

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

B197626592

FACILITY: J.B. Sims Generating Station		SRN / ID: B1976
LOCATION: 1231 N. Third St., GRAND HAVEN		DISTRICT: Grand Rapids
CITY: GRAND HAVEN		COUNTY: OTTAWA
CONTACT: Paul Cederquist, Environmental Compliance Specialist		ACTIVITY DATE: 08/26/2014
STAFF: Steve Lachance	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection for FY '014		
RESOLVED COMPLAINTS:		

On August 26, 2014, SL conducted an unannounced, scheduled inspection of the Grand Haven Board of Light and Power, JB Sims Generating Station located at 1231 Third Street, Grand Haven, Michigan. The purpose of the inspection was to determine the facility's compliance with Renewable Operating (RO) Permit No. MI-ROP-B1976-2011. (See specific discussions below.) The facility was represented by Mr. Paul Cederquist (environmental issues contact; 616-842-6355, extension 1292) and various other site personnel during the on-site inspection.

**Note, this Full Compliance Evaluation incorporates the on-site field activities of August 26, 2014 as well as assessment of all received reports and site observations since completion of the last facility inspection in September, 2013. See the attached FCE cover sheet for documentation of these activities and reference to activity details.**

#### FACILITY DESCRIPTION

The facility is an electricity generating station, where pulverized coal is the primary fuel. One unit, No. 3, is in use, producing up to 80 megawatts (gross) per hour. Current operations are typically less however, due to decreased area electrical demand. The facility is located on the Grand River near the developed waterfront of Grand Haven, Ottawa County. A city marina/pier is located directly south of the facility.

Unit 3 was installed about 1983 and Units 1 and 2 were retired in 1989. Emissions from Unit 3 are controlled by low-NOx burners, a four-field electrostatic precipitator, a wet lime/limestone scrubber, and a Selective Non-Catalytic Reduction (SNCR) system for control of oxides of nitrogen. The facility has Continuous Emission Monitoring Systems (CEMS) installed for gas flow, sulfur dioxide (inlet and outlet), carbon dioxide, nitrogen oxides and opacity.

Other emission sources at the facility include fuel handling equipment, a backup natural gas-fired auxiliary boiler, a cold cleaner and miscellaneous maintenance painting activities.

The stationary source is located in Ottawa County, which is currently designated as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations, Part 70, because the potential to emit both sulfur dioxide and nitrogen oxides exceeds 100 tons per year.

The stationary source is also considered a major source of Hazardous Air Pollutant (HAP) emissions because the potential to emit of a single HAP regulated by the federal Clean Air Act, Section 112 (HCl) is greater than 10 tons per year. The stationary source is also a major source for Green-Houses Gases (GHGs.)

The stationary source is subject to Prevention of Significant Deterioration (PSD) of Title 40 of the Code of Federal Regulations, Part 52.21, regulations because its potential to emit of sulfur dioxide and nitrogen oxides is greater than 100 tons per year. However, recent permitted modifications at this stationary source were not subject to PSD regulations, based on the facility's on-going demonstrations that resulting increases in emissions were not greater than significant levels. Future modifications of the process equipment at this stationary source may be subject to the PSD requirements for pollutants for which Ottawa County is in attainment.

The stationary source is subject to the New Source Performance Standards for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subparts A and D.

The stationary source has an emission unit (EU-UNIT-3\_BLR) subject to the federal Acid Rain program promulgated in Title 40 of the Code of Federal Regulations, Part 72.

The stationary source is subject to the federal Compliance Assurance Monitoring (CAM) rule under Title 40 of the Code of Federal Regulations, Part 64, because EU-UNIT-3\_BLR has both a control device and potential pre-control emissions of particulate matter (PM) greater than the major source threshold level. CAM requirements are included in this ROP. Other emission limits for EU-UNIT-3\_BLR are not subject to CAM because the emission limitations or standards meet the CAM exemption of Acid Rain monitoring requirements.

The Clean Air Interstate Rule (CAIR) is now in place, and appropriate permits were issued to the site as part of the last RO permit renewal. CAIR supplants former Part 8 permit requirements.

## COMPLIANCE EVALUATION

The current ROP contains tables of applicable requirements for the following emission units: EU-MTL\_HNDLING for handling coal, lime and ash; EU-UNIT-3\_BLR for the coal-fired boiler; FGRULE290 for small, maintenance-related activities; and FG-PARTCLEANERS for multiple cold cleaners.

The field portion of the evaluation was completed on August 26, 2014. Weather conditions were cloudy, humid, about 75-80 degrees F, with increasingly brisk SW winds of over 10 mph. Stack emissions of 0% opacity (instantaneous values; no steam plume present; maximum 6-minute average of about 0% opacity) were documented earlier in the day (about 9:20 to 9:35 AM) prior to site entry. The Visible Emission Observation Form for these readings has been filed separately.

SL arrived on-site at about 10 AM, EDT. The on-site compliance evaluation on August 26, 2014 began with an entrance interview with Mr. Paul Cederquist. Specific items discussed included:

\*\*\*SL provided Mr. Cederquist with the DEQ "Environmental Inspections Rights and Responsibilities" brochure and announced his intention to conduct an Air Quality Inspection.

\*\*\*Mr. Cederquist reported no current operational issues with Renewable Operating Permit No. MI-ROP-B1976-2011.

\*\*\* Use of the SNCR is not required currently to meet applicable federal NOx standards (with the current CAIR permits) and SNCR equipment was infrequently used. It was, however operating on this date.

