

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

B283625705

<b>FACILITY:</b> B. C. Cobb Plant		<b>SRN / ID:</b> B2836
<b>LOCATION:</b> 151 N. Causeway, MUSKEGON		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> MUSKEGON		<b>COUNTY:</b> MUSKEGON
<b>CONTACT:</b> Rick Dupuis , CEMS Lead		<b>ACTIVITY DATE:</b> 07/01/2014
<b>STAFF:</b> Steve Lachance	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Scheduled Inspection for FY '014. See CA_B283625705. (SLachance, 7/2/14)		
<b>RESOLVED COMPLAINTS:</b>		

SL conducted an inspection of Consumer Energy’s BC Cobb Plant at 151 North Causeway, Muskegon, Michigan. On-site activities took place on Tuesday, July 1, 2014. The primary purpose of the inspection was to determine the facility’s compliance with current Renewable Operating (RO) Permit No. MI-ROP-B2836-2011.

Mr. Rick Dupuis and Ms. Janet Zondlak of the facility accompanied SL during the inspection. Other BC Cobb personnel (unit operators, etc.) variously assisted during the inspection activities. On-site activities commenced at about 10 AM. Weather conditions were generally unsettled, post-storm with clearing skies and westerly winds at about 15-20 mph, and between 65 and 70 degrees F. Upon arrival in the site vicinity, low clouds obscured the stack and so no visible emissions evaluations were completed prior to the inspection, as had been planned. (A Method 9 Visible Emissions evaluation was completed after the inspection; see below.)

**FACILITY DESCRIPTION**

The facility is located at 151 North Causeway, Muskegon, Michigan. The facility is an electricity generating station comprised of five units. Two coal-fired boilers, No’s. 4 and 5, operate as base load units, while Unit No’s. 1 through 3 were converted from coal to natural gas, are designed to operate as peaking units, but are currently in long-term cold storage status. Emissions from the coal-fired units are controlled through the use of blended eastern and western coal and electrostatic precipitators, while No. 5 is also equipped with low-NOx burners. The facility has Continuous Emissions Monitoring Systems (CEMS) installed on each unit for stack gas flow, carbon dioxide, and nitrogen oxides. Unit No.’s 4 and 5 also have CEMS for sulfur dioxide and a common stack Continuous Opacity Monitoring System (COMS) for opacity.

Consumers Energy operates a coal receiving system on the banks of Muskegon Lake. Coal is stockpiled via radial stacker equipment. Dust control agents are immediately applied as necessary as coal is unloaded. Additional dust control measures include rolling and compacting coal piles along with the use of a water sprinkling system and water trucks. Specific coal handling points are controlled with fabric filter baghouses and enclosures.

Other emission sources at the facility include an auxiliary back-up boiler subject to Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart Dc; emergency standby Reciprocal Internal Combustion Engines (RICE); flyash collection equipment; and cold parts cleaners.

Muskegon County is currently designated as attainment for all criteria pollutants.

The stationary source is subject to 40 CFR Part 70 because the potential to emit carbon monoxide, sulfur dioxide, nitrogen oxides, and particulate matter exceeds 100 tons.

The stationary source is considered a major source of Hazardous Air Pollutant (HAP) emissions because the potential to emit of a single HAP (hydrogen chloride) regulated by the Clean Air Act, Section 112 is greater than 10 tons per year.

The stationary source was subject to Prevention of Significant Deterioration (PSD) (40 CFR 52.21) review because the modified, gas-fired units have the potential to emit nitrogen oxides and carbon monoxide greater

than 100 tons per year. Particulate matter was also subject to PSD review, since the potential to emit was above significant levels.

A 500 boiler-horsepower, (20.3 MMBtu/hr) natural gas-fired boiler with fuel oil back-up capacity at the facility is subject to New Source Performance Standards (NSPS) 40 CFR 60, Subparts A and Dc, while the gas-fired utility boilers are subject to 40 CFR 60, Subparts A and Da.

The NO<sub>x</sub> limit for FGBOILERS1,2&3 established under PSD/BACT review is more stringent than the limit established for these boilers under 40 CFR 60, Subpart Da.

The facility is subject to the Acid Rain (Title IV) provisions of the Clean Air Act of 1990, as amended. The facility's Acid Rain Permit, based on the permittee's original application, is included in the Renewable Operating Permit as Appendix 9.

