

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

N139540732

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| FACILITY: Cadillac Renewable Energy Facility | | SRN / ID: N1395 |
| LOCATION: 1525 Miltner St., CADILLAC | | DISTRICT: Gaylord |
| CITY: CADILLAC | | COUNTY: WEXFORD |
| CONTACT: Thomas Schmid , (updated 6/5/2015) | | ACTIVITY DATE: 07/13/2017 |
| STAFF: Bill Rogers | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: Scheduled inspection for FCE | | |
| RESOLVED COMPLAINTS: | | |

On Thursday, July 13, 2017, I inspected Cadillac Renewable Energy for compliance with their Renewable Operating Permit, MI-ROP-N1395-2014a. I did not find any violations during my inspection.

I arrived near the site at about 12:15 PM. I observed the stack for opacity until about 1:00 PM. I could not see any opacity from the stack during this time. A note sheet including my opacity observations is attached.

I went into the facility. Mr. Thomas Schmid, Plant Manager, and Mr. Scott Clark, Maintenance Manager, showed me around the facility and provided records for me to review.

SOURCE-WIDE CONDITIONS:

The Source-Wide Conditions Table, Condition III.1, requires implementing and maintaining a fugitive dust control program. The facility has a fugitive emissions control program, which they have submitted to us. The current version is dated July 25, 2015. Mr. Clark told me they comply with the plan, although they have not needed dust suppressants or street sweeping recently due to rain. I did not see any dusty roads, any loose fly ash blowing around, or wood dust blowing around during my inspection. This complies with the permit condition.

EUW-HDLG: Fuel Handling

Table EUW-HDLG, Condition I.1, sets a 5% opacity limit on wood handling. During my inspection the wood handling group was in operation, receiving wood from a delivery truck and conveying wood to the boiler. I did not see any opacity from any of this wood handling equipment. This complies with the permit condition.

Condition VI.1 requires observing the wood handling equipment for opacity at least once per calendar day. According to an example Fuel Handler Log, attached, plant personnel are checking the wood handling equipment for opacity three times per day. This complies with the permit condition.

EUBLR: Wood boiler with selective non-catalytic reduction system (SNCR), multiclone dust collector, and electrostatic precipitator (ESP)

Table EUBLR, Condition I.3, sets an opacity limit of 10% based on a 6 minute average. I observed the stack for half an hour and saw 0% opacity. When I was in the control room the continuous opacity monitor (COMS) indicated 1.4% opacity. This complies with the permit condition.

Condition I.6 and I.7 set NOx limits of 78.5 pounds per hour and 0.15 pounds per million BTU. At the time of my inspection the CEMs indicated NOx emissions of 73.69 pounds per hour and 0.1447 pounds per million BTU. The printout showing these values is attached. This complies with the permit conditions.

Conditions I.8 and I.9 set CO limits of 209.2 pounds per hour and 0.40 pounds per million BTU. At the time of my inspection the CEMs indicated CO emissions of 85.86 pounds per hour and 0.1681 pounds per million BTU. The printout showing these values is attached. This complies with the permit conditions.

Condition II.1 limits natural gas to 107,000 scf per hour. Mr. Clark told me that they ran natural gas for a short time in March, burning a total of 20,886 SCF starting the boiler. This is the only month in the last several where they have burned gas at all. I conclude the facility is complying with this permit condition.

Condition II.2 limits natural gas use to 10 percent of their annual capacity, "equivalent to 464 MM cubic feet/yr." Burning 20,886 cubic feet over a period of several months is within a rate of use which would fall below 464 million cubic feet per year, and would therefore comply with the permit condition if continued for the full year.

Condition II.3 prohibits using chemically treated wood as fuel. Mr. Schmid and Mr. Clark were aware of this restriction and said the facility did not receive any chemically treated wood. I looked at the wood pile and did not see any. Mr. Schmid said they burn sawmill residue, mainly. They do not receive CCA wood, railroad ties, or demolition material.

