

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

K215570933

<b>FACILITY:</b> FERRIS STATE UNIVERSITY		<b>SRN / ID:</b> K2155
<b>LOCATION:</b> 625 S WARREN AVE, BIG RAPIDS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> BIG RAPIDS		<b>COUNTY:</b> MECOSTA
<b>CONTACT:</b> Matt Burmeister ,		<b>ACTIVITY DATE:</b> 02/13/2024
<b>STAFF:</b> Scott Evans	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> On-site inspection to assess compliance with air quality rules and regulations.		
<b>RESOLVED COMPLAINTS:</b>		

### Introduction

On February 13, 2024, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an on-site inspection of Ferris State University located at 625 South Warren Ave. in Big Rapids, Michigan, to assess compliance with air quality rules and regulations. Ferris State University is a synthetic minor source for nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>x</sub>), and greenhouse gas emissions. It has one active permit to install (PTI): PTI No. 5-14 which permits an incinerator, a co-generation unit, and a large boiler.

All permitted equipment for this facility is contained within one of two facilities: the university energy building and the school for ophthalmology. Upon arrival at the energy building, where EU-COGEN and EU-BOILER are housed, SE first observed the facility exterior for any indications of odors or visible emissions (VEs). There were no observed odors or VEs at the time of inspection. SE then entered the facility and was greeted by Matt Burmeister. After a discussion to explain the purpose of the day's visit, an inspection of the facility was conducted. After the inspection at the energy building, SE arrived at the ophthalmology facility to inspect EU-INCINERATOR.

### PTI No. 5-14

This permit was issued in March of 2014. It contains conditions regarding three emission units (EUs) and one flexible group (FG) as follows:

- EU-INCINERATOR
- EU-COGEN
- EU-BOILER
- FGFACILITY

### EU-INCINERATOR

This EU consists of one incinerator used to burn pathological wastes. Upon arrival at the ophthalmology building, it was determined that the incinerator has not been used in multiple years. The university staff that had originally used the incinerator had used it for management of wastes related to a colony of experimental rodents. Since the last inspection, the staff member that used the equipment had retired and the rodent colony was removed without replacement. As such, there is no current use for the equipment. Though the equipment is still functional, it is currently housed in a room that is used as storage and reaching the equipment for use is impeded by the storage supplies, indicating that it is not presently in used. As it is still functional, compliance with permitted requirements was assessed. If the equipment is ever disabled or removed, staff were advised to contact the AQD to assess whether this permit should be modified, based on the status of all other equipment contained within it.

The incinerator has one emission limit of 0.20 lbs. of particulate matter (PM) per 1,000 lbs. of exhaust gasses. Appendix A of the PTI includes requirements that, when followed, will control PM emissions and demonstrate compliance with this emission limit. During the inspection, a copy of the appendix could be seen posted by the unit, though the equipment is not used at this time.

This incinerator has one material limit that requires only pathological wastes be burned within the incinerator. Pathological wastes are defined as materials consisting of only human or animal remains, anatomical parts, and/or tissue; the bags/containers used to collect and transport the waste material; and animal bedding. Discussion with staff confirmed that, though the equipment isn't currently used, when it was in use it was to remove bedding used for care of the rodent colony.

This incinerator has one process restriction, which states that the unit may only operate if the requirements of Appendix A are adequately followed. As explained above, it was discussed and confirmed that the facility operated in accordance with the requirement of this appendix, though it is no longer in use.

This EU has two recordkeeping requirements. The first requires that all provided documentation be in an acceptable format to the AQD and available by the 30<sup>th</sup> day of each month. As the equipment is not used, there were no recent records for review. This is acceptable.

The second requirement states that a record of the description and weight of all waste materials incinerated in the unit shall be maintained. As above, no records were available, which is acceptable as the equipment is no longer in use.

This unit has one permitted stack that is required to be a maximum of 18 inches in diameter and a minimum of 58 feet above ground level. One stack for the unit was observed during the inspection. For safety reasons this stack was not directly measured, though upon inspection it appeared to be compliant with the permitted requirement.

#### EU-COGEN

During the inspection it was explained that the cogeneration unit is no longer operational. While at the facility, it could be seen that the unit has been disconnected from all lines and is no longer functional. The facility indicated that there are plans to one day remove the equipment entirely. It was discussed with staff that, if the equipment is ever brought back into operation or removed completely, they should contact the AQD to assess relevance of the permit and whether or not modification would be required.

#### EU-BOILER

This EU consists of a 75,000 lb/hr gas/oil-fired boiler. It has the following five emission limits:

Pollutant	Limit	Time Period / Operating Scenario	Highest Recorded
1. NO <sub>x</sub>	8.96 pph	Test Protocol	NA
2. SO <sub>2</sub>	33.91 pph	Test Protocol	NA
3. SO <sub>2</sub>	34.3 tpy	12-month rolling time period as determined at the end of each calendar month	<1 tpy

Pollutant	Limit	Time Period / Operating Scenario	Highest Recorded
4. CO	13.44 pph	Test Protocol	NA
5. VEs	<20% Opacity	Visual Observation	0%

Compliance with the limits measured in pph was determined through verification of proper equipment maintenance and operation alongside a review of required records, which are discussed further below. 12-month rolling SO<sub>2</sub> emissions were determined through a review of records. Visible Emissions compliance was determined through visual observations during the inspection as well as discussion with facility staff that verified no incidents of opacity greater than 20% had occurred since the last inspection in 2018.