EUBOILERS1 through 5 are regulated by Michigan's Part 8 Rules ("Emission Limitations and Prohibitions – Oxides of Nitrogen"). EUBOILERS1 through 5 are also subject to the Clean Air Interstate Rule (CAIR) NO<sub>x</sub> annual trading program pursuant to Rules 802a, 803, 821, and 830 through 834; to the CAIR NO<sub>x</sub> ozone season trading program pursuant to Rules 802a, 803 and 821 through 826; and to the CAIR SO<sub>2</sub> annual trading program pursuant to Rule 420. The applicable requirements are included in the CAIR permits, which are incorporated into the ROP as Appendices 10-12.

The diesel-powered reciprocating internal combustion engine (RICE) used as a source of emergency backup power (EUACEMERGEN) is subject to the National Emission Standards for Hazardous Air Pollutants from Stationary RICE, 40 CFR 63, Subpart ZZZZ. The unit is an existing "emergency use" RICE which does not have to meet the requirements of this subpart or Subpart A. If the unit is reconstructed, the unit may be subject to applicable emission limitations and/or operational restrictions as well as initial notification requirements.

The stationary source is subject to the federal Compliance Assurance Monitoring (CAM) rule (40 CFR 64) because EUFLYASH, EUFUELHAND, EUBOILER4 and EUBOILER5 have both a control device and potential pre-control emissions of particulate greater than the major source threshold level. In addition, post-control emissions of particulate from EUBOILER4 and EUBOILER5 are over the major source threshold level. CAM requirements are included in this ROP.

NOTE: The filter separator dust collector associated with the fly ash collection system is considered inherent process equipment and is therefore not considered a control device pursuant to Compliance Assurance Monitoring (CAM: 40 CFR Part 64). The dust collector is for purposes of material recovery in order to route to dry fly ash to the silo; exhaust flow from this dust collector is routed to a wet venturi system which discharges to the ash ponds. Only the fly ash silo and truck loading dust collectors are subject to CAM monitoring/recordkeeping and reporting.

Recent (April 2014) Visible Emissions testing of affected units indicates compliance with NSPS, Subpart Y limits (no visible emissions noted.)

## COMPLIANCE EVALUATION

This inspection/evaluation entailed a series of report reviews (Title V certifications, quarterly excess emissions/CEMS performance reports, MAERS, CAM reports, etc.), visible emissions readings and on-site activities. The applicable requirements are listed in RO Permit No. MI-ROP-B2836-2011.

This write-up will focus specifically on data collected and observations made during these inspection activities, and changes from the previous inspection (September 2013.) Supplementary information pertinent to the Full Compliance Evaluation (FCE) is documented in the FCE Checklist accompanying this report.

Prior to the on-site inspection activities, SL attempted to observe the main stack for emissions from Fisherman's Landing, south of the stack, but the stack was obscured by low clouds. SL returned to this area post-site visit and noted 5-25% opacity (instantaneous readings). Average opacity for the 15-minute reading period was 10%, and the maximum 6-minute average was 12%. See Attachment A. These readings were generally consistent with (although slightly lower than) the observations documented by COMS during the inspection (see below.)

The day's on-site activities began with an entry interview with Mr. Dupuis and Ms. Zondlak at about 10 AM:

\*\*\*SL provided a copy of DEQ's Brochure entitled " Environmental Inspections; Rights and Responsibilities".

\*\*\*Mr. Dupuis will be retiring in September and Ms. Zondlak has been working with him since January. She's the planned successor for many of Mr. Dupuis' duties, including primary AQD contact for this facility.

\*\*\*No recent changes in equipment; no current operational issues.

\*\*\*Recent changes to National Fire Protection Association operating procedures for startup of boilers precludes use of the ESP prior to boiler startup due to fire/safety concerns. Site Operators have learned to minimize emissions during startup in this period before safe start of the ESP (primary PM control device.)

\*\*\*No reported user issues with the renewed ROP No. MI-ROP-B2836-2011.

\*\*\*The facility's Unit 4 continues to burn a coal mix, at about 80% western coal; 20% eastern coal. Unit 5 is operating on 90% western coal.

\*\*\*Units 1, 2 and 3 remain in certified "Long Term Cold Storage."

\*\*\*The most recent PM testing for Units 4 and 5 (as required by ROP) was completed in late summer, 2012, with no known issues (see below.)

\*\*\*The facility conducted (and passed) an opacity monitor audit in the third quarter 2013; and another audit is scheduled for late July.

\*\*\*The facility recently passed annual RATA for each CEMS. See FCE cover sheet.

\*\*\*Operations on this day were reportedly normal, with no known issues. The units had been operating continuously since May.

\*\*\*SL discussed deviation reporting with Mr. Dupuis and Ms. Zondlak. Specifically, deviations based on previous quarterly reports should be fleshed out with more detail, to include excess emissions and down-time; for different monitored pollutants; since each limit and monitoring requirement has a separate UAR.

