

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

FCE Summary Report

<b>Facility :</b> J.B. Sims Generating Station	<b>SRN :</b> B1976
<b>Location :</b> 1231 N. Third St.	<b>District :</b> Grand Rapids
	<b>County :</b> OTTAWA
<b>City :</b> GRAND HAVEN <b>State:</b> MI <b>Zip Code :</b> 49417	<b>Compliance Status :</b> Compliance
<b>Source Class :</b> MAJOR	<b>Staff :</b> Kaitlyn DeVries
<b>FCE Begin Date :</b> 7/3/2017	<b>FCE Completion Date :</b> 7/2/2018
<b>Comments :</b> FY 18 FCE	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
06/27/2018	Stack Test Observation	Compliance	Day 2 MATS Stack Test Observations
06/12/2018	Scheduled Inspection	Compliance	The purpose of the inspection was to determine compliance with MI-ROP-B1976-2018.
06/12/2018	Stack Test Observation		Stack Test Observations - Day 1

06/08/2018	Excess Emissions (CEM)	Compliance	<p>The 1st quarter Inlet CEM Data Report, linearity, and cylinder gas audit was received pursuant to MI-ROP-B1976-2011 and 2018 were received on time and complete. No issues were noted in the linearity and cylinder gas audits.</p> <p>Unit 3 operated for a total of 1328.46 hours during this quarter. The unit went down on February 25, 2018.</p> <p>The CO2 outlet, for which there is not applicable emission limit, and the CO2 inlet reported zero (0) excess emissions with 0.60% CEMS monitor downtime for the outlet and 0.83% downtime for the inlet. The downtime was frozen lines to the CEMS shelter, and excess river debris.</p> <p>There is a 20% opacity limit for the unit. No excess emission were reported for the quarter, but a total of 0.06% monitor downtime was reported, due to a startup, and when the plant tripped multiple times due to excessive debris in the river.</p> <p>NOx emissions are limited to a 30 day rolling average of 0.46 lb/MMBTU. A total of 0.60% CEMS monitor downtime was reported, and average emissions for the period was 0.308 lb/MMBTU.</p> <p>No excess emissions were reported for the SO2 inlet, and 0.83% monitor downtime was reported. Similarly, no excess emissions and a total of 0.60% downtime was reported for the SO2 outlet. The SO2 outlet has emissions limits of 0.84 lb/MMBTU and 0.600 lb/MMBTU, both 30 day rolling averages. The average SO2 emissions for the reporting period is 0.141 lb/MMBTU accounting for an average 97.1% SO2 removal efficiency.</p> <p>Also attached to this report, is a letter that was sent to EPA, and AQD, regarding the missed Q1 stack test due to the plant coming off line prior to the scheduled testing event. The plant tripped</p>
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06/08/2018	Excess Emissions (CEM)	Compliance	due to an overabundance of debris in the river which created issues with the facility's cooling system. When trying to re-start, the facility blew a boiler tube causing the facility to shutdown again, and only came back in in June. Per 40 CFR Part 63 Subpart UUUUU, a make-up test can be completed in the next quarter, which is scheduled.
05/02/2018	MAERS	Compliance	ROP Certification form for MAERS received on 2/2/18: The source is primarily relying on CEMS, Stack test, and MAERS emission factors. The facility reported SO2 emissions without a CE inserted for the AQD calculated emissions, but the CEMS data has this accounted for. The CE was added . Additionally no CE was entered for PM10, but was for PM2.5. The correct CE was confirmed and updated (see the new uploaded document). The actual reported emissions from the facility were not changed.
04/17/2018	Stack Test	Compliance	<p>The 4th Quarter HCl &amp; PM Stack Test reports were received on time and complete. The report indicates a PM emission rate of 0.003 lb/mmBTU, which is compliant with the MATS limit of 0.03 lb/mmBTU and the Low emitting electric generating unit (LEE) limit of 0.015 lb/mmBTU. For HCl, the report indicates an HCl emission rate of 0.00055 lb/mmBTU which is compliant with the MATS limit of 0.0020 lb/mmBTU, and with the LEE limit of 0.0010 lb/mmBTU. These test results indicate compliance with the MATS limits and the LEE limit for PM. Three (3) consecutive years of quarterly testing is required to obtain LEE status for a particular pollutant. Since the 3rd quarter did not achieve LEE status for HCl, this begins the start of the required time period for HCL to obtain LEE status.</p> <p>AQD TPU reviewed the results from this test, and deemed the results to be acceptable.</p>

