

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

N089038949

FACILITY: Viking Energy of Lincoln, LLC		SRN / ID: N0890
LOCATION: 509 W. State St., LINCOLN		DISTRICT: Cadillac
CITY: LINCOLN		COUNTY: ALCONA
CONTACT: Neil Taratuta , Plant Manager		ACTIVITY DATE: 02/28/2017
STAFF: Shane Nixon	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On-site inspection and records review		
RESOLVED COMPLAINTS:		

AQD staff traveled to Alcona County to perform an inspection of the Viking Energy of Lincoln facility. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) No. MI-ROP-N0890-2103a. Mr. Neil Taratuta accompanied AQD staff during the inspection.

Staff first visited the control room to observe and document pertinent process data. Data recorded follows:

CO emissions: 83.1 pounds per hour and 0.128 pounds per million Btu, based on a 24-hour rolling average;

NOx emissions: 54.5 pounds per hour and 0.2036 pounds per million Btu, based on a 30-day rolling average;

SO<sub>2</sub> emissions: 0 pounds per hour and 0.072 pounds per million Btu, based on a 30 day rolling average (no tire-derived fuel was combusted during the inspection);

Visible emissions: 1.3% opacity based on a 6-minute average.

The facility was producing 135,000 pounds per hour steam and 15.3 MW of electricity. All three cells of the electrostatic precipitator were operating and operational data recorded consists of:

**Cell #1**

Primary voltage: 400 Volts

Primary current: 42 Amps

Secondary voltage: 54 KV

Secondary current: 250 mA

**Cell #2**

Primary voltage: 300 Volts

Primary current: 35 Amps

Secondary voltage: 40 KV

Secondary current: 200 mA

**Cell #3**

Primary voltage: 290 Volts

Primary current: 41 Amps

Secondary voltage: 37 KV

Secondary current: 225 mA

**SOURCE-WIDE CONDITIONS**

**Emission Limits** – There are no Source-Wide emission limits associated with this facility; therefore, this section is not applicable.

**Material Limits** – There are no Source-Wide material limits associated with this facility; therefore, this section is not applicable.

**Process/Operational Restrictions** – As per the requirements of the ROP, street and parking lot areas are washed at least once per month from May through September.

**Design/Equipment Parameters** – There are no Source-Wide design or equipment parameters associated with this facility; therefore, this section is not applicable.

**Testing/Sampling** – There are no Source-Wide testing or sampling requirements associated with this facility; therefore, this section is not applicable.

**Monitoring/Recordkeeping** – Records of street and lot washing were available to AQD staff upon request. AQD review of the records indicate fugitive dust prevention and abatement was performed in accordance with the ROP.

**Reporting** - Semiannual deviation reports and annual certifications of compliance were previously submitted and reviewed by AQD staff.

**Stack/Vent Restrictions** – There are no Source-Wide stack or vent restrictions associated with this facility; therefore, this section is not applicable.

**Other Requirements** – Based upon on-site observations, Viking Energy is implementing its fugitive dust control program. No fugitive dust was observed during the inspection and adequate records are maintained.

### **EUBOILER**

**Emission Limits:** Based upon previous reviews of quarterly excess emission reports, Viking Energy was in compliance with the CO, NOx, SO<sub>2</sub>, and visible emission limits in pounds per million Btu heat input and percent opacity at all times except on March 14, 2016, April 18, 2016, and June 20, 2016. In March 2016, the plant experienced excess visible emissions as a result of shutting the boiler down. In April and June, 2016, the facility was tripped from the grid which resulted in CO emissions greater than permit limits. As mentioned previously, these excess emissions were previously reported by the facility and reviewed by AQD staff at the time of reporting.

**Calculations (attached)** performed by Viking Energy demonstrate the facility is in compliance with all other emission limits contained in the ROP. The calculations are based on results of stack testing performed in 2016.

**Material Limits** – Records (attached) provided by Viking Energy demonstrate the facility is in compliance with the fuel limitations in the ROP. It was observed that no pentachlorophenol treated wood or plywood was received or burned in calendar year 2016 and no creosote treated wood was burned or received after June 2016.

