

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

N624253613

FACILITY: HRF Exploration & Production - West Ossineke 9		SRN / ID: N6242
LOCATION: NW SE SE, T29N-R5E, Section 9, FLANDERS		DISTRICT: Gaylord
CITY: FLANDERS		COUNTY: ALPENA
CONTACT: Brad Musser , Operation Manager		ACTIVITY DATE: 05/07/2020
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Self initiated site inspection including records review of O&G Facility for Fiscal year 2020. sgl		
RESOLVED COMPLAINTS:		

**INTRODUCTION**

On May 7, 2020, Gaylord District Staff conducted a self-initiated site inspection of the HRF Exploration & Production, LLC (HRF) West Ossineke 9 (AKA Walking Buck) Central Processing Facility (CPF) (N6242). The referenced Facility is located in T29N-R5E, Section 9, NW SE SE, Ossineke Township, Flanders Montmorency County, Michigan. The referenced facility operates Permit to Install (PTI) 50-98C.

The most recent site inspection was conducted on September 1, 2016, no compliance issues were reported as a result of the referenced inspection.

**FACILITY**

The West Ossineke 9 CPF is an unmanned Facility located in the eastern side of the Turtle Lake Hunt Club. 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. This is consistent with MAERs information which indicated a construction date as early as October 6, 1996.

The Facility can be reached by one of two routes, the first of which is through the Turtle Lake Hunt Club main gate located at the end of Farrier Road and be escorted to the Facility. The other is to take the route from Broad Road to the Riverside Broad Snowplow Facility (P0148) and walk the additional ½ mile to the site. Which can be clearly seen across the deer fence from the Broad Snowplow Facility.

At the time of the inspection, it was mostly cloudy, with temperatures in the low-mid 40's. Two of the three engines (EUENGINE2 and EUENGINE3) were both operating at the time of the inspection. The third engine (EUENGINE1) was reported shut down last October, and disconnected, it is anticipated to be reconnected and started up in the summer of 2020. No visible emissions were noted from stacks associated with the Facility.

**PERMITTING**

Four Permit To Install (PTI) are of record for the Facility and are summarized below.

PTI No.	Issued	Voided	Comment
157-97	3/21/1997	1/11/1999	MOGA permit
50-98	1/11/1999	10/3/2005	4 engines, no reference to dehy, accepted fuel consumption limit to opt out of PSD (S.C. 5)
50-98B	10/3/2005	1/26/2012	2 engines, 1 dehy, material usage limit and Facility wide limit for NOx below Major source.
50-98C	1/26/2012	NA	3 engines, 1 dehy, accepted fuel limits to remain below Major for HAPs.

Note – An application (50-98A) was received and later voided August 15, 2005.

Initially the Facility, then the Walking Buck Facility, was issued PTI 157-97 which was an opt-out permit, but not a Rule 201 permit and was issued around the same time as other Michigan Oil and Gas Association (MOGA) permits that did not undergo 201 reviews. The PTI conditions were generic and refer to the stationary source as a whole rather than conditions that address individual pieces of equipment. Subsequent PTIs issued the Facility identified EUs onsite, as well as conditions for each EU, FG or Facility wide.

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

**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 50-98C, the engines are reported to have a manufacture date pre-June 12, 2006 that would exempt the RICE from NSPS Subparts JJJJ for Spark Ignition (SI) RICE.

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

- Subpart HH (HAPS from Oil and NG Production Facilities)
- Subpart ZZZZ, Reciprocating Internal Combustion Engine (RICE)

With respect to Subpart HH, the affected unit is believed to be dehy units. The eval form for PTI 50-98C indicates that the EU (EUDEH01) will meet either the < 85K MMcf/day or the actual average annual benzene emissions threshold of < 0.9 megagrams per year. Documentation provided by the Facility dated December 6, 2019, verifies that both of the thresholds were met that would exempt the facility from the subpart.