Activity Date	Activity Type	Compliance Status	Comments
04/17/2018	Excess Emissions (CEM)	Compliance	<p>The 4th Quarter Excess Emissions Report was received on time and complete. The quarterly cylinder gas audits and linearity tests were also included. No issues were identified in the linearity reports. Unit 3 operated for a total of 5896 hours during this quarter.</p> <p>The CO2 outlet, for which there is not applicable emission limit, and the CO2 inlet reported zero (0) excess emissions with 0.05% CEMS monitor downtime for the outlet and 0.05% downtime for the inlet. The downtime was due to a startup.</p> <p>There is a 20% opacity limit for the unit. No excess emission were reported for the quarter, but a total of 0.01% monitor downtime was reported, due to a startup.</p> <p>NOx emissions are limited to a 30 day rolling average of 0.46 lb/MMBTU. A total of 0.05% CEMS monitor downtime was reported, and average emissions for the period was 0.303 lb/MMBTU.</p> <p>No excess emissions were reported for the SO2 inlet, and 0.05% monitor downtime was reported. Similarly, no excess emissions and a total of 0.05% downtime was reported for the SO2 outlet. The SO2 outlet has emissions limits of 0.84 lb/MMBTU and 0.600 lb/MMBTU, both 30 day rolling averages. The average SO2 emissions for the reporting period is 0.132 lb/MMBTU accounting for an average 96.9% SO2 removal efficiency.</p>

Activity Date	Activity Type	Compliance Status	Comments
02/12/2018	ROP Annual Cert	Compliance	<p>The Annual Compliance Report pursuant to MI-ROP-N1976-2011 was received on time and complete. A total of 46 deviations were reported for the entire reporting period. All of the deviations were previously reported; many of the deviations were the same, but occurred on different days. OF the deviations, most were for missing data due to startup and shutdowns. Appropriate actions were taken to correct the deviations. No further action is necessary.</p>
02/12/2018	ROP SEMI 2 CERT	Compliance	<p>A total of 28 deviations were reported for the reporting period. Many of the deviations are the same, but happened on multiple days. Many of the deviations had to do with startups and shutdowns, resulting in missing NOx, CO2, SO2, and Opacity data. The duration for the missing data for the dates are relatively small and do not impact the required data for compliance with the permitted limits. Corrective actions were taken fix the issues causing the boiler to trip and have multiple startups and shutdowns. No further action is necessary.</p>
02/12/2018	CAM Excursions/Exceedances	Compliance	<p>The required CAM excursion/exceedance report was received on time and complete. One (1) exceedances was reported for Opacity, lasting 13 minutes. The report indicates the cause to be the re-heats were not operating, but the issue was corrected. The report also states that it was visually verified that the excess opacity did not exceed 20%. No further action is necessary.</p>

Activity Date	Activity Type	Compliance Status	Comments
02/12/2018	CAM monitor downtime	Compliance	The required CAM monitor downtime report was received on time and complete. Several instances of downtime were reported, with the longest duration lasting 20 Minutes. The reasons for the downtime were due to unexpected auto calibrations, and restarts. There was also one note of computer communication errors. The report states that while the computer indicates there is missing data, the data is present. The total minutes of downtime, excluding the computer communication errors total 68 minutes. No further action is necessary.
01/22/2018	ROP Other	Compliance	Per AQD's request, Grand Haven Board of Light and Power J.B Sims Generating Station resubmitted the 2nd Quarter PM Stack Data, pages 48 and 49 due to inadvertent errors in the data. These pages serve to replace the erroneous data on those two (2) pages only.

Activity Date	Activity Type	Compliance Status	Comments
11/07/2017	Excess Emissions (CEM)	Compliance	<p>The 3rd Quarter Excess Emissions Report was received on time and complete. The quarterly cylinder gas audits and linearity tests were also included. No issues were identified in the linearity reports. Unit 3 operated for a total of 1921 hours during this quarter.</p> <p>The CO2 outlet, for which there is not applicable emission limit, and the CO2 inlet reported zero (0) excess emissions with 0.47% CEMS monitor downtime for the outlet and 1.04% downtime for the inlet. The downtime was primarily due to startups, shutdowns, and Quality Assurance Calibrations.</p> <p>There is a 20% opacity limit for the unit. No excess emission were reported for the quarter, but a total of 0.49% monitor downtime was reported, primarily due to multiple startup/shutdowns and stackvision going into calibration mode for unknown reasons.</p> <p>NOx emissions are limited to a 30 day rolling average of 0.46 lb/MMBTU. A total of 0.42% CEMS monitor downtime was reported, and average emission fro the period was 0.299 lb/MMBTU.</p> <p>No excess emissions were reported for the SO2 inlet, and 0.99% monitor downtime was reported. Similarly, no excess emissions and a total of 0.42% downtime was reported for the SO2 outlet. The SO2 outlet has emissions limits of 0.84 lb/MMBTU and 0.600 lb/MMBTU, both 30 day rolling averages. The average SO2 emissions for the reporting period is 0.183 lb/MMBTU accounting for an average 95.5% SO2 removal efficiency.</p>
10/27/2017	Other	Compliance	Q1 and Q2 Excess Emissions Report Revisions.

