

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N673164448

<b>FACILITY:</b> CMS Generation Kalamazoo River Generating Station		<b>SRN / ID:</b> N6731
<b>LOCATION:</b> 6900 EAST MICHIGAN AVENUE, COMSTOCK TWP		<b>DISTRICT:</b> Kalamazoo
<b>CITY:</b> COMSTOCK TWP		<b>COUNTY:</b> KALAMAZOO
<b>CONTACT:</b> Timothy Morrison , Plant operator		<b>ACTIVITY DATE:</b> 07/28/2022
<b>STAFF:</b> Monica Brothers	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Unannounced scheduled inspection		
<b>RESOLVED COMPLAINTS:</b>		

This was an announced scheduled inspection to make sure that someone would be at the facility. I emailed Tim Morrison, the Plant Operator, a couple of days before I wanted to do the inspection on July 7, 2022, but he said that he would not be available that week due to a family member's surgery for which he needed to be present. So, we agreed on doing the inspection on July 28, 2022 instead. I arrived at the facility at 9:10 am and met with Tim and Jordan Zondlak. I briefly described the inspection process to them both, and then we looked at records before taking a tour of the facility. The turbine was not running during the time of the inspection. The facility is currently operating under MI-ROP-N6731-2021.

**EUCOMBTURB01:** The turbine is a GE Frame 7E Combustion Turbine with low NOx combustors that is capable of firing only natural gas. It is rated at 86 MW (1,200 MMBTU/hr). Records show that the unit has been fired for a total of 764.6 hours so far in 2022 and has generated a total of 52,214.5 Mwhrs. In 2021 they ran for 596.7 hours and generated 39,869.5 Mwhrs. The last time the turbine ran was on July 22, 2022 for a 13.9-hour dispatch.

In 2018, a new PTI 8-18 was approved for the facility, which allowed them to make upgrades to the generator and increase the heat input rating of the turbine. This upgrade was considered a "modification" under 40 CFR 60.2 and therefore made the turbine subject to 40 CFR, Part 60, Subpart KKKK instead of Subpart GG. The requirements of PTI 8-18 have since been rolled into their ROP.

The facility does not yet have a CEMs or PEMs to monitor emissions. The facility would like to use a PEMs but are awaiting EPA approval to use this in lieu of a CEMs. Based on their current capacity factor, they are not yet required to have a CEMs, however, they do plan to run more often in the future, which may increase their capacity factor to above the threshold. Per 40 CFR, Part 75, Appendix E, the capacity factor must be below 10% on a 3-year average, and below 20% for any given calendar year, or the company must install a NOx CEMS on the turbine. Currently, the capacity factor is at 5% for 2021, with a 7.5% three-year average. Currently, they are using a data acquisition system (DAS) and stack testing results to calculate their emissions. This is allowed under 40 CFR, Part 75, Appendix E.

Under 40 CFR, Part 60, Subpart KKKK, they have a NOx limit of 15 ppm at 15% O<sub>2</sub> on a 4-unit operating hour rolling average, or 96 ppm at 15% O<sub>2</sub> while operating at less than 75% of peak load or at temperatures of less than 0°F. Stack testing results from September 2, 2020 testing showed that they are in compliance with this limit.

The facility also has a NOx limit of 72.9 pph on a 24-unit operating hour rolling average. Their most recent stack test in September 2020 shows that they are in compliance with this limit, with

24 lbs NOx/hr being the reported value. Records also show that they are also in compliance with the 224 tpy on a 12-month rolling timescale NOx limit. According to their records, the highest NOx tpy value for 2020 was 25.89 tpy in July. They are also limited to operating no more than 6,145 hours per year on a 12-month rolling timescale. Their records show that they operated for 1,267.7 hours/year for the month of July, which was the highest value since 2019.

I also viewed records for their SO<sub>2</sub> emissions. They are required to stay below 0.060 lb/MMBtu heat input on an hourly basis. The facility shows compliance with this limit by maintaining monitoring data and test reports, analyzing the sulfur content of the natural gas they combust, and by keeping records of natural gas usage and gross energy output on an hourly basis. I viewed records of their annual gas sampling analysis reports done by DTE Energy for September 08, 2021, June 14, 2021, September 2, 2020, and July 6, 2020. The July 6, 2020 report showed that the gas was 89.796 MOL% Methane and contained 0.151 gr S/100 cu.ft. and 0.0005% sulfur by weight. The limit is 2.4 g sulfur/100 cubic feet. The gross heating value was 1068 and 1074 BTU/dscf. In addition to the annual gas analysis requirement, they are required to determine the gross calorific value (GCV)/heating value every month. These values need to be between 950-1100 BTU/scf. The lowest value I observed in their records was 1062 BTU/scf, and the highest value was 1076 BTU/scf. Consumers Energy calibrates the gas flow meter about twice per year. The inputs for the Data Acquisition System (DAS) get updated as soon as the company receives the annual results from the gas sampling analysis. The capacity factor gets computed weekly. Natural gas usage is monitored and recorded continuously.

I also examined the Electronic Data Reporting (EDR) reports for all of 2020 and 2021 and 2022. These reports contain the SO<sub>2</sub>, CO<sub>2</sub>, and NOx emissions. For 2021, emissions were 0.2 tons SO<sub>2</sub>, 29,427.3 tons CO<sub>2</sub>, and 12.3 tons NOx. For 2020, emissions were 0.2 tons SO<sub>2</sub>, 57,002.9 tons CO<sub>2</sub>, and 24.0 tons NOx.

This facility also has Acid Rain (AR)/CSAPR permits that require them to keep track of their credit balances and allowances deducted for each year. These records are attached. The designated representatives are Jimmy Chong and Thomas D. Wiegman.

CMS Generation-Kalamazoo River Generating Station seemed to be in compliance with its permit requirements at the time of this inspection.

NAME Monica Butcher DATE 9/19/22 SUPERVISOR RL 9/20/22