\*\*\*SL requested the following records (which were compiled before leaving site and which are discussed below):

- Current CEMS Calibration Reports (all systems passed)
- Opacity Matrix for August 25 and 26, 2014 (Opacity < 2% for each 6-minute period {except calibration})
- Records of fuel quality (as analyzed from a monthly composite sample)

\*\*\*No complaints have been received by AQD recently. The Fugitive Dust Control Plan was updated as part of the most recent ROP public comment period. See further Fugitive Dust discussions, below.

\*\*\*The most recent Relative Accuracy Test Audit (RATA) of required CEMS was completed and passed June 18-20, 2014 (report received as part of this inspection); and the most recent Particulate Matter Stack Test was completed and passed in June, 2010. Results from that test indicated 0.002 #PM/mmBtu heat input (6.7% of the allowed limit of 0.03 #PM/mmBtu heat input); the next test is due within 5 years of the ROP's issuance (i.e., by 2016.)

\*\*\*SL further discussed fugitive dust issues with Mr. Cederquist. Ash and gypsum storage areas were in generally acceptable shape, as on-ground materials are being minimized in these areas, the facility uses a city-owned sweeping/vacuum truck, and the city has purchased a large watering truck for convenient use, as needed. SL also confirmed with Mr. Cederquist that facility personnel observe boats utilizing required unloading procedures (wetting, minimized drop distances, observance of weather conditions, etc.)

\*\*\*Mr. Cederquist maintains weekly contact and surveillance of conditions at the adjacent marina; AQD has received no recent complaints.

\*\*\*Multiple parts cleaners are still in use, with the same (stoddard) solvent as noted in previous inspections.

\*\*\*Boiler\_4 (black-start/emergency use) is fired by natural gas only and so has no Boiler MACT emission limits/testing requirements per 40 CFR 63, Subpart DDDDD.

\*\*\*The facility will soon be installing a small emergency gen-set, but at 250 kW, the engine is expected to be small enough to easily qualify for exemption through Rule 285(g). This late in the permitting cycle, the resulting RICE requirements would be handled upon application for renewal of the ROP.

#### EU-MTL\_HNDLG

This emission unit consists of coal, lime, and ash material handling processes. Specific points are controlled by enclosures, bag houses, and wet dust suppression. Periodic monitoring for visible emissions, required maintenance, and implementation of the Fugitive Dust Plan provide the basis for compliance. General strategies for fugitive dust control include wetting materials; road scraping with a front-end loader; and sweeping of paved areas.

Both of the ash and gypsum handling areas appeared to be in acceptable condition. While fugitive dust conditions seemed prime (pretty hot and windy), AQD's received no recent complaints and overall fugitive dust conditions seemed acceptable.

All requested records were available, including those required by the Environmental Inspection program outlined in Appendix 3.1 of the RO Permit.

### EU-UNIT-3\_BLR

This is a pulverized coal-fired boiler rated at approximately 78-80 megawatt (gross). Emissions are controlled by a wet lime scrubber, 4-field electrostatic precipitator (ESP), low-NOx burners and (when in use), a SNCR system. The emission unit is subject to emission limits for the following pollutants (basis for compliance presented in parentheses): particulate matter (periodic stack test); sulfur dioxide (inlet and outlet CEMS); nitrogen oxides (CEMS); and opacity (COMS).

The most recent stack test was completed in 2010, with results approximating 6.7% of allowed levels. The Unit is subject to CAM Based on COMS. Appropriate reports have been submitted, and CAM for this unit appears to be properly implemented.

Review of the Opacity Matrix for the day of inspection and the preceding full day of operation indicated less than 2% opacity for each 6-minute period. See attached Average Data Opacity Tables for August 25 and 26, 2014.

The following operating data was collected from the Unit 3 Control Room at about 11:15 AM. Since the day's CEMS Calibration Reports that each system passed calibration (see attached), each CEMS value reviewed is accepted as valid.

1.2% Opacity  
47% Coal Feeding Capacity  
37 MW (gross) production

0.19#SOx/mmBtu outlet  
5 #SOx/mmBtu inlet  
(About 96% SOx reduction)

0.23 #NOx/mmBtu

SL requested and received documentation of fuel, as required by Appendix 3. See attached Analysis Reports for 2014. These records, in conjunction with CEMS and documented scrubber efficiencies, indicate compliance with sulfur-in-fuel and SO2 emissions limits. Specifically, these indicate a lower Sulfur content; and higher heating value for sulfur than required by permit.

Note that in addition to on-site personnel observations of yard conditions, the Boiler Control Room Operator assesses conditions via camera surveillance. The Boiler Control Room Operator can initiate dust control actions based on these observations. Weather conditions are also assessed here through Internet weather services.

#### FG-RULE-290

This regulates any existing or future emission unit that emits air contaminants that are exempt from permitting pursuant to Rule 290. The facility maintains records of maintenance spray painting (architectural and machine parts), and these emissions (minor) are included in MAERS reports. These indicate compliance with the monthly limits of Rule 290 on an annual basis.

#### FG-PARTSCLEANERS

These requirements apply to cold cleaners that are exempt from permitting and which are not subject to the Halogenated Solvent Cleaner MACT Standard. There are currently 2 units in service, using stoddard solvent. In a previous inspection, it was determined that this was an appropriate solvent, based on the MSDS which indicated that the vapor pressure is well below that allowed by the rule. Neither machine uses heated solvent or agitation.

#### **EVALUATION SUMMARY**

SL considers the facility to be in compliance with applicable air regulations at the time of the completion of this evaluation; SL indicated "no known issues" to Mr. Cederquist prior to departing from the site.

#### **ATTACHMENTS:**

***August 25 and 26, 2014 Average Data Opacity Reports***

***August 26, 2014 CEMS Calibration Report***

***2014 Analysis Reports for Monthly Composite Fuel Samples***

NAME



DATE

9/2/14

SUPERVISOR