\*\*\*SL requested the following reports: Daily CEMS/COMS calibration data for July 1, 2013; Daily Emission Reports for this day; Opacity and Unit Load Reports for this day. See discussions and attachments, below.

The inspection then continued with emphasis on the Control Room for Units 4 and 5; the CEMS Room for these units; EUFUELHAND; etc.

#### EUAXBLR

This equipment was not in operation at the time of the inspection. Fuel oil service is no longer available to this equipment, as the diesel tank for it has been removed. The only possible use of oil in this boiler would involve running a temporary line to the other diesel tank (for mobile equipment) on-site. Laboratory results of the fuel used, from a sample taken during the 2007 inspection, indicate compliance with Part 4 sulfur-in-fuel limitations. All recent bills of lading indicate the purchase of "Ultra Low Sulfur Diesel" which is defined as less than 15 ppm (0.0015% sulfur). This same source of fuel oil is used for all site equipment.

This unit is subject to the Boiler MACT for Major Sources (40 CFR 63, Subpart DDDDD), but as an existing Gas1 Emergency Use Unit, the boiler is not subject to testing requirements, but rather pending Work Practice and Energy Assessment requirements. Note that the Gas1 category allows for 48 hours of oil use (unlimited during gas curtailment.)

#### EUACEMERGEN

This equipment was not in operation at the time of the inspection. The only recent operations have been short-term, weekly tests for availability. Laboratory results of the fuel used, from a sample taken during the 2007 inspection, indicate compliance with Part 4 and permit sulfur-in-fuel limitations. All recent bills of lading indicate

the purchase of "Ultra Low Sulfur Diesel". See also FGEMERENGINES. SL observed the MACT-required hour meter (101.9 hrs) and maintenance log; these provisions appear to have been implemented.

#### EUFLYASH

SL observed a truck being loaded at the time of the inspection, and some visible fugitive emissions were observed from the (open) bay door. Mr. Dupuis reminded the trucker to close the door, which abated the situation. No visible emissions were noted from the scavenger baghouse, which was in operation during the loading.

Further review of the permit indicates that operations must be in accordance with SOP 6.337. See Attachment B. This document is silent on fugitive dust issues; Mr. Dupuis indicated that he'll pursue modifying/improving this document to require closure of the bay door (as is reportedly practiced currently) or other fugitive dust abatement.

Based on quick abatement of the situation and operations consistent with the SOP, no deviations from the permit were identified based on this set of observations.

Wetted ash continues to be hauled to the JH Campbell landfill. Site discussions and CAM reporting all indicate that CAM has been properly implemented and that the control equipment (baghouses and enclosures) is operated properly.

#### EUFUELHAND

This unit is subject to CAM as PM is controlled at multiple points by baghouses. Observations indicated no visible emissions from either the "Breaker House" (ground-level) or "Unit 4/5 Filter Receiver" (scavenger on the roof of the bunker room) baghouses. Each of these new baghouses is equipped with bag leak detectors and differential pressure monitors, however CAM excursions are defined as periods of visible emissions.

Observations specifically indicated operations within CAM-specified ranges; no visible emissions were noted from either control device, broken bag detectors were functional and indicating normal operations, and differential pressures were within specified ranges. Note, coal was being handled at the time of these observations.

#### EUBOILER4; see also FGBOILERS4&5

Control Room observations at about 11:15AM on 7/1/14 indicated 159MW (gross; about 90% maximum fuel feed speed on all 4 coal feeders).

Control Room charts indicated the following operations:

ESP on "Automatic" mode to minimize opacity; current stack opacity = 17%

NO<sub>x</sub> = 0.39#/mmBtu

SO<sub>x</sub> = 1.06#/mmBtu

This unit's particulate matter (PM) emissions were last tested in 2012, with a result of 0.0406 lb PM/1,000 exhaust gas, corrected to 50% excess air. This compares to the limit of 0.18 lb PM/1,000 exhaust gas, corrected to 50% excess air.

#### EUBOILER5; see also FGBOILERS4&5

Control Room observations at about 11:15 AM on 7/1/14 indicated 155 MW (gross; about 85% maximum fuel feed speed on the 4 coal feeders).

Control Room charts indicated the following operations:

ESP on "Automatic" mode to minimize opacity; current stack opacity = 20%

NO<sub>x</sub> = 0.15#/mmBtu

SO<sub>x</sub> = 1.07#/mmBtu

This unit's particulate matter (PM) emissions were last tested in 2012, with a result of 0.0072 lb PM/1,000 exhaust gas, corrected to 50% excess air. This compares to the limit of 0.18 lb PM/1,000 exhaust gas, corrected to 50% excess air.