With respect to Subpart ZZZZ, the Facility RICE are subject to 40 CFR Part 63, Subpart ZZZZ. The Facility reports that the engines are 4-stroke, Lean Burn (4SLB), >500 hp, remote engines at an area source. The Facility reports that they are subject to the maintenance schedule on Table 2D of the referenced subpart. These requirements have not been included as part of the Site Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) February 16, 2012, approved on February 29, 2012.

### **Applicable Federal Requirements:**

EMISSION UNIT	40 CFR SUBPART	TITLE
Source	Part 70	State Operating Permit Program
EUENGINE1 – EUENGINE3, FGENGINES	Part 63, Subpart A and ZZZZ	National Emission Standards for HAPs for Stationary Reciprocating Internal Combustion Engines (RICE)

### EQUIPMENT

At the time of the most recent permitting, the Facility was operating two of the three existing NG-fired compressor engines. Facility staff have indicated that normal operations are for one of the superior engines and the CAT to be operated. When not operating the engine is disconnected from the line. PTI 50-98C was issued for the addition of a new engine (the CAT, AKA EUENGINE3). The site also was reported to have a glycol dehydrator (EUDEHY01) with an 125K BTU/hr process heater and two 400-barrel (Bbls) slop tanks and one 100-Bbls used oil tank onsite.

Engines of record for the site include:

ENGINE	ID	INSTALLATION DATE	REMOVAL DATE	COMMENT
Superior 2408G	UNK	UNK	UNK	PTI-50-98
Superior 2408G	UNK	UNK	UNK	PTI-50-98
Superior 2408G TL 4SLB 1600 Hp No catalyst	EUCOMP10* EUENGINE2 Sn. 335669	10/6/1996*	NA	PTI-50-98, 50-98B, 50-98C
Superior 2408G TL 4SLB 1600 Hp No catalyst	EUCOMP15* EUENGINE1 Sn. 335059	12/10/1997*	NA	PTI-50-98, 50-98B, 50-98C
CAT 3516 LE 4SLB 1340 HP No catalyst	EUCOMP21* EUENGINE3 Sn. 4EK03715	2/2/2012*	NA	PTI 50-98C  Manufacture date 12/5/2001

\*Information from MAERS submittals.

The Facility reports that it customarily runs one Superior (either EUENGINE1 or EUENGINE2) in conjunction with the CAT 3516 (EUENGINE3), alternating between the two. The Superior2408G and CAT3516 were reported to be operating at 1094 RPMs and 1226 RPMs, respectively.

Maintenance activities for the engines of FGENGINEs are presently contracted through Natural Gas Compression Systems (NGCS). In addition, operators monitor the site daily for changes in operational parameters. Contractor log sheets were noted onsite, with the most recent site visit having been conducted on May 6, 2020. Documentation was provided.

#### COMPLIANCE

No complaints, Notices of Violation, or enforcement activities are of record for the West Ossineke 9 CPF. Compliance status for the facility had been based on information provided during the May 7, 2020, site inspection, as well as on supplemental data and reports submitted upon request or to meet permit requirements identified under PTI 50-98C.

MAERS- Ready available records indicate that the Facility is conducting annual reporting of emissions under the MAERS program.

EUDEHY01- The referenced EU consists of one glycol dehydrator and associated 125K BTU/hr reboiler. Permit conditions associated with the EU consist of a high-level citation to 40 CFR Part 63, Subpart HH (S.C. III.1).

S.C VI.1 outlines two thresholds which provide exemption to Subpart HH, and recordkeeping to verify the exemption are required under VI.2 or VI.3. 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. In addition, GRI-GLYCalc software indicated that benzene emissions are well below the 0.90 megagrams of benzene threshold.

No stack height conditions exist for EUDEHY01 under PTI 50-98C

FGENGINEs- The referenced EU consists of three NG-fired, compressor engines (EUENGINE1 through EUENGINE3). These include two Superior 2408GTL (EUENGINE1 and EUENGINE2) and one CAT 3516 LE (EUENGINE3).

