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

P062557246

FACILITY: MDOC-Muskegon Complex		**SRN / ID:** P0625
LOCATION: 2400 S. Sheridan Drive, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Trever LeBarre , Environmental Health, Fire Safety and Jail Service		**ACTIVITY DATE:** 02/08/2021
STAFF: Scott Evans	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: An off-site air quality inspection to assess compliance with PTI No. 133-15 and other applicable air quality requirements. The facility appeared to be in compliance with all requirements.		
RESOLVED COMPLAINTS:		

Intro

On February 8, 2021, facility representatives for the Michigan Department of Corrections (MDOC) Muskegon Complex were contacted by Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff member Scott Evans (SE) regarding the need to conduct an air quality inspection as per the requirements outlined in Opt-out Permit to Install (PTI) No. 133-15. Initially, contact with the facility's Environmental Health and Safety (EHS) coordinator Trever LeBarre (TL) was made to discuss this inspection.

Due to the ongoing COVID-19 pandemic, it was determined that the best approach to this inspection would be to conduct it completely remotely to not risk the health of the inspector or the population at the facility. Additionally, due to security concerns and policies at the facility, the use of still images for viewing of the permitted equipment was necessary, as opposed to the use of video recording or video conferencing. Though unconventional, these measures were accepted for this inspection given the unique circumstances of the location and the times.

To conduct this virtual inspection, TL put SE in contact with Dawn Grates (DG), a representative of Fishbeck Inc., which is the company contracted to manage environmental health functions at the facility. Through contact with DG the necessary images and records to conduct the inspection were obtained.

Evaluation

As this was a remote inspection, there was no opportunity for observation of the facility from the exterior. This is a guarded facility that is covered by thick tree-lines that do not permit distance observations without entering the facility grounds, which, as discussed above, was determined to not be in the best interest of the health of all involved.

PTI No. 133-15

The facility has one active permit: PTI No. 133-15. This permit includes source-wide emission limits for NO_x and SO_2 to opt the facility out of the Title V program. Visual inspection of all process equipment covered in this permit was conducted through photos taken by facility representatives and sent to SE for review. The photos are attached to this inspection report. The photos include overview pictures of all emission units described below in PTI No. 133-15 and their associated boiler or generator plates. It is important to note that pictures of EU-EMGRICE3 are historic as the unit was dismantled and sold in 2019. It has currently not been replaced. The pictures also included images of an old, dismantled boiler as well as a third operational boiler that is exempt from air permitting regulations (the exempt boiler is further discussed later in this report). Based on what is seen in these photos, all equipment appears well maintained and in proper operational condition.

This permit describes six emission units:

- EU-BOILER1 – 24 MMBtu/hr natural gas fired steam boiler.
- EU-BOILER2 – 24 MMBtu/hr natural gas fired steam boiler.
- EU-EMGRICE1 – 340 kW (456 hp) diesel fueled reciprocating internal combustion engine (RICE) emergency generator.
- EU-EMGRICE2 – 340 kW (456 hp) diesel fueled RICE emergency generator.
- EU-EMGRICE3 – 500 kW (671 hp) diesel fueled RICE emergency generator.
- EU-EMGRICE4 – 563 kW (755 hp) diesel fueled RICE emergency generator.

This permit describes three flexible groups:

- FG-BOILERS – Two natural gas fired steam boilers (EU-BOILER1 and EU-BOILER2)
- FG-EMGGENS – Four diesel-fueled RICE emergency generators (EU-EMGRICE1, EU-EMGRICE2, EU-EMGRICE3, and EU-EMGRICE4)
- FG-FACILITY – All process equipment source-wide.