**Process/Operational Restrictions** – Tire-derived fuel (TDF) and pentachlorophenol treated wood are not allowed to be burned simultaneously in the boiler. The facility has not had pentachlorophenol treated wood on-site for the previous 12 months.

As per the requirements of the ROP, the boiler is started from a cold start using natural gas.

Observations made during the inspection indicate the ESP and cyclone collector were operating properly.

The boiler is not allowed to operate for more than 8,600 hours per 12 month rolling time period. Records indicate the highest 12-month rolling time period hours of operation was 8,596 hours, which occurred in March 2016.

**Design/Equipment Parameters** – There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

**Testing/Sampling** - Exhaust gas flow rate testing for determination of the average flow rate is required to be completed on an annual basis. File review indicates the testing was completed on July 19, 2016.

Stack testing to determine PM, PM-10, arsenic, benzo(a)pyrene, hydrogen chloride, hexavalent chromium, total chromium, lead, mercury compounds, hydrogen sulfide, TCDD toxic equivalent, and VOC emission rates were completed in 2015 and the results indicate compliance with the emission limits of the ROP.

Testing of the solid fuels for a determination of the chlorine, hexavalent chromium, and mercury contents were provided to AQD staff upon request (attached).

Monitoring/Recordkeeping – The continuous opacity monitoring system (COMS) is used to assure compliance with the particulate matter limit. Semiannual reports previously submitted by Viking Energy indicate there were no compliance assurance monitoring excursions or exceedances of two one-hour block average opacity values greater than 15% opacity.

In addition to compliance assurance monitoring (CAM), the COMS is used to demonstrate compliance with the visible emission limit. At the time of the inspection, AQD staff observed that the COMS was installed and recording opacity. Monitor downtime is attributed to audit filter checks and calibration.

A quality improvement plan for CAM purposes is not necessary at this time as the total duration of opacity exceedances has not been greater than 5% of the boiler operating time.

As per the requirements of the ROP, CO, NO<sub>x</sub>, SO<sub>2</sub>, and O<sub>2</sub> are recorded on a continuous basis. AQD staff observed that emissions data was monitored and recorded during the inspection. Quarterly excess emission reports previously submitted contain information regarding any periods in which the monitors were not functioning and are attributed to monitor calibration.

Records made available to AQD staff upon request consisted of:

CO, NO<sub>x</sub>, and SO<sub>2</sub> emissions in pounds per hour;

Monthly and 12-month rolling time period emission calculations;

Monthly and 12-month rolling time period natural gas usage;

Monthly and 12-month rolling time period total fuel received;

Particle board/plywood, creosote treated wood, pentachlorophenol treated wood, and TDF usage for the previous 24 hours.

AQD review has determined the records to be adequate.

Reporting – Semiannual deviation reports and annual certifications of compliance were previously submitted and reviewed by AQD staff.

Quality assurance procedures of continuous emission monitoring systems and COMS were previously submitted and reviewed by the Technical Programs Unit.

Excess emission reports are submitted on a quarterly basis and were reviewed by AQD staff at the time of submittal.

Stack/Vent Restrictions – The stack appeared to be constructed in accordance with the parameters listed in the ROP.

Other Requirements – Viking Energy currently has an AQD approved fuel procurement and handling plan. Based upon observations made during the inspection, the plan is being implemented.

The facility also has an AQD approved preventative maintenance/malfunction abatement plan. Maintenance records reviewed by AQD staff indicate the facility is performing the maintenance outlined in the plan.

The boiler is subject to the requirements of 40 CFR 63 Subpart JJJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. AQD has not been delegated authority to enforce the federal regulation and compliance with the Subpart was not determined.

**EUASHHANDLING** – Fly ash and bottom ash are conveyed to a wet rotary unloader where water is added to control fugitive dust. The ash is then transported to an enclosed ash building where it is stored until it is trucked offsite.

