

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

Facility : SAVOY ENERGY LP DOVER 12	SRN : N7831
Location : WHITEHOUSE TRAIL, SW 1/4 OF NW 1/4 SEC 12	District : Gaylord
	County : OTSEGO
City : DOVER TWP State: MI Zip Code : 49795	Compliance Status : Compliance
Source Class : SM OPT OUT	Staff : Sharon LeBlanc
FCE Begin Date : 1/1/2016	FCE Completion Date : 8/24/2017
Comments : August 9 and 24, 2017 visits. Records requested to complete inspection of compressor station.	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
08/09/2017	Scheduled Inspection	Compliance	scheduled site inspection for synthetic minor site for fiscal year 2017. Note- site visit on two dates. 8/9/2017 (unmanned) and 8/24/2017 with facility staff. sgl
03/20/2017	MAERS	Compliance	2016 MAERS, Check MAERS for any review comments

Name: Sharon LeBlanc Date: 9/20/2017 Supervisor: SN

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N783141243

FACILITY: SAVOY ENERGY LP DOVER 12		SRN / ID: N7831
LOCATION: WHITEHOUSE TRAIL, SW 1/4 OF NW 1/4 SEC 12, DOVER TWP		DISTRICT: Gaylord
CITY: DOVER TWP		COUNTY: OTSEGO
CONTACT: dylan foglesong , production engineer		ACTIVITY DATE: 08/09/2017
STAFF: Sharon LeBlanc	COMPLIANCE STATUS:	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled site inspection for synthetic minor site for fiscal year 2017. Note- site visit on two dates. 8/9/2017 (unmanned) and 8/24/2017 with facility staff. sgl		
RESOLVED COMPLAINTS:		

On August 9, 2017, and on August 24, 2017, AQD District Staff performed a scheduled site inspection at Savoy Energy L.P. Dover 12 CPF Facility, located at SW ¼ of NW ¼ of Section 12, Dover Township, T 31N, R2W, Otsego County, Michigan (SRN No. N7831). The facility is permitted under Permit to Install No. 220-07 issued on October 23, 2007. The permit was the result of an audit by Savoy Energy, L.P. and notification in correspondence dated March 9, 2007.

The purpose of the site inspection was to confirm operation of the facility in compliance with the referenced permit. The most recent compliance inspection of record was April 16, 2013.

The initial site visit was conducted on August 9, 2017, the facility was found to be unmanned at the time of the inspection. Mr. Dylan Foglesong of Savoy Energy L.P. and Randy Odell from Maximum Oilfield Services, met District Staff onsite on August 24, 2017 to answer questions with respect to equipment and facility operations. The compressor station was operating during both site visits. Records for review were provided upon request and in a timely manner.

FACILITY

The referenced facility is located at SW ¼ of NW ¼ of Section 12, Dover Township, T 31N, R2W. Access to the facility is located on private access drive located at 4343 Whitehouse Trail (AKA Axford Farm). The access road is on the east side of Whitehouse Trail. Adjacent properties consist of predominantly agricultural property. See map in file.

The station is reported to be fed by 3 Antrim Formation Wells located to the NW of the facility, and more recently by a Niagaran well on trial operation. The trial operation period of the well is anticipated to be by September 30, 2017. At which time if the decision is made to continue operation of the referenced well the company has indicated that they will install a condenser (Identified by the company as exempt from permitting under Rule 288(b)(i)).

Water and petroleum liquids separated from the gas stream are containerized in stock tanks located at the western end of the site. The facility reports having a disposal well for brines generated onsite.

REGULATORY APPLICABILITY

A review of the underlying applicable requirements of permit conditions as well as the notes by the permitting engineer indicate that the facility dehydrator at the time of permitting was subject to 40 CFR Part 63, Subpart HH (HAPs for oil and gas production facilities). Reference to PSD regulations (40 CFR 52.21) were also noted.

Other Federal 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, and inquiry to the facility has been made at the time of report preparation, but response has yet to be received.

At the time of permitting referenced facility was reported to not process or store petroleum liquids, and was therefore determined to not be subject to 40 CFR Part 60 (New Source Performance Standards AKA NSPS) Subparts;

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- 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);

However, since that time, the facility has added additional 400 BBL storage tanks, and it was indicated during the August 24, 2017, site visit that oil condensate(s) were stored onsite, so applicability needs further evaluation.

A review of the 2016 MAERS submittal indicated that the Waukesha engine(s) EUENGINE1 and EUENGINE2 had install date of January 1, 2007 and March 1, 2007, respectively. EUENGINE1 was replaced in February 2017. Based on the dates of construction date of July 11, 2005, and a manufacture date of April 1, 2006, the engines may be subject to NSPS Subpart IIII for Compression Ignition (CI) RICE.

