

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

Facility : Linn Operating, LLC - West Albert 11 CPF	SRN : N6155
Location : SE4 SW4 SW4 T29N R1E SEC 11 5021 County Road 491	District : Gaylord
	County : MONTMORENCY
City : ALBERT TWP State: MI Zip Code : 49756	Compliance Status : Compliance
Source Class : SM OPT OUT	Staff : Sharon LeBlanc
FCE Begin Date : 10/24/2016	FCE Completion Date : 11/30/2017
Comments : scheduled site inspection for fiscal year 2018	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
10/24/2017	Scheduled Inspection	Compliance	scheduled site inspection for fiscal year 2018.
02/02/2017	MAERS	Compliance	2016 MAERS, See MAERS for any review comments

Name: Sharon LeBlanc **Date:** 11/30/2017 **Supervisor:** SN

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Scheduled Inspection

N615542522

FACILITY: Linn Operating, LLC - West Albert 11 CPF		SRN / ID: N6155
LOCATION: SE4 SW4 SW4 T29N R1E SEC 11, ALBERT TWP		DISTRICT: Gaylord
CITY: ALBERT TWP		COUNTY: MONTMORENCY
CONTACT: Diane Lundin , Senior EHS Representative		ACTIVITY DATE: 10/24/2017
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled site inspection for fiscal year 2018.		
RESOLVED COMPLAINTS:		

On Tuesday, October 24, 2017, AQD District Staff mobilized to the Linn Operating LLC – West Albert 11 CPF (N6155), located in SW ¼, SW ¼, NE ¼, Section 11, T29N – R 1E, West Albert Township, Lewiston, Montmorency County, Michigan to conduct a scheduled compliance inspection of the facility. The referenced facility presently operates under Permit to Install No. 714-96. A records request was made electronically on October 24, 2017.

The most recent site inspection activities were conducted on June 6, 2014. No compliance issues were noted in association with the visit's compliance evaluation.

FACILITY

The referenced facility is a gated, unmanned CPF station operated by the Linn Operating LLC (AKA Linn). The referenced facility as historically been operated by Wolverine Environmental Production Inc. Dominion Midwest Energy (effective 1997), High Mount Midwest Energy LLC. The station is reported to service Antrim Formation wells in the area. Activities onsite include separation of gas and brine from the incoming gas stream and compression of the gas in the lines.

The Facility is located north of the intersection of County Road 489 (CR489) and CR 491, Lewiston, Michigan. To reach the facility, District Staff traveled north on CR 491 for two-miles. Immediately on the east/right hand side of the road there is a gate and a sign at the entrance of the unpaved drive. Take the drive back approximately 1/16th of a mile to the site. A vacant house on the right hand (south) side of the drive part way to the site.

REGULATORY

Permitting -The referenced facility operates under Permit to Install (PTI) No. 714-96, which was issued in 1996 to the Facility which was operated by Wolverine Environmental Production, Inc. The PTI was issued as 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.

At the time of permitting the facility consisted of two Ajax Natural Gas (NG) fired, 360 HP compressors and one glycol dehydration unit with reboiler and was reported to have the potential to emit over 100 tons of NOx. The referenced permit limits the emissions to 89 tons per year for NOx, CO and VOCs.

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.

Federal Regulations - The referenced facility does not process or store petroleum liquids, nor store them onsite and is therefore appears to 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, the existing engine(s) have install dates which may make them subject to NSPS Subparts IIII and JJJJ for Compression Ignition (CI) RICE and Spark Ignition (SI) RICE, respectively.

Subpart OOOO would apply to onshore affected facilities that are constructed, modified or reconstructed after August 23, 2011. Based on available information it appears that the referenced subpart is not applicable at this time but that future changes may be subject to the referenced subpart.

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 the dehy unit. The files contain a January 18, 2016 evaluation of Linn facilities with respect to Antrim gas dehydrators. The document reported that the West Albert 11 Facility has natural gas flows of less than 3 MMcf/day and are exempt from emission control requirements under the subpart

With respect to Subpart ZZZZ, Linn Staff have reported that the existing engine is a remote engine subject to the subpart.

EQUIPMENT

At the time of the October 24, 2017, site visit AQD Staff identified one compressor (no catalytic converter), one glycol dehydrator with reboiler, one brine tank and one brine tank with lined-secondary containment were present onsite. Each of the referenced pieces of equipment are housed separately. No visible emissions were noted onsite.

A review of District Files and MAERs records indicates the following equipment having been associated with the facility.

EQUIPMENT	DESCRIPTION	INSTALL DATE	DISMANTLE DATE	OTHER
Engine (EU-COMP#2)	Ajax 360 HP, Low Emission	11/01/1993	UNK	"11/92" indicated on application. MAERS reported no use 2010-2016
Engine	Ajax 360 Nat. Asp.	UNK	UNK	"11/92" indicated on application
Engine(EU-COMP#3)	Cat 3516 TALE	02/15/2002	NA	
Dehydrator (AKA dehy)	DEHYStill -Antrim 40/15 pump	11/21/1992	NA	

Operating parameters for the EU-COMP#3, Cat 3516 LE, installed February 15, 2002 are summarized below:

DATE	ENGINE	RPMS	SOURCE
10/24/2017	Cat 3516 LE	1158	Inspector/Onsite Daily Log
6/1/2017	Cat 3516 LE	1186	Operator Log Sheet
8/1/2017	Cat 3516 LE	1167	Operator Log Sheet
9/1/2017	Cat 3516 LE	1180	Operator Log Sheet

The brine generated appears to be disposed of in one disposal well located to the west of the tanks. Chemical storage tanks were noted at several locations, but all appeared to be tidy, labeled and properly maintained.