Emission Limits – Visible emissions from the ash handling process is limited to 5% opacity. There were no visible emissions observed from the ash handling at the time of the inspection.

**Material Limits** – There are no material limits associated with this emission unit; therefore, this section is not applicable.

**Process/Operational Restrictions** – EUASHHANDLING is not allowed to operate unless the wetting system is installed and operating. AQD staff observed the wetting system operating at the time of the inspection.

**Testing/Sampling** – There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

**Monitoring/Recordkeeping** – Daily observations of ash handling equipment are made to determine if visible emissions are present. Records provided by Viking Energy indicate the observations are made on a daily basis.

**Reporting** – All reports submitted pursuant to the requirements for this emission unit were previously reviewed and documented.

**Stack/Vent Restrictions** – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

**Other Requirements** - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

**EUGENERATOR** – One standby diesel-fired Detroit Diesel 415 hp emergency generator used to provide electricity to the facility on an emergency basis.

**Emission Limits** – SO<sub>2</sub> emissions are limited to 0.56 pounds per million Btu heat input. This limit is listed as being equivalent to diesel fuel with a 0.5 percent sulfur content by weight and a heat value of 18,000 Btu per pound of diesel fuel. Records provided by the facility indicate the sulfur content of the fuel is 0.36 percent by weight and the heating value is 19,486 Btu per pound.

**Material Limits** - There are no material limits associated with this emission unit; therefore, this section is not applicable.

**Process/Operational Restrictions** – The generator is limited to operating not more than 100 hours per year. Operator logs demonstrate the generator is in compliance with the hour restriction. Total run time for the lifespan of the generator is 173 hours based on the hour meter.

**Design/Equipment Parameters** - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

**Testing/Sampling** - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

**Monitoring/Recordkeeping** – Analytical results of the diesel fuel used in the generator were made available to AQD staff. The results included the sulfur content and heating value and AQD staff was able to use the information to determine compliance with the SO<sub>2</sub> limit.

**Reporting** – All reports submitted pursuant to the requirements for this emission unit were previously reviewed and documented.

**Stack/Vent Restrictions** – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

**Other Requirements** – EUGENERATOR is subject to the requirements of 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines for Area Sources. AQD has not been delegated authority to enforce the federal regulation and compliance with the regulation was not determined.

**FGCOLDCLEANERS** – Any cold cleaner that is grandfathered or exempt from Rule 210 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv).

**Emission Limits** – There are no emission limits associated with this flexible group; therefore, this section is not applicable.

**Material Limits** – Cleaning solvents used are limited to less than 5% by weight of halogenated compounds. MSDS (attached) of the solvent used at the facility indicates there are no halogenated compounds.

**Process/Operational Restrictions** – Parts are required to be drained for no less than 15 seconds. The cold cleaners were not in operation at the time of the inspection and AQD staff was unable to determine if facility personnel were following this procedure.

Routine maintenance of the cold cleaners are performed by a contractor.

**Design/Equipment Parameters** – The air/vapor interface of each cold cleaner is less than ten square feet and were equipped with covers. The covers were closed at the time of the inspection. Mechanically assisted covers are not required as the Reid vapor pressure of the solvent is less than 0.3 psia.

**Testing/Sampling** – There are no sampling or testing requirements associated with this flexible group; therefore, this section is not applicable.

**Monitoring/Recordkeeping** – Records (attached) maintained for each cold-cleaner include the following:

Serial number;  
Model number;  
Date each unit was installed;  
Air/vapor interface;  
Reid vapor pressure of solvent used.

Written operating procedures were posted in a conspicuous location above each cold cleaner.

**Reporting** – All reports submitted pursuant to the requirements for this emission unit were previously reviewed and documented.

**Stack/Vent Restrictions** – There are no stack or vent restrictions associated with this emission unit; therefore, this section is not applicable.

**Other Requirements** – There are no other requirements associated with this flexible group; therefore, this section is not applicable.

NAME

Shane Moxon

DATE

3/13/17

SUPERVISOR \_\_\_\_\_