Subpart OOOO would apply to onshore affected facilities that are constructed, modified or reconstructed after August 23, 2011. As noted in the following section, several changes have been made to the site sometime after 2013. Those changes may be subject to Subpart OOOO and will need further evaluation.

Other subparts under 40 CFR Part 63 (Maximum Achievable Control Technology Standards) that may apply include:

- Subpart ZZZZ (RICE)

With respect to Subpart ZZZZ, no copies of Initial Notification for Subpart ZZZZ may be found in District Files.

EQUIPMENT

One building is present onsite, and houses the compressor engines. Equipment onsite includes:

- One NG-fired Cummins Reciprocating Internal Combustion Engine (RICE) (EUENGINE1)
- One Waukesha RICE (EUENGINE2)
- One Glycol Dehydrator (EUDHY)
- One line heater (non-operational)
- One Standby Flare for malfunction/overpressure of lines.
- Four apx. 400 BBL stock tanks for oil and/or brine
- One 3-phase condenser

At the time of the April 16, 2013 site inspection, the facility was reported to contain only 2 apx. 400 BBL stock tanks, the compressor building, and the outdoor glycol dehydrator. Historical aerials dated as early as May 2016 show the present site layout including the 3-phase condenser in its own containment area, two additional stock tanks inside an expanded containment area and a flare on standby to cover malfunctions or over pressurization of the lines. All of which was added since the April 16, 2013, site inspection.

Onsite Staff report that the facility set-up is unique in that it utilizes two compressors for a four-stage gas compression. The first three phases are achieved by EUENGINE1, the 4th stage being achieved by EUENGINE2.

A review of District files indicates that the District was notified of the intent to conduct engine changeout activities for EUENGINE1 in correspondence dated January 30, 2017. District Staff at that time determined the activity was exempt from permitting under existing exemptions. The engine history is summarized below:

ENGINE ID	MAKE-MODEL	HP	Pollution Controls	Installation/Replacement
EUENGINE1	Waukesha L3711	427 HP	No	Installed January 2007 (MAERS) - Out of Service/ Retired in February 2017
EUENGINE2	Waukesha VRG310	65 HP @ 1000 RPM	No	Installed March 2007 (MAERS)

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EUENGINE1	Cummins G8.3	99 HP @ 1800 RPM	No	Put in Service on February 3, 2017 Skid No. 352-05
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Engine maintenance is reported to be contracted to Compressor and Engine Service. General Facility oversight is conducted by Maximum Oilfield Services.

COMPLIANCE

Permit No. 220-07 identifies special conditions for the glycol dehydration system (EUDHY), two NG-fired compressor engines (EUENGINE1 And EUENGINE2, AKA FGENGINES) as well as the facility (FGFACILITY).

The most recent site inspection was conducted on April 16, 2013. The facility was found to be in compliance with their permit at that time.

Annual Emissions are reported to MAERS, and reporting records are available back to 2010. A review of the most recent submittal indicates that the company is only reporting emissions for the two compressor engines and the dehydrator as part of their annual emissions.

No complaints are of record for the facility since the last site inspection.

Process and Operations –

At the time of the site inspection, District Staff noted that access to the compressor building as well as to the other associated equipment was not restricted. The compressor building is constructed on a concrete slab, and any leaks from the compressors appear to have been captured by absorbent towels. A stock pile of which were noted in the building. Also noted were various drums of liquids for equipment operation.

Special Condition 1.2 (SC#1.2) for FGENGINES requires the submittal of a Preventative Maintenance/Malfunction Abatement Plan (PM/MAP) for approval prior to operation of FGENGINES. District files contain a copy of the referenced document received on May 21, 2013, and approved by District Staff on May 22, 2013. The document indicates that should any of the engines be replaced that the PM/MAP would be updated to reflect the changes.

Savoy Staff were notified during the August 24, 2017, site visit that the updated document had yet to be submitted to District Staff in compliance with the permit. Savoy Staff electronically provided a red-line version of the PM/MAP for review on September 12, 2017. The document was reviewed with respect to the PM/MAP checklist and comments were provided to Savoy Staff on September 18, 2017, to allow for corrections prior to finalization. A second mark-up copy was received electronically on September 22, 2017. A request for a formal submittal in lieu of a markup copy was made on September 25, 2017.

A summary of maintenance records for the recently installed Cummins (EUENGINE1) and the booster Waukesha (EUENGINE2) were provided by Savoy upon request. The summary which was for the period of March thru June 2016, appeared to indicate that maintenance inspections are conducted at least monthly, and that maintenance and repair activities are conducted as needed. This is in addition to site visits and operational data collection activities which in general occur daily at the site.

SC#1.3, 1.4 and 1.9 apply only to equipment in FGENGINES equipped with an add-on control device. Neither of the engines onsite are equipped with a control device, and therefore the referenced conditions are not applicable at this time.

