors were detectable.

EQUIPMENT

Both permitted and exempt equipment is of record for the Facility. A review of MAERS submittals indicated the presence of the following equipment onsite:

Emission Units	MAERS installation date	Description	Other
EUENGINE (EUCOMP-1)*	1/1/1988	CAT 399 HCTA with Catalytic converter removed under present permit	EUENGINE per permit 105-96B
EUDEHY	1/1/1988	Glycol dehydration System	Exempt under Rule 288 (2)(b)(ii) Equipped with 0.125 MMBtu/Hr burner

*MAERS ID does not match permit ID. This will be corrected in 2024 submittal. Note that two apx. 400 bbl ASTs in secondary containment exist onsite, but are not identified in MAERS. These have previously been identified as exempt under Rule 284(2)(e).

Records indicated the following engines associated with the site:

Emission Unit	Make/Model S/N	Installation Date	Removal Date	Comment
EUENGINE - Unit 879645*	CAT 399 TA 930 Hp, RB RICE equipped with 3-way catalyst	8/28/2012	NA	Sn 35B03752

*This unit no. is from the ArchRock log sheets, note that the compressor skid identifies the unit as GCS 753. Plate was present on engine, but was unreadable.

Operating parameters at the time of the October 17, 2023, site inspection are presented below:

Engine	Unit 753 – CAT 399
RPM	1065
Hours	41445
Engine Oil Pressure	60 PSI

PERMITTING

Permits of record for the Facility include the following:

Permit No.	Approval Date	Void Date	Company Issued to
105-96	9/13/1996	2/7/2007	Mack Oil
105-96A	2/7/2007	9/4/2008	Enervest Operating LLC
105-96B	9/4/2008	NA	Ward Lake Energy

*later operated by Enervest, and presently VCP.

Note that initial permitting was for a CAT 398 compressor engine. Subsequent permitting was for replacement of the CAT 398 with CAT 399 with control and removal of control with fuel use limits to remain an opt-out source in PTIs 105-96A and 105-96B, respectively.

REGULATORY

The VCP Vienna-Charlton like many O&G Facilities in northern Michigan does not process or store petroleum liquids onsite and therefore is not subject to one or more of the following 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);

ASTs associated with the site also are believed to be exempt from 40 CFR Part 60 Subpart K, Ka or Kb are date-based standards of Performance for Storage Vessels for Petroleum Liquids for which construction, reconstruction or modification commenced:

- After June 11, 1973, and Prior to May 19, 1978 (Subpart K)

- After May 18, 1978, and Prior to July 23, 1984 (Subpart Ka)
- After July 23, 1984, (Subpart Kb)

40 CFR Part 60 Subpart OOOO (Standards of Performance for Crude Oil and NG Production, Transmission and Distribution) and Subpart OOOOa would apply to onshore affected facilities that are constructed, modified, or reconstructed after August 23, 2011, and September 18, 2015, respectively. Based on available information it appears that the referenced subpart with a 1988 construction date is not applicable at this time but that future changes may be subject to the referenced subpart. No compliance determination has been made with reference to the subparts.

40 CFR Part 60 (NSPS) Subpart JJJJ for Spark Ignition (SI) Reciprocating Internal Combustion Engines (RICE) with manufacture dates before July 1, 2007. No manufacture date is available for the existing engine, though based on the installation date it is assumed to be prior to 2012, and no compliance determination has been made with reference to the subpart.

40 CFR Part 60 (NSPS) Subpart LLL - Standards of Performance for SO₂ Emissions from Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011. With respect to Subpart LLL, This Federal standard is applicable to Facilities operating sweetening units. No sweetening unit is associated with this site, therefore the referenced subpart is not applicable.

In addition to the NSPS Standards referenced above, the following 40 CFR Part 63 (Maximum Achievable Control Technology Standards A.K.A. MACT) Subparts may apply:

- Subpart HH (HAPS from Oil and NG Production Facilities)
- Subpart ZZZZ (Reciprocating Internal Combustion Engine aka RICE)
- Subpart JJJJJ (Industrial, Commercial and Institutional Boilers and Process Heaters)

With respect to Subpart HH, the applicable emission unit is the dehydration system. Exempt dehydration systems must meet one or both of the following conditions; actual annual NG flow rate of less than 3 million standard cubic feet per day (MMcf/d) or 85,000 cubic meters/day) or an uncontrolled benzene emission rate of less than 0.9 megagrams per year (or approximately 1 TPY) threshold. Based on Antrim formation gases being processed at the site, benzene concentrations are reported to be well below the threshold. A compliance determination has not been made with respect to this subpart, and at the time of report preparation AQD does not have authority to enforce the subpart.