Material limits are associated with each engine in FGENGINEs if no pollution control device (i.e. catalyst) is being used. 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. Fuel usage is measured

electronically, with a Barton Scanner 1140 that is located at each compressor. Records provided were adequate to indicate compliance with permit conditions. Annual fuel usage reported in MAERs for each engine in FGENGINEs is summarized below:

CALENDAR YEAR	EUENGINE1 (MMCF/YR)	EUENGINE2 (MMCF/YR)	EUENGINE3 (MMCF/YR)
2019	21.7	50.2	45.5
2018	17.9	53.2	53.0
2017	27.9	42.2	54.3
2016	26.8	34.9	60.4
2015	56.5	50.1	54.5
LIMIT (MMCF/YR)	79 (S.C. II.1)	75 (S.C. II.2)	85 (S.C. II.3)

Engines of FGENGINEs are not equipped with a catalyst to control emissions, and the following special conditions are not 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)

**OPERATION LIMITS** – No later than 60 days after the issuance of Permit 50-98C 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 (SC III.1).

Two PM/MAP documents are of record for the Facility, and include the following documents:

- November 22, 2005, approved on November 27, 2006
- February 16, 2012, approved on February 29, 2012

The Facility reports that all three engines at N6242; are Four-Stroke Lean Burn (4SLB) RICE, greater than 500 hp located in "Remote Areas". The Facility reports that the engines are required to meet appropriate Subpart ZZZZ, Table 2D requirements. Appropriate requirements for RICE onsite is reported to include annual verification of continued remote status, as well as the following maintenance activities every 2160 hours (90 days) or annually, whichever comes first:

- Change oil and filter
- Inspect spark plugs
- Inspect all hoses and belts and replace as necessary

A review of HRF's maintenance schedule, and documentation of maintenance activities for 2018 and 2019 (to date) appear to indicate that the Facility is conducting activities included in the Subpart ZZZZ, Table 2D maintenance requirements.

#### **EMISSION LIMITS**

Emissions for RICE associated with the Facility are calculated using emission factors from Manufacturer Spec sheets (SC VI.6, VI.7 and Appendix A) when available and are based on NG usage documented (SC IV.2 and SC VI.2). Emissions reported for the engines of FGENGINEs are summarized below:

Calendar Year	EUENGINE1 NOx (TPY)	EUENGINE2 NOx (TPY)	EUENGINE3 NOx (TPY)	EUENGINE1 CO (TPY)	EUENGINE2 CO (TPY)	EUENGINE3 CO (TPY)
2019	3.11	7.2	11.94	6.54	15.13	11.11

2018	2.57	7.64	13.92	5.39	16.04	12.95
2017	4.01	6.06	14.26	8.41	12.73	13.26
2016	3.85	7.2	15.87	8.08	15.12	14.76
2015	8.1	5.02	14.3	17.03	10.54	13.3
LIMIT*	11.5 (S.C. I.1)	11 (S.C. I.3)	23 (S.C. I.5)	24 (S.C. I.2)	23 (S.C. I.4)	21 (S.C. I.6)

\*Limit is based on 12-month rolling total

**TESTING ACTIVITIES** – Under the present permit verification of NOx and CO emissions are required upon request of the AQD District Supervisor. (SC V.1) District files contain no copies of written requests for verification testing, and the permit condition not applicable at the time of report preparation.

**MONITORING/RECORDKEEPING** –Permit requirements for monitoring and recordkeeping include the following:

- Completion of all required calculations by the last day of the calendar month for the month prior and made available to AQD staff upon request, (SC VI.1)
- Monitor and record NG usage for each engine of FGENGINEs on a continuous basis (SC IV.2, VI.2 and VI.5)
- Maintain a log of all maintenance activities conducted according to the PM/MAP (SC VI.3) and
- Monthly and 12-month rolling time period NOx and CO emission calculation records for engines in FGENGINEs as required by SC I.1 through SC I.6 and Appendix A. (SC VI.6 and SC VI.7)

Records provided by the Facility were sufficient to indicate compliance with the above referenced permit conditions. These records with respect to emission calculations and NG usage are summarized on spreadsheets generated monthly, which summarizes all the required information, as well as equipment descriptions and emission factor sources.