SC#1.13a and 1.13b specifies maximum diameter (8-inches) and minimum height (44 feet above ground level) requirements for the unobstructed, stacks associated with the engines associated with FGENGINES. District files contain documentation by Maximum Oilfield Services, that the existing stacks meet the requirements. A "T" was noted at the top of one stack, and it's removal was requested at the time of the August 24, 2017, site visit. Electronic correspondence dated September 12, 2017 indicated that the removal of the "T" would be completed in the next 3-5 days (September 18, 2017). Confirmation of the correction was made on September 28, 2017, by District Staff.

Material Limits –

FG Facility is restricted from burning any sour NG (SC#2.2). Sour NG being defines as any gas containing more than 1 grain of H2S or 10 grains of total Sulfur per 100 scf. When requested Savoy Staff provided a copy of gas analysis conducted by SPL dated November 2, 2015. Based on the addition of the Niagaran well to the facility, an updated evaluation has been requested. In electronic correspondence dated September 11, 2017, Savoy Staff reported that Maximum Oil Field Services took a dragger measurement and reported less than 1 ppm H2S gas present in NG coming into the Dover 12 Facility.

SC#1.6 requires the installation, calibration, maintenance, and operation of a device to continuously monitor (record) NG usage for each engine in FGENGINES. The facility collects daily NG use for each of the engines onsite.

Record Keeping –

Recordkeeping under permit No. 220-07 includes the following requirements:

- A log of all significant maintenance activities conducted and all repairs made to equipment (SC # 19)
- Monthly and 12-month rolling Fuel Consumption for the facility in MMCF (SC#1.10)

Manual documentation of various operational readouts at the facility is conducted daily, and is submitted to the corporate office at regular intervals. Engine maintenance and repair is conducted by a subcontractor, and work summaries are provided to the corporate office. The above referenced information was provided in a timely manner in compliance with permit conditions. Copies may be found in district files.

Emissions-

With reference to FGENGINES (EUENGINE1 and EUENGINE2) (SC#1.1a-1.1d) and FGFACILITY (SC#2.1a and 2.1b) the following 12-month rolling emission limits exist:

EU ID	NOX 12-month rolling limit	NOX 12-month rolling Emissions	CO 12-month rolling limit	CO 12-month rolling Emissions
EUENGINE1	82.4 tpy	21.24 tpy	66 tpy	4.49 tpy
EUENGINE2	7 tpy	4.795 tpy	5.7 tpy	0.87 tpy
FGFACILITY	89.5 tpy	26.07 tpy	89.5 tpy	5.37 tpy

SC#1.11 and 1.12 requires calculation of monthly and 12-month rolling total for NOx and CO emissions for each engine in FGENGINES. SC#2.6 requires that the permittee shall keep satisfactory records of monthly and 12-month rolling NOx and CO emissions associated with FGFACILITY. Savoy Staff provided records for the 12-month rolling emissions for the period of July 2016 and June 2017 upon request. Records for both FGENGINES and FGFACILITY are required to be maintained for 5 years. No emission limits are provided to EUDHY under the referenced permit.

SC#2.5 requires completion of the required calculations in a format acceptable to the AQD District Supervisor and available by the 15th of the calendar month for the previous month. Records provided appear to be in compliance with permit conditions.

No Visible Emissions (VEs) were noted from the engines or other equipment on site, though the presence of “heat” waves from one or more of the other units onsite verified operation.

Compliance with the referenced emission limits per the SCs are to be determined using emission factors outlined in Appendix A of permit 220-07. Records provided by Savoy Staff as part of the August 2017 inspection/compliance evaluation reported emissions well below the permit conditions and appear to be calculated in general compliance with the permit conditions.

Testing-

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SC#1.5 requires NOx and CO verification testing upon request of the AQD District Supervisor. No copy of any written request was found in District Files. The referenced SC is not applicable at this time.

SC#2.4 requires verification of H2S and/or sulfur content of the NG burned in FGFACILITY upon request of the District Supervisor. No copy of any written request was found in District Files at the time of the inspection or report preparation, however, District Staff at the time of the inspection requested some type of documentation of H2S levels for the incoming gas stream. Dragger analysis of the stream was reported by Savoy Staff in electronic correspondence dated September 11, 2017 to be less than 1 ppm H2S.

Reporting –

Under SC # 18 the facility is required to report actual emission annually to AQD. The facilities annual reporting thru MAERs meets this requirement. A review of the accessible database indicates that annual emissions reporting has been conducted since at least 2010, if not earlier.

Other-

SC#3 requires that the permittee comply with all provisions of the 40 CFR Part 63, subpart HH, as they apply to the facility. At the time of the site inspection(s) delegated authority for the referenced subpart has not been received by AQD.

Summary-

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The facility was found to be in general compliance with permit conditions at the time of the inspection.

NAME SLE Blanc

DATE 9/28/17

SUPERVISOR SN