Activity Date	Activity Type	Compliance Status	Comments
10/26/2017	ROP Semi 1 Cert	Compliance	<p>This report was received on time and complete (received 9/7/2017). A total of eighteen (18) deviations were reported for the reporting period. Many of the deviations are the same type of deviation, but occurred on several different days. The deviations were primarily for missing SO<sub>2</sub>, CO<sub>2</sub>, and NO<sub>x</sub> data due to startups and shutdowns and failed calibrations due to low heat at the inlet duct at the time of the calibration resulting from startup. The overall missing data from the CEMS results in a very low percentage of CEM downtime. Two (2) of the deviations were due to failed equipment, including the inlet regulator and water droplets in the dropouts due to a failed inlet SO<sub>2</sub> calibration pump. The equipment was subsequently replaced. The final two (2) deviations were due to excess emissions (also reported as excursions under CAM), which were excess water vapor due to issues with air-reheats resulting in the water vapor and then the resulting opacity reading. Multiple valves were replaced in the unit to correct the problem.</p>
10/26/2017	CAM Excursions/Exceedances	Compliance	<p>This report was received on time and complete (received 9/7/2017). Two (2) reports of excess opacity were reported on dates 1/18/17 and 2/9/17. The duration for each incident were nine (9), 6-minute increments and 36, six-minute increments. Both instances were caused by re-heats not operating causing the opacity to read high. The facility states that the opacity was in fact water vapor and not true opacity. Valves were replaced both times to fix the problem. Appropriate corrective actions were taken to fix the problems, and the excess opacity was indicated as steam. No further action is necessary at this time.</p>
10/26/2017	CAM monitor downtime	Compliance	<p>This report was received on time and complete (received 9/7/2017). No CAM Monitor downtime was reported for the reporting period. No further action is necessary at this time.</p>

Activity Date	Activity Type	Compliance Status	Comments
09/25/2017	Stack Test	Compliance	<p>The 3rd Quarter HCl &amp; PM Stack Test reports were received on time and complete. The report indicates a PM emission rate of 0.003 lb/mmBTU, which is compliant with the MATS limit of 0.03 lb/mmBTU and the Low emitting electric generating unit (LEE) limit of 0.015 lb/mmBTU. For HCl, the report indicates an HCl emission rate of 0.00174 lb/mmBTU which is compliant with the MATS limit of 0.0020 lb/mmBTU, but not compliant with the LEE limit of 0.0010 lb/mmBTU. These test results indicate compliance with the MATS limits and the LEE limit for PM. Three (3) consecutive years of quarterly testing is required to obtain LEE status for a particular pollutant.</p>
08/04/2017	MACT (Part 63)	Compliance	<p>The Particulate Matter (PM), Hydrochloric Acid (HCl), and Mercury (Hg) stack test report for 40 CFR Part 63 Subpart UUUUU - Mercury and Air Toxics Standards (MATS) was received via CEDRI on 7/21/2017 and paper copy on 8/2/2017. The report indicates a PM emission rate of 0.005 lb/mmBTU, which is compliant with the MATS limit of 0.03 lb/mmBTU and the low emitting electric generating unit (LEE) limit of 0.015 lb/mmBTU. For HCl, the report indicates an emission rate of 0.00056 lb/mmBTU, which is compliant with the MATS limit of 0.0020 lb/mmBTU and the LEE limit of 0.0010 lb/mmBTU. Finally, the Hg results indicate an emission rate of 0.518 lb/TBTU and 4.5 lb/year, which is compliant with the limit of 1.2 lb/TBTU and 29 lb/yr,</p> <p>The compliant test results are with the MATS requirements and put the facility back on track to qualify for LEE status for PM and HCl. Three (3) consecutive years of quarterly testing is required to obtain LEE status.</p>

Activity Date	Activity Type	Compliance Status	Comments
08/04/2017	ROP Qrtly Cert	Compliance	<p>The Q2 inlet CEM RATA and excess emission report reports were received on time and complete. The results of the quarterly cylinder gas audits and linearity tests were also included; no issues were identified from the linearity reports. All data below is for Unit 3, which operated for 1135 hours during this quarter.</p> <p>The CO2 outlet, which has no applicable emission limit, and the CO2 inlet reported zero (0) excess emissions with 0.70% CEM monitor downtime.</p> <p>There is a 20% opacity limit, for which there was 0.01% excess emission reported for the quarter for a total of 6 minutes for the quarter.</p> <p>NOx is limited to 0.36 lb/MMbtu per a 30 day rolling average. There was 0.70 CEM monitor downtime reported for the reporting period, and the average emissions for the period was 0.311 lb/MMBtu.</p> <p>The SO2 inlet reported zero (0) excess emissions with a total of 0.70% CEM monitor downtime. The same was reported for the So2 outlet. The SO2 outlet has emission limits of 0.84 lb/MMBtu and 0.600 lb/MMBtu, both 30 day rolling averages. For the reporting period the outlet average was 0.282 lb/MMBTU accounting for an average 93.9% SO2 removal efficiency.</p>
07/20/2017	Telephone Notes	Compliance	Telephone notes regarding monitoring issues at the facility.

Name:

Kaithy [Signature]

Date:

7/2/2018

Supervisor:

[Signature]