FG-BOILERS

This flexible group, as described above, includes EU-BOILER1 and EU-BOILER2. Both boilers were installed in 2017 and per the New Source Performance Standards (NSPS) for industrial-commercial-institutional steam generating 40 CFR Part 60 Subpart Dc, initial startup notification for these boilers was submitted to the AQD on August 14, 2017. This Flexible group is subject to the following emission and material limits:

- SO_2 emissions limited to 0.056 lb/MMBtu per day when burning fuel oil.
- NO_x emissions limited to 0.020 lb/gal per day when burning fuel oil.
- NO_x emissions limited to 100 lb/MMscf per day when burning natural gas.
- Only pipeline quality natural gas or fuel oil may be burned.
- Fuel oil sulfur content shall not exceed 500 ppm by weight.

The facility provided records for the period of January 2020 through December 2020, as requested by SE. Review of these records as they represent compliance with the above limits yields the following notes:

- During the reported period, no fuel gas was burned.
- January 2020 had the highest reported use of Natural Gas during the reported period at 11 MMscf, resulting in 1,093.79 lb/mo of NO_x emissions. This calculates to an average of 3.21 lb/MMscf per day of NO_x emissions, which is well below the limit of 100 lb/MMscf per day.
- The records confirm that only natural gas was burned for the operation of the boilers.

The above analysis demonstrates that the facility was within compliance of the described emission and material limits at the time of the inspection.

The facility is subject to an operational restriction that fuel oil may only be used when natural gas is unavailable, during startup, or during testing. If testing fuel oil operation, the amount of time run

may not exceed 48 hours during any calendar year. As outlined by the records discussed above, no fuel oil was burned during the year 2020, demonstrating compliance with this restriction.

The facility is required to maintain an accurate monitor to record natural gas usage at the facility. Compliance with this is demonstrate by the provision of accurate natural gas usage records as described above.

The facility is expected to keep the following records up to date and in a satisfactory format for analysis:

- Monthly and 12-month-rolling annual records of types and amounts of fuel used.
- Fuel analyses of any fuel oil used to operate boilers.
- The number of hours of operation while burning fuel oil.

The provided records included columns for types of fuel used and monthly usage for each. The provided records did not include 12-month-rolling annual totals of fuel usage; however, this can easily be calculated by using the monthly records. As this information can be determined without great difficulty, no violation will be issued. The facility has been informed that a column with 12-month-rolling annual totals should be added to the records moving forward. As no fuel oil was burned during the reported period, the facility had no records to provide regarding fuel analysis or hours of operation while using fuel oil.

The facility is required to provide any necessary documentation needed to demonstrate compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR part 63 Subparts A and JJJJJJ. Provision of fuel oil analysis and operational hours would satisfy this requirement. As no fuel oil was burned, and so no such records are required to demonstrate compliance at this time.

FG-EMGGENS

As described above, this flexible group includes the four emergency generators located at the facility (EU-EMGRICE1, EU-EMGRICE2, EU-EMGRICE3, and EU-EMGRICE4). This flexible group is subject to one material limit:

- Sulfur content of fuel oil used shall not exceed 500 ppm by weight.

As discussed above, no fuel oil was used at the facility during the reported period and so analyses are not required to demonstrate compliance at this time.

This flexible group is subject to an operational limit that says each engine shall not operate for more than 500 hours per year on a 12-month-rolling period. Records of generator operation were provided including the following highest values of 12-month-rolling operational hours:

- EU-EMGRICE1 ran a total of 55 hours as of December 2020.
- EU-EMGRICE2 ran a total of 55 hours as of December 2020.
- EU-EMGRICE3 did not operate as it was dismantled in 2019.
- EU-EMGRICE4 ran a total of 58 hours as of December 2020.

These records demonstrate compliance with the established restriction of no more than 500 hours of operation per 12-month-rolling annual period.

The facility is required to keep a non-resettable hours meter for each engine within this flexible group. The photos provided and attached to this report show that each engine includes proper gauges and are compliant with this rule.