**STACK/VENT** - Permit 50-98C (S.C. VIII.1 through VIII.3) limits the exhaust dimensions for the stack associated with FGENGINEs to:

Emission Unit	Exhaust Diameter (inches)	Minimum Height Above Land Surface (feet)	Source
EUENGINE1	12-inch	39 feet	Facility Operator- MAERs
EUENGINE2	12-inch	39 feet	Facility Operator- MAERs
EUENGINE3	12-inch	39 feet	Facility Operator- MAERs
LIMIT	12-inch Maximum	39-feet Minimum	

Stack heights noted at the time of the site visit, relative to building heights appeared to meet permit conditions. Stack heights for two of the three engines at the time of permit application were reported to be 20 feet above land surface. The Facility reported and were extended to meet permit requirements.

**OTHER-** S.C. VII.1 allows for the swap out or exchange of an engine in FGENGINEs with an engine of equivalent or lower emissions. Documentation of the activity and emissions for the engine to be provided within 30-days of the change. The Facility reports that no change out or swings have occurred.

S.C. IX.1 contains a high-level citation for 40 CFR Part 63, Subpart ZZZZ, the RICE MACT. At the time of report preparation, the Facility has indicated that RICE associated with the site, and has identified the RICE as 4SLB, Remote units. The Facility has incorporated maintenance requirements of Table 2D, Subpart ZZZZ into their engine maintenance plan, and are believed to be in general compliance with the subpart. Though a complete compliance evaluation has not been completed in conjunction with the May 7, 2020, site inspection and record review.

**FGFACILITY** – This FG encompasses both permitted and exempt EUs onsite. Permit conditions

associated with the FG include:

- Individual and Aggregate HAP Limits (I.1 and I.2, respectively)

S.C. VI.2 require calculation of HAP emissions for FGFACILITY. Formaldehyde was identified in the Permit Eval form as the HAP of concern, and MAERs submittals by the Facility include Formaldehyde emission totals. Formaldehyde emissions estimated by the Facility are summarized below:

Calendar Year	Formaldehyde (TPY)	Total HAP (TPY)*
2019	4.38	6.98
2018	4.6	7.37
2017	4.6	7.38
2016	5.08	8.14
2015	5.46	8.68
LIMIT	<9.0 TPY (S.C. I.1)	<22.5 TPY (S.C.I.2)

\*Total HAP values estimated by AQD

- Permittee is prohibited from use of sour gas as fuel (SC II.1)

Sour gas is defined as H<sub>2</sub>S content of 1 grain or total sulfur content of 10 grains or more per 100 scf. Verification testing of H<sub>2</sub>S or total sulfur content may be required of the Facility under S.C. V.1. The Facility is reported as processing Antrim formation NG Laboratory analysis for incoming samples collected on October 3, 2019, reported H<sub>2</sub>S concentrations of non-detect indicating compliance with the permit condition.

As was included for EUDEHY, FGFACILITY includes a high-level citation requiring the permittee to be in compliance with applicable 40 CFR Part 63, Subpart HH requirements. As previously noted, the dehy flowrate is below the 85K MMcf/day applicability threshold, as well as the 0.90 megagram/year benzene emission threshold and is exempt from the subpart.

#### SUMMARY

On May 7, 2020, Gaylord District Staff conducted a self-initiated site inspection of the HRF Exploration & Production, LLC (HRF) West Ossineke 9 (AKA Walking Buck) Central Processing Facility (CPF) (N6242). The referenced Facility is located in T29N-R5E, Section 9, NW SE SE, Ossineke Township, Flanders Montmorency County, Michigan. The referenced facility operates Permit to Install (PTI) 50-98C.

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No compliance issues were noted as part of the May 7, 2020, site inspection or subsequent records inspection. The facility is believed to be in general compliance with it's permit.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_

Sharon LeBlanc  
Digitally signed by Sharon LeBlanc  
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Shane Nixon  
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