

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

N673143059

FACILITY: CMS Generation Kalamazoo River Generating Station		SRN / ID: N6731
LOCATION: 6900 EAST MICHIGAN AVENUE, COMSTOCK TWP		DISTRICT: Kalamazoo
CITY: COMSTOCK TWP		COUNTY: KALAMAZOO
CONTACT: Timothy Morrison , Plant operator		ACTIVITY DATE: 01/09/2018
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Announced Scheduled Inspection		
RESOLVED COMPLAINTS:		

This was an announced scheduled inspection to make sure that someone would be at the facility. I emailed Tim Morrison, the Plant Operator, the morning before I wanted to do the inspection, but Tim said he would be gone that day. He said he would be available on Wednesday, December 13, 2017, so we scheduled the inspection for that date. On December 12, 2017 Tim emailed and said that he would have to cancel the inspection because of medical issues, so we rescheduled for after the holidays on January 9, 2018. Cody Yazzie and I arrived at the facility at 9:00 am and met with Tim and Paul Snoes, the Health and Safety Coordinator. I gave them my business card and briefly described the inspection process. We decided to look at records first, and then Tim gave us a tour of the plant afterward. The facility was not running during the time of the inspection.

EUCOMBTURB01: The turbine is a GE Frame 7E Combustion Turbine with dry low NOx combustors that is only capable of firing natural gas. It is rated at 73.5 MW (786.5 MMBTU/hr). Records show that the unit has been fired for a total of 25.9 hours so far in 2018 and has generated a total of 1614.7 MwHrs. In 2017 they ran for 115.1 hours and generated 6464.5 MwHrs. Much of this was for testing purposes. The last time the turbine ran was on January 5, 2018 for a 15.3 hour dispatch.

The last time the turbine was stack tested for permit compliance purposes was on March 14, 2014 and the results showed that they were in compliance with emission limits. They are required to test the turbine every 5 years, so they will need to test again in 2019. However, they have performed additional stack tests for other purposes since 2014. In October 2016, they shut the turbine down and did a rebuild and maintenance on the unit. This was not considered a "reconstruction" as defined in 40 CFR 60.15 because the replacement of the components did not exceed 50% of the fixed capital costs that would be required to construct a completely new unit. The rebuild cost approximately \$5.5 million, whereas a new turbine is estimated at over \$40 million. Therefore, the facility is still subject to 40 CFR 60, Subpart GG and not yet Subpart KKKK.

After this rebuild, they conducted a post-outage stack test on December 6, 2016 to make sure their emissions were still below the required limits. While they are not currently subject to 40 CFR 60, Subpart KKKK, they have submitted a PTI application asking to increase their permitted heat input of the turbine. Once this PTI is issued, they would be allowed to make changes to the unit that would sustain the increase in heat input and increase emissions. This would be considered a "modification" under 40 CFR 60.2, and would therefore trigger Subpart KKKK. They also conducted a CEMS RATA test on June 13, 2017. They are planning on installing a PEMS in the future, and they are currently using a CEMS to gather the necessary data.

I viewed records of their annual gas sampling analysis reports done by DTE Energy for July 27, 2016 and July 24, 2017. The 2016 report showed that the gas was 91.75 MOL% Methane and contained 0.091 gr S/100 cu.ft. and 0.0003% S. The gross heating value was 1045 and 1050 BTU/dscf. Consumers Energy calibrates the gas flow meter about twice per year. I observed the records of these calibrations, which were performed on 9/7/16 and then again on 3/22/17. 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 and is currently at 0.7%. Per 40 CFR, Part 75, Appendix E, it 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.

In addition to the annual gas analysis requirement, they are required to determine the gross caloric value (GCV)/heating value every month. These values need to be between 950-1100 BTU/scf. The following values are the records I observed for this: December 2017= 1040 BTU/scf, November 2017= 1038 BTU/scf, October 2017= 1042 BTU/scf, September 2017= 1045 BTU/scf, August 2017= 1050 BTU/scf,

July 2017= 1052 BTU/scf, June 2017= 1044 BTU/scf, May 2017= 1038 BTU/scf, April 2017= 1032 BTU/scf, March 2017= 1034 BTU/scf, February 2017= 1039 BTU/scf, January 2017= 1040 BTU/scf, December 2016= 1038 BTU/scf, November 2016= 1048 BTU/scf, October 2016= 1047 BTU/scf, September 2016= 1038 BTU/scf, and August 2016= 1059 BTU/scf, which were all within the required boundaries.

I also examined the Electronic Data Reporting (EDR) reports for all of 2017 and the last two quarters of 2016, as well as the Greenhouse Gas Report for 2016 (attached). These reports contain the SO₂, CO₂, and NO_x emissions. For 2017, emissions were 0.0 tons SO₂, 5,008.0 tons CO₂, and 2.0 tons NO_x. The greenhouse gas report for 2016 showed that they emitted a total of 5,841 tons of CO₂e¹.

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 Andreski.

Tim then took us to see the facility and the turbine. The turbine itself was not running during the inspection. Tim explained to us how the turbine worked and showed us the associated equipment on-site, including the turbine's generator, the water wash system, and the control room.

We thanked Tim and Paul and left the facility at about 11:00 am. CMS Generation-Kalamazoo River Generating Station seemed to be in compliance with its permit requirements at the time of this inspection.

NAME 

DATE 1/22/18

SUPERVISOR MB 1/23/2018