This boiler has three material limits. The first states that only natural gas or fuel oil No.2 may be burned in the unit. This was discussed and it was confirmed that no other fuels besides natural gas have been used in the boilers since the last inspection. It was discussed that, though the boilers are capable of burning fuel oil, the facility does not test with fuel oil or otherwise operate the boilers on anything other than natural gas. It was discussed that if the boilers can be modified or be shown to not utilize fuel oil it may warrant review of the permit for potential modification.

The second material limit states that the sulfur content of all fuel oil used shall not exceed 0.4% by weight. As discussed above, the facility no longer uses fuel oil for the boilers. As such, there have been no shipments of fuel oil and so there were no records for review. This is acceptable.

The third material limit states that no more than 1,200,000 gallons of fuel oil may be burned during any 12-month period. As discussed, the facility has used no fuel oil in the boilers in recent years.

This boiler has one process restriction, which states that the facility shall adhere to all applicable provisions of New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart Dc. All applicable requirements of this NSPS are covered by compliance with the other requirements within this permit.

There are six recordkeeping requirements. The first requires that all provided documentation be in an acceptable format to the AQD and available by the 30<sup>th</sup> day of each month. Records were in an appropriate format and were reviewed on site at the facility during the inspection. As the majority of the records pertain to fuel oil use and composition, copies were not requested though it was confirmed on site that the records are maintained appropriately and can be provided if requested.

Requirements two through five require that daily, monthly, and 12-month rolling annual records of fuel and natural gas usage, NO<sub>x</sub> emissions, SO<sub>2</sub> emissions, and CO emissions be maintained by the facility. All of these records were provided by the facility as required and were used to make the compliance determinations discussed above. Though fuel-oil related emissions are not maintained, the documentation of emissions still contains appropriate calculations for if fuel oil is used. All emissions calculations did include natural gas used, which was also recorded monthly and 12-month rolling annually as required.

The sixth requirement states that sulfur content of each fuel oil shipment shall be maintained on record in accordance with 40 CFR Part 60 Subpart Dc. As fuel oil is no longer used, there were no sulfur content records for review. This is acceptable.

This boiler has one stack requirement that requires a stack of no more than 42 inches in diameter and no less than 53 feet above ground level shall be installed for the boiler. A stack was observed during the inspection and, though it was not directly measured for safety reasons, it appeared to meet the permitted requirements.

#### FGFACILITY

This FG includes all process equipment source-wide including all permitted equipment, grandfathered equipment, and exempt equipment. It has the following applied emission limits:

The above compliance determinations are based off review of records reviewed on site, which are discussed further below.

This facility has one material limit, which requires that no more than 3.165 million gallons of fuel oil per 12-month rolling time period in FGFACILITY, nor more than 1,479.6 million cubic feet of natural gas per 12-month rolling time period, or the amount as determined from the following equation:

$$\text{Foil} = 3.165 \times (1 - \text{Fgas}/1,479.6)$$

When reviewed on site, fuel records showed that no fuel oil had been used since 2017 (which was noted in the previous inspection report from 2020) and that ~3 million cubic feet of natural gas had been used in total in the past 12 calendar months. Both are well below the permitted limits.

The facility has five recordkeeping requirements. The first requires that all provided documentation be in an acceptable format to the AQD and available by the 30<sup>th</sup> day of each month. Records were reviewed on site and were complete dating back to 2012. Review of the records demonstrated compliance with above emission and material limits as well as further recordkeeping requirements discussed below.

The second states that monthly and 12-month rolling records of fuel oil use shall be maintained. These records were reviewed and showed zero fuel oil use since 2017.

The third through fifth requirements state that monthly and 12-month rolling records of NO<sub>x</sub>, SO<sub>2</sub>, Individual HAP, Aggregate HAP, and CO<sub>2e</sub> emissions must be recorded. These records were reviewed on site to make the above compliance determinations with all emission limits. Because of the extensive size of record documentation for over 10 years of records as well as the emissions levels well below permitted levels emissions records were only reviewed on site and copies were not requested.

#### **Reporting**

As a synthetic minor source that has accepted opt-out limits within their permit, this facility is required to submit annual reports through the Michigan Annual Emissions Reporting System (MAERS). The most recent MAERS report was submitted on March 2, 2023. This report was on time and demonstrated compliance with all reporting requirements.

**Exempt Equipment**

Throughout campus, this facility has multiple other exempt boilers.

One boiler at the power building is a 75,000 pph fuel oil boiler that is grandfathered from air permitting requirements as it was installed prior to 1967. This unit is no longer used to burn fuel oil and only operates on natural gas.

Two boilers at the power building are 20.4 mmBtu boilers that are exempt from air permitting requirements under Rule 282(2)(b)(ii). These boilers are subject to 40 CFR Part 60 Subpart Dc. Initial startup notification of these boilers was provided to the AQD in 2013. All other recordkeeping and reporting requirements are met through the FGFACILITY requirements as well as annual reporting requirements as discussed above. These boilers are not subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart JJJJJ as they are only operated using natural gas.

Five boilers elsewhere throughout campus are all small, <10 mmBtu units that are exempt from air permitting requirements under Rule 282(2)(b)(i). These units are not subject to 40 CFR Part 60 Subpart Dc as they are under 10 mmBtu units. These units are not subject to 40 CFR Part 63 Subpart JJJJJ as they are natural gas fired units.

**Conclusion**

At the conclusion of this inspection the facility appeared to be compliant with all permitted requirements as well as all other applicable air quality rules and regulations. Though much of the permitted equipment at the facility is disabled or no longer in use, the continued use of some permitted equipment warrants maintenance of the permit. It was discussed with facility staff that further significant changes to equipment use and function should be discussed with the AQD to determine if further review of the permit is necessary.

NAME Scott EvansDATE 2/28/2024SUPERVISOR HH