

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

B728742492

FACILITY: Sturgis Municipal Power Plant		SRN / ID: B7287
LOCATION: 505 West Chicago Rd., STURGIS		DISTRICT: Kalamazoo
CITY: STURGIS		COUNTY: SAINT JOSEPH
CONTACT: Keith Skaggs ,		ACTIVITY DATE: 11/29/2017
STAFF: Dennis Dunlap	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection.		
RESOLVED COMPLAINTS:		

This was an unscheduled inspection. Keith Skaggs is the contact person. The facility is a municipal electric power generation plant with one dual fuel 8,295 BHP engine with a 6,000 KW generator.

The engine is run once/month for 2 hours for maintenance purposes. During these monthly tests the engine is run on diesel for 45 min. then switched to 95% gas and 5% diesel. For power production, the engine last ran on 10/25 for 2.7 hours. During this run the catalyst diff. pressure was reading 2.8-3.2 and the catalyst inlet temp was reading 650-680 degrees F. These readings are within the allowed ranges. The engine is cooled by an outside water cooling tower. Biocide is added to the water. The water cooling tower is exempt by Rule 280(2)(d). During runs the catalyst inlet temp. is checked with another temp. gauge.

The twelve- month rolling average calculations for kilowatt hours, diesel fuel usage, and natural gas usage were viewed for Oct. 2017. The kilowatt hours were 144,682 (permit limit is 13.1 million per year); oil was 4,079 gallons; and natural gas was 563 thousand cubic feet. There is a gas meter and oil meter for the engine.

A stack test for CO was performed on 6/21/16. Three one- hour test runs were done. The facility was in compliance with the emission limits. The next test for CO is due by 6/21/19. The next test for NOx is due by 12/16/19. During the stack test the avg. diff. pressure across the catalyst during run #1 was 3.02; during run #2 the average was 3.04; during run #3 the average was 2.7. The overall average was 2.92. The catalyst inlet temp. was reading in the range of 757 to 770 degrees F.

The facility received fuel oil samples on 11/16/16 and 11/17/16. The facility sampled each delivery and sent the samples to Paragon Labs. The results came back as 10.2 ppm (0.00102 %) and 6.4 ppm (0.00064 %), respectively. On 6/22/17 the facility took a sample of the fuel oil from the down stairs location. The results came back as 10.4 ppm (0.00104 %). Paragon Labs used ASTM Method D 5453. A sample was taken during this inspection from a valve near the day tank. This sample will be sent in if a lab with a low detection limit can be found.

Fuel oil is stored in a 30,000 gallon above ground tank installed in about 2004. This tank is exempt by Rule 284(2)(d).

There is a maintenance log for the engine. Based on this log a new oxidation catalyst was installed in March of 2013, along with a new cooling tower. On 9/10/13 the oil was changed. Also in 2013 the HAP GUARD continuous parameter monitoring system (cpms) was installed. The cpms monitors the differential pressure drop across the catalyst as well as the catalyst inlet temp. (4-hour rolling average).

The cpms system stores data on a card. Once a month the data on the card is downloaded into a computer. This data can be viewed to see historical operating parameters. There is a site-specific monitoring plan. Based on this plan the cpms is checked once per week. These weekly checks are recorded.

For startup and shut down, these operations are automatically controlled.

There is one degreaser at the facility. The lid was closed and the rules were posted.

The facility does not peak shave. It only runs when contacted by the city.

NAME Dennis Dunlap

DATE 11/30/17

SUPERVISOR MA 12/1/2017