The following records are required to be maintained by the facility:

- The facility must have records completed by the thirtieth day of the calendar month for the previous calendar month.
- Hours of operation of each emission unit must be recorded on monthly and 12-month-rolling annual bases.
- Fuel oil analyses must be kept by the facility for all fuel oil used.
- The following records must be kept for all emission units within the flexible group:
    - Manufacturer
    - Manufacture date
    - Model Number
    - Horsepower
    - Serial Number
    - Specification Sheets
    - Initial startup date
    - Date removed from service, if applicable.

The facility had records completed in a timely manner as determined by SE. As discussed above regarding hours of operation, records demonstrating operational hours were kept and provided as required. As no fuel oil was used by the facility during the reported period, no records of fuel oil analyses are required at this time to demonstrate compliance. Regarding the specifications that are required to be kept on file, the facility provided the following information:

- EU-EMGRICE1
    - Manufacturer: Cummins
    - Manufacture Date: May 1973
    - Model No.: VT-1710PG700
    - HP Rating: 455.6
    - Serial No.: 10333787
    - Initial Startup Date: 1973
- EU-EMGRICE2
    - Manufacturer: Cummins
    - Manufacture Date: May 1973
    - Model No.: VT-1710PG700
    - HP Rating: 455.6
    - Serial No.: 10333788
    - Initial Startup Date: 1973
- EU-EMGRICE3
    - Manufacturer: Cummins
    - Manufacture Date: April 1987
    - Model No.: KTA19GS2

    - HP Rating: 670
    - Engine Serial No.: 37114323
    - Initial Startup Date: September 1987
    - Removed from Service Date: January 2019
- EU-EMGRICE4
    - Manufacturer: Cummins
    - Manufacture Date: March 1988
    - Model No.: KTTA19G
    - HP Rating: 754.4
    - Serial No.: 37120227
    - Initial Startup Date: March 1989

As can be seen, all necessary information was provided. All information is information that was provided by associated specifications sheets, demonstrating retention of this information as required by the permit.

For this flexible group, the facility is required to comply with all regulations outlined in the NESHAP 40 CFR Part 63, Subparts A and ZZZZ. As demonstrated by provided records, the facility is presently compliant with this requirement.

FG-FACILITY

This flexible group includes all process equipment within the source facility. This flexible group has two emission limits described:

- NO_x emissions limited to 76.7 tpy per 12-month-rolling annual period.
- SO_2 emissions limited to 12.1 tpy per 12-month-rolling annual period.

Records for facility-wide emissions of NO_x and SO_2 reflected the following highest values within the period of January 2020 to December 2020:

- NOx emissions were 5.11 tpy as of October 2020.
- SO_2 emissions were 0.0361 tpy as of December 2020.

These recorded values demonstrate compliance with the emissions limits described above.

The facility is required to maintain a meter for measuring natural gas usage throughout the facility. As discussed with the requirements of FG-BOILERS, the facility does have a functional and properly maintained meter for measuring natural gas usage. As the boilers are the only equipment that run on natural gas at the facility, there is one meter for both requirements within this permit.

The facility is required to maintain the following records in association with FG-FACILITY:

- Monthly and 12-month-rolling annual NO_x emission records.
- Monthly and 12-month-rolling annual SO_2 emission records.

As discussed above, these records were provided in an acceptable format, demonstrating compliance with these requirements.

Other Items

As mentioned above, there are two additional boilers located at the facility besides the two that are permitted with PTI No. 133-15:

- One dismantled boiler that is no longer operational.
- One exempt boiler that is currently operational.

Photos of the dismantled boiler were provided to confirm that it is present but not currently functional.

Photos of the exempt boiler included an overview photo as well as a photo of the boiler plate. This boiler is exempt from New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart Dc as it was installed in 1984, as can be seen in the photos of the boiler plate. This boiler is exempt from NESHAP 40 CFR Part 63 Subpart JJJJJJ as it is a natural gas fired boiler.

Conclusions

At the conclusion of this off-site inspection, the facility appears to be in compliance with the requirements described in PTI No. 133-15 as well as all other applicable air quality regulations.

NAME Scott Evans DATE 3/16/2021 SUPERVISOR HH