COMPLIANCE

At the time of the October 24, 2017, site visit, no visible emissions were noted to be coming from onsite stacks, nor were any odors noted. Liquids had collected in the secondary containment of the brine and

slop tanks, some of which would have been the result of recent melted snows, which had also resulted in standing water at points on site and in the drive.

MAERS- Reporting of actual emissions for CO, NOx, VOCs and HAPs is required under special condition 18 of the permit. A review of the most recent MAERS submittal for the facility (received on February 1, 2017 for emissions associated with the calendar year 2016) included emissions for one engine (EU-COMP#3) and one glycol dehydrator onsite.

Permit Conditions -Special conditions associated with Permit No. 714-96 are limited to record keeping, reporting and emission limits. Emission limits for the facility are defined in special conditions 13 and 14. These two conditions limit CO, VOC and NOx emissions to 89 tons/year for each referenced parameter as well as individual HAPs to below 9 tons/year and total HAPs to below 22.5 tons/year.

Calculation of actual emissions on a monthly and 12-month rolling total for CO, NOx, VOC and HAPS are required under special condition 15. The PTI specifies that emissions will be determined using emission factors from Appendix A. It should be noted that with the exception of HAPs, which Appendix A does not list HAPs for Antrim units.

NOx and CO annual emissions are determined using manufacturer data. Except for NOx, CO and VOC engine emissions were calculated using EPA emission factors. Total emissions in tons per year (tpy) reported for the calendar years since the last site inspection were:

CALENDAR YEAR	NOX (tpy)	CO (tpy)	VOC (tpy)	HAPs (tpy)
2016	17.77	15.99	4.27	1.55*
2015	16.95	15.25	4.08	1.54*
2014	17.55	15.80	4.22	1.59*

*Reflects AQD calculated formaldehyde emissions

Data from "Engine Specification Calculation spreadsheets" provided by Linn reported the following emissions for EU-COMP#3, the principal emission source:

12-month Rolling Time Period Ending	NOX (tpy)	CO (tpy)	VOC (tpy)	HAPs (tpy)
October 2015	16.96	15.26	4.07	-
January 2016	16.92	15.23	4.06	-
September 2017	17.63	15.86	4.23	-
LIMIT	89	89	89	9

Special condition No. 16 and/or 17 require monthly records of:

- Fuel consumption, in million cubic feet (MMcf)
- Crude/condensate throughput to the tank in barrels (bbls)
- Hydrocarbon liquid trucked offsite (bbls), and
- Oil and gas processed onsite

Upon district request and in compliance with permit requirements Linn provided the applicable requested records. As previously noted the facility does not produce or process liquid hydrocarbons onsite. Fuel consumption and other equipment operational data provided in response to the request indicated consistent operation of the equipment overtime, and with operational data recorded during the October 24, 2017, site visit.

Special condition 19 requires the owner or operator of the source to conduct all necessary maintenance and make all necessary attempt to keep all components of the process equipment in proper working order and maintain a log of significant maintenance activities and all repairs made to the equipment. Per request, the Linn provided copies of maintenance reports for the NG compressors and associated

engines conducted by Natural Gas Compression Systems. The company provided contracted engine maintenance service logs, as well as a "Quad Z Engine Summary" for activities conducted for the last 365 days.

Special condition 20 applies to crude oil or condensate storage tanks greater than or equal to 952 barrels, and the liquid having a true vapor pressure of greater than 1.5 psia. This condition is not applicable as the facility does not store crude or condensate onsite.

Special condition 21 applies to malfunction of a pollution control device and limits bypass of the control device for a period not to exceed 48 hours per event nor a total of 144 hours per calendar year. The facility does not have pollution control devices associated with onsite equipment.

Special condition 22 requires the owner or operator of an oil-gas facility constructed on or after January 20, 1984 to determine if they are subject to Federal standards in 40 CFR, Part 60, Subpart KKK. No hydrocarbon liquids are reported to be produced at the facility, so the facility is reported not to be subject to the referenced Subpart.

Special condition 23 refers to requirements associated with verification stack testing for CO, VOC, NOx or HAP. No request for verification testing was found in District Files, so the condition is not applicable at the time of the report preparation.

Special condition 24 requires the facility to only process sweet gas as defined in Rule 119. Linn provided copies of hydrogen sulfide analysis dated October 22, 2013. The data reported that the hydrogen sulfide contents of the sample from the dehy inlet was below the 1 ppm detection limit. During discussions regarding sampling, Linn staff indicated that the company has a program for annual sampling at the individual wells, but not at the CPFs. This program helps the company monitor and identify H2S in the gas stream. Linn has indicated that they will be evaluating the program to better address permit requirements.

SUMMARY

On Tuesday, October 24, 2017, AQD District Staff mobilized to the Linn Operating LLC – West Albert 11 CPF (N6155), located in SW ¼, SW ¼, NE ¼, Section 11, T29N – R 1E, West Albert Township, Lewiston, Montmorency County, Michigan to conduct a scheduled compliance inspection of the facility. The referenced facility presently operates under Permit to Install No. 714-96.

A records request was made electronically on October 24, 2017. Records were provided electronically by Linn on November 15, 2017. Based on the information reviewed, and observations made the facility appears to be in general compliance with their permit.

NAME Sharon L. Blanc DATE 11/30/2017 SUPERVISOR SN