Condition III.1 requires the ESP, SNCR, and multiple cyclone be installed and operating properly. I saw the ESP, the SNCR, and the ash outlet pipes from the cyclones, so it appears they are all in place. Based on opacity observations, ESP control readouts, CEM readouts, and COMS readouts it appears they are all operating properly.

The ESP control readouts were as follows:

Field 1, inlet. Primary 122 V, 7 amp, secondary 42 KV, 20 MA. 4 sparks/min

Field 2, primary 158 V, 34 amp, secondary 47 KV, 8 MA, 0 sparks/min

Field 3, outlet. Primary 156 V, 16 amp, secondary 48 KV, 84 MA, 0 sparks/min

Condition V.1 requires emissions testing for Particulate Matter, Benzo-a-pyrene, and Volatile Organic Compounds once each five years. This has been done in compliance with the permit condition. The most recent test in our files was done in 2012. See ST_24424931.

Condition V.2 requires an annual COM audit. This has been done in compliance with the permit condition. The most recent audit in our files was conducted 10/17/2016.

Condition V.3 requires quarterly CEMS/CERMS Quality Assurance Checks. These have been done in compliance with the permit condition. The most recent one in our files was received April 20, 2017.

Condition VI.4 requires satisfactory opacity records. The opacity records on site appear to be satisfactory. Mr. Clark explained that opacity is stored electronically. They can provide data down to the minute if required. I asked how long they retained records. Mr. Clark did not think they had ever discarded any; they are keeping it indefinitely.

Conditions VI.2 and VI.3 concern using opacity to determine proper operation of the electrostatic precipitator. The appropriate range for opacity is defined as 0-10%. An excursion would be two one hour averages of 7% or higher. During my inspection opacity was about 1.4% according to the COMS. (I could not see any opacity at all, judging by eye). This is within the range indicating proper operation of the ESP.

Condition VI.5 requires operating the COMs while the wood fired boiler is operating. COMS was operating while I was there, in compliance with the permit condition.

Condition VI.7 requires keeping 24 hour rolling average NOx and CO emissions. Mr. Clark showed me these values in records in his office; in addition, they are on the example emissions printout, attached, which Mr. Schmid gave me in the control room. This complies with the permit condition.

Condition VI.8 requires keeping track of startups and shutdowns. Mr. Clark showed me information from the most recent startup, as recorded by the Data Acquisition and Reporting System. This complies with the permit condition.

Condition VIII.1 sets stack dimensions as a maximum diameter of 108 inches at a minimum height of 188 feet. I did not calculate the height of the stack, but it appears to be unchanged from previous inspections and it looks like it meets the required dimensions.

EUA-HDLG, Ash Handling

Condition I.1 sets an opacity limit of 5% on ash handling. I did not see any opacity from ash handling. This complies with the permit condition.

Condition III.1 requires the wetting system for the ash be installed and operating properly. Mr. Clark and Mr. Schmid told me that it was operating. I saw bottom ash falling from the boiler; it was soaking wet. Fly ash in the fly ash storage building appeared to be wet. This complies with the permit condition.

Condition VI.1 requires observing ash handling for opacity once per calendar day. This check is included in the AP Cadillac Outside Shift Checklist; an example sheet of this checklist is attached. The check is done twice per day. This complies with the permit condition.

FGMACTZZZZ: Diesel engine to power emergency generator

As the AQD has not been delegated authority to enforce MACT ZZZZ for area sources, I did not inspect the emergency diesel generator. Mr. Schmid, Mr. Clark, and I did discuss it briefly however while going over the ROP together. Mr. Clark mentioned it has a non-resettable hour meter as required by MACT ZZZZ. He also mentioned that they are keeping all the required records for MACT ZZZZ.

COMMENTS:

The facility was operating at 34.7 MW net, when I asked in the control room. 86 tons per hour of wood was coming up the feed belt. Instantaneous emissions were NOx .1465 pounds/MMBTU, 51.09 pounds per hour, CO 0.0767 pounds/MMBTU, 33.42 pounds per hour, opacity 1.4%.

Maintenance appeared to be good throughout.

NAME William J Rogers L.

DATE 7/18/17

SUPERVISOR SN