With respect to Subpart ZZZZ (RICE MACT), the facility engine was reported by the facility to be subject to the referenced subpart. District files contain copies of the initial notification for the referenced subpart submitted for the site on February 17, 2011. The referenced document identified a CAT 399 830 Hp as subject to the referenced MACRT. At the time of report preparation, AQD has been delegated authority to implement and enforce the subpart. However, at this time compliance determinations for Federal requirements under Subpart ZZZZ for Area Sources have not been made.

Based on a review of the PM/MAP for the facility it appears that requirements under the subpart have been incorporated into the PM/MAP. Compliance with the PM/MAP may indicate compliance with the referenced subpart.

Maintenance records supplied by the Facility for the referenced engines indicated that the RICE engines are on a consistent maintenance schedule with a third party contractor. No major engine repairs were reported. No engine change records were found in District Files.

NESHAP subparts JJJJJJ pertain to Industrial, Commercial and Institutional Boilers and Process Heaters for Area source of HAPS, respectively. At the time of the site inspection, it appears that the reboiler of the glycol dehydration process would not be subject to the subpart, as a process heater is not subject for area sources. No compliance determination has been made with reference to the subpart.

Preventative Maintenance/Malfunction Abatement Plan (PM/MAP)

PM/MAP are required under the existing permit for EUENGINE located onsite (SC III.1). The most recent PM/MAP dated 2008, and reported received on March 2, 2011, was approved on August 18, 2011.

Reports Received

Reporting requirements for the Facility are limited to annual emissions reports which are discussed below. No CEDRI submittals are of record for this Facility.

COMPLIANCE

Since the October 10, 2019, site inspection there have been no complaints, violation notices or consent orders identified for the Facility.

Annual emissions are reported for the Facility as part of the MAERS reporting system. Annual submittals have historically been received in a timely manner, the emission estimates for the 2022 calendar year were submitted February 1, 2023.

Compliance status for the facility had been based on information obtained during the October 27, 2023, site inspection, as well as on supplemental data and reports submitted.

PTI 105-96B – Permit Conditions

Emission units covered by the above referenced PTI included EUENGINE and FGFACILITY. EUDEHY is identified, however no conditions are associated with the EU. Records under the referenced permit are required to be maintained for a period of 5 years. Permit conditions for each of the referenced EUs are summarized below.

EUENGINE – The referenced engine consist of one NG-fired, 830 HP CAT 399 TA RICE. The engine is used for primary production and gas compression and is equipped with a catalytic control, though under the referenced permit it is not identified as being operated with a control.

Emission limits associated with EUENGINE consist of 12-month rolling total NOx and CO emissions. Emission calculations for NOx and CO are required under SC VI.7 and VI.8, respectively. Emissions associated with EUENGINE consists of :

12-Month Rolling Time Period Ending	NOX Emissions (TPY)	CO Emissions (TPY)
December 31, 2023	45.895	5.570
September 30, 2023	31.132	5.447
Limits	2. (SC I.1)	7.6 (SC I.2)

In addition to the above emission limits, the permit requires the preparation and submittal of a PM/MAP (SC 1.2) within 60-days of permit issuance. The document was submitted in compliance with the permit conditions.

PM/MAP submittal Date	Approval Date
October 1, 2008	August 18, 2008
September 14, 2012	UNK

EUENGINE if equipped with a catalyst to control emissions and is subject to the following permit conditions:

- Operation of each engine equipped with a control device without the device for more than 200 hours per engine per year consistent with the PM/MAP (SC III.2)
- Maintain monthly and 12-month rolling records of hours that EUENGINE operates without a control device. (SC VI.5)
- EUENGINE shall not operate unless the control device is installed, maintained and operated except as specified in SC III.2. (SC IV.1)

The Facility reported that EUENGINE operation is under the existing fuel gas limits of SC II.1, and therefore is not required to operate with it’s control device.

- Change outs of EUENGINE with an equivalent emission rates or lower emission emitting engine, is allowed with submittal of back up documentation and reporting within 30-days. (SC VII.1)

No engine changeouts are of record to date.