#### FGBOILERS4and5

SL visited the CEMS shelter at about 11:30 AM. Mr. Dupuis and Mr. Roger Vargo provided the various CEMS-based reports that were requested at the start of the inspection. There were no issues with the current performance of these CEMS, and so the CEMS values as presented here and in the Control Room are taken as valid at this time. Note, no compliance issues were noted based on the requested and reviewed materials and reports.

Specifically, SL requested and received Calibration Detail reports for each CEMS system for 7/1/14. See attached. Data from all CEMS are valid; no issues were noted in the data from 6/30 or 7/1/14.

SL also requested and received Opacity Matrices and 1-Hour Average Data for 6/30 and 7/1/14. See attached. Again, no emissions issues are noted, and reported Stack Opacities generally concur with the Method 9 Readings performed (later in) this day.

Review of "Average Data Trending Reports" for the last two weeks showed consistent operations and NOx/SOx emissions. See attached.

Opacity was consistently compliant (<20% opacity) with the exception of a few "blips" on 6/18/14. Further review of Opacity data for this day indicated a total of 8 6-minute periods >20% opacity. This day was highlighted by electrical storms and subsequent electrical/equipment failures on-site. But excess emissions were minimized and the maximum duration of an exceedence was 24 minutes. See attached Opacity Graph and Opacity Matrix for 6/18/14. Other than subsequent reporting in quarterly, semi-annual and annual reports, no further action is required here.

Pursuit of this "period of interest" highlighted use of graphs to identify periods of interest; and finer examination (through graphs, compiled records, CEMS and Operator's logs) provided a consistent picture of on-site conditions during this period.

#### FGBOILERS1,2&3

These were not in operation at the time of the inspection. These units are currently in long-term "cold storage" and the facility has submitted necessary notifications per 40 CFR 75.61(a)(7) in order to waive on-going CEMS requirements, etc.

#### FGEMERENGINES

None of the three emergency RICE were operating at the time of the inspection. The current RO Permit incorporates requirements for these, based on the new RICE MACT. Compliance date for these is May 3, 2013. SL observed the required hour meter (461.1 hours) and maintenance logs for the emergency fire pump engine; no issues.

#### FGPARTSCLEANERS

Mr. Dupuis confirmed that the same compliant solvent ("ZEP 143") is still in use in the regulated machines.

#### FGRULE290

Mr. Dupuis confirmed that there are no such units currently on-site.

#### PETITIONS

As noted in the June 23, 2011 Staff Activity Report Addendum for this facility's renewed RO Permit, while the AQD has conducted a detailed investigation of the projects discussed in public comments, the AQD is unable to definitively determine the facility's compliance status with respect to these issues at this time based on currently available information. In light of the fact that the USEPA is currently involved in enforcement action regarding the alleged PSD and opacity violations at BC Cobb, as well as in receipt of a petition regarding the renewed permit, the AQD feels it most prudent to defer to the federal case to resolve these issues per the following:

- The USEPA is currently discussing alleged opacity and PSD violations of an undisclosed nature with Consumers Energy. These ongoing enforcement negotiations at the federal level have precluded the sharing of certain information with the AQD, including specific information pertinent to the USEPA enforcement proceedings and any resultant agreement.

Mr. Dupuis stated the agreement should be signed this fall. Neither he nor SL has any knowledge of the status of the ROP petition.

Consumers has petitioned US EPA for BC Cobb operations through April, 2016. The AQD's extension letter for Mercury and Air Toxics (MATS) compliance to this date enables Consumers to address both environmental/air compliance issues while addressing service and reliability concerns of the Mid-west's grid operating authority (MISO).

**SUMMARY**

Based upon the information reviewed, the facility appears to be in compliance with applicable rules and regulations as compiled in MI-ROP-B2836-2011. This conclusion is based on the contents of required reports submitted by the facility; review of requested records; as well as the on-site observations of July 1, 2014.

**ATTACHMENTS**

- A; Visible Emissions Observation Form
- B; Dry Ash Loading SOP 6.337
- C; 7/1 Calibration Details
- D; COMS and CEMS Data, 6/30 and 7/1/14
- E; Average Data Trending (6/16/14 through 6/30/14)
- F; Average Data Trending (OPACITY) (6/18/14)

NAME SA Jantunen      DATE 7/2/14      SUPERVISOR [Signature]

*minor correction 7/9/14*