

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

K246050602

FACILITY: Central Michigan University		SRN / ID: K2460
LOCATION: 1720 S. East Campus Drive, MOUNT PLEASANT		DISTRICT: Saginaw Bay
CITY: MOUNT PLEASANT		COUNTY: ISABELLA
CONTACT: John Fernandez , Utility Operations Supervisor		ACTIVITY DATE: 08/12/2019
STAFF: Benjamin Witkopp	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Facility inspection		
RESOLVED COMPLAINTS:		

Ben Witkopp of the Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division (AQD) met with John Fernandez of Central Michigan University (CMU) to check compliance with the facility's renewable operating permit (ROP). The latest ROP was issued January 7, 2015. The facility is considered a major source with the potential to emit over 100 tons of carbon monoxide and NOx. It has limits on individual as well as aggregate hazardous air pollutants (HAPs). The source is classified as a synthetic minor source of HAPs. The main emission units of concern at CMU consist of the boilers and turbines in the powerhouse. Additionally, there is some very minor coating occurring in the printing services and maintenance spray booth. Lastly, the site has a number of emergency engines.

Boilers 1 and 2 are gas or oil fired and are 90 mmbtu per hr. Boiler 4 was initially a 68.5 mmbtu per hr wood fired boiler. However, CMU sought and received a permit to modify Boiler 4 to be capable of firing natural gas too. It can now burn either / or but not both fuels at once. Wood has not been used since the adaptation to burn gas was completed. Boiler 5 acts as a waste heat boiler that can use hot exhaust gases from the turbine. It is 117 mmbtu per hour and can also run independently using natural gas. A 3,130 KW (40 mmbtu per hr input) turbine is used to generate electricity for the campus. It can run on gas or oil. There is also a steam turbine which is exempt from permitting. It generates electricity via steam from boiler 4 or the gas turbine. Even though oil is an alternate fuel for some boilers and the turbine, oil has not been delivered for some time. The quality of the natural gas supplied to the facility is specified in a contract. It meets the requirements for sulfur content specified in the permit.

As previously stated, boiler 4 is now capable of burning either wood or natural gas. Wood has not been used for quite some time, over three and a half years. Natural gas is the fuel of choice, especially from a material handling standpoint. The highest monthly usage was 28.55 MMCF in December 2018.

Boiler 5 is subject to NSPS Db and is the main boiler being used at this time. Boilers 1 and 2 alternate in their usage. Boiler 5 has a NOX limit of 35.9 tpy on a 12 month rolling time period. Of the records checked the highest emission in the last two years was 23.62 occurring in January, 2018. The natural gas usage limit for boiler 5 is 359 mmscf per 12 month rolling time period. The highest 12 month total was 248.59 mmscf in January 2019. The annual capacity factor calculation is required by 40 cfr 60 subpart Db, section 60.49(d). The highest recorded value in the records checked was 25% and occurred in January 2018.

The gas turbine has a NOx limit of 125 tpy on a 12 month rolling time period. Records review indicated it was typically in the high 50s to low 60s tpy range with the highest being 63.06 tons in January 2019.

Boilers 1 and 2 are contained in a flexible group in the ROP. The boilers are alternated in their use while boiler 5 remains as the primary one. There is a limit on fuel oil usage, but as previously stated, no fuel oil has been delivered to the site.

All of the boilers and the gas turbine are included in a flexible grouping called FG power plant. There is a limit on total steam production of not more than 175,000 pounds per hour based on a 12 month rolling time period. Records reviewed indicated the highest amount was 58,862 pounds per hour which is well below the limit. The peak was reached in May 2018.

Another flexible group containing all of the boilers concerns the boiler GACT. Basic requirements revolve around energy assessments, sending notifications of being subject to the GACT to EPA etc. Since boiler 4 is not using wood and fuel oil is not used in other boilers additional requirements are essentially non-existent. Maintenance activity records are being kept.

One change at the facility was noted when reviewing the Michigan Air Emissions Reporting System (MAERS) submittal. The facility eliminated its existing underground storage tank. It then installed a two compartment above ground fuel storage tank. One compartment handles 4,000 gallons of diesel and is exempt via 284(2)(g)(ii). The other compartment handles 8,000 gallons of gasoline, also exempt via 284(2)(g)(ii). Only the gasoline compartment

is subject to the gasoline dispensing GACT. The fuel is for use in vehicles owned by CMU. The basic requirements of the GACT are work practices to minimize spills or extended times of vapor release. Monthly records of gasoline throughput are required to demonstrate the tank remains in the <10,000 gallons per month category.

The facility ROP also includes the New Source Performance Standards (NSPS) for both compression and spark ignition engines. They are NSPS IIII and JJJJ respectively. The emergency use engines subject to the NSPS's are scattered across the campus. The maintenance and operational hour records are being kept for each engine. However, the operational hours were recorded every three or so months (not for a specific yearly period) and did not delineate between emergency and non-emergency hours. Even lacking the aforementioned information, the operating hours presented did not appear to result in any overages.

There is a flexible group concerning rule 287c. It involves the maintenance spray booth and printing services facility. The printing service area uses soy-based ink. The maintenance booth is used very little. The highpoint for the maintenance booth was only 3 gallons and was in February 2019. Material use in the print shop is also quite low. In short, the records reviewed indicated far less than 200 gallons of coating were used per month.

Based upon the units examined and records reviewed the facility was considered in compliance at the time of inspection.

NAME B. Luthoff

DATE 9-27-19

SUPERVISOR C. Stone