- Verification of NOx and CO emission rates from EUENGINE by testing at owners expense per the request of the District Supervisor (SC V.1)

District files do not contain any requests for verification testing, nor verification testing results. Therefore, it would appear the above referenced condition is not applicable at this time.

Monitoring and Recordkeeping - The permittee is required under PTI 105-96B to maintain the following records:

- The permittee shall monitor NG usage from EUENGINE on a continuous basis. (SC IV.2)
- Maintain records of monthly fuel use for EUENGINE required by SC VI.2. (SC VI.6)

Records provided by the Facility, were noted to be complete and in compliance with permit conditions and indicate compliance with material limits of SC II.1. For the period January 2022 through September 2023, fuel use for EUENGINE ranged from 2,295 – 2,789 scf/month. Fuel Usage for 2022 and 2023 to date are summarized below:

Engine – 12-month rolling time period ending	12-month rolling total Fuel Usage (scf)
December 2022	31,476,000
September 2023	31,132,000
LIMIT	46,191,480 scf (SC II.1)

- Maintain a log of all significant maintenance activities conducted and all repairs made to EUENGINE and any associated control device pursuant to SC III.1. (SC VI.4)
- Notification of the AQD District Supervisor of any change/replacement of EUENGINE with an equivalent-emitting or lower-emitting engine and submit acceptable emissions data as verification (SC VII.1)

Maintenance records for the EUs indicate that the Facility conducts bi-monthly scheduled service activities. Catalyst inspection and testing appears to be done annually. No major repairs were noted in the logs for the calendar year 2022 or 2023 to date.

Stack and Vent Restrictions under PTI 105-96B include SVENGINE as being constructed with a maximum exhaust of 8-inch diameter, and a minimum height of 46 feet above land surface. (SC VIII.1) Visual estimates based on the height of the building indicated that the stack was over 40-feet above land surface.

FGFACILITY - consists of all permitted and unpermitted equipment onsite. Permit conditions associated with FGFACILITY include emission limits, material limits, verification testing and recordkeeping/reporting/notification requirements.

Emission limits for the FG include 12-month rolling NO_x totals of less than 90 TPY (SC I.1) as well as individual HAPs of less than 9 TPY (SC I.2) and aggregate HAPS of less than 22.5 TPY (SC I.3). Emission calculations are required to be calculated under SC VI.2 and VI.3. NG usage and emissions are calculated for the reboiler for EUDEHY and EUENGINE. 12-Month rolling emissions reported for the FG include the following:

12-Month Rolling Time Period ending :	NO_x Emissions (TPY)	Single HAP Emissions (TPY)	Aggregate HAP Emissions (TPY)
December 2022	45.946	<0.409	0.409
September 2023	45.444	<0.405	0.405
LIMITS	<90 (SC I.1)	<9 (SC I.2)	<22.5 (SC I.3)

Note that in lieu of individual and aggregate HAPs calculations under SC VI.3, the permit allows as an alternative maintenance of monthly and 12-month rolling fuel use records. Records provided by the Facility included both HAPs calculations as well as fuel use records, the later of which are summarized below:

FGFACILITY – 12-month rolling time period ending	12-month rolling total Fuel Usage (scf)
December 2022	32,841,000
September 2023	32,495,000
LIMIT	46,638,720 (SC II.1)

Material Limits for the FG include a restriction to burning of only sweet natural gas (not greater than 1 grain of H₂S or 10 grains of total sulfur per 100 scf) in the Facility (SC II.1). Verification of H₂S concentrations and/or sulfur content of the NG burned in FGFACILITY is required under SC 2.3. Field log sheets for the Facility dated March 2022, indicate a concentration of 2-5 ppm H₂S. In compliance with permit conditions VCP provided copies of a September 8, 2023, laboratory analytical report verifying that no H₂S or total sulfur was contained in the incoming gas stream.

In addition, the natural gas usage for FGFACILITY shall not exceed 46,638,720 cubic feet per year, based on a 12-month rolling time period, as determined at the end of

each calendar month. (SC II.1) Please note that the records above indicate compliance with both the HAPs and material limits associated with FGFACILITY.

SUMMARY

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Based on observations made, and records provided it appears that the Facility is in general compliance with their PTI conditions. sgl

NAME Maureen J LeBlanc

DATE 1-29-24

SUPERVISOR Shane Nixon