

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

N295058060

FACILITY: Eaton Corporation - Marshall Proving Ground		SRN / ID: N2950
LOCATION: 19218 B DRIVE S, MARSHALL		DISTRICT: Kalamazoo
CITY: MARSHALL		COUNTY: CALHOUN
CONTACT: Jessica Bothell, EHS Manager		ACTIVITY DATE: 05/14/2021
STAFF: Amanda Chapel	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On May 14, 2021 Air Quality Division's (AQD) Amanda Chapel (staff) completed an announced air quality inspection of the Eaton Proving Grounds located at 19218 B Drive South, Marshall, Michigan in Calhoun County. The inspection was announced due to the ongoing COVID-19 pandemic and guidance to schedule inspections to help reduce the amount of unnecessary interaction onsite. Ms. Jessica Bothell is the EHS Manager on site. The purpose of the inspection was to verify the facility is in compliance with Permit to Install 34-98C and all other applicable state and federal air quality regulations.

Eaton Proving Ground is an automotive research and development facility that has operated at this location since 1967. The facility primarily tests superchargers, torque control, and engine components in two main buildings, Administrative and Technical. The facility also has a test track and various other outbuildings for storage and vehicle maintenance. There is also a conference building called the Lodge. The facility has about 160 employees that operates one shift per day, Monday to Friday. Two shifts are run at the test track. The PTI contains requirements for EU-GENERATOR a Kohler/Ford generator associated with the Technical Building, EU-HEATER for all heaters, ovens, boilers etc. throughout the facility that use natural gas, and FG-TESTCELLS for three dynamometer test cells.

The facility is a synthetic minor source for carbon monoxide (CO) and nitrogen oxides (NOx) and are considered an area source for hazardous air pollutants. Required personal protective equipment (PPE) are steel toed boots, safety glasses, and hearing protection, where posted. When staff arrived on site, the security gate was down. I was buzzed in after announcing myself and was asked to go to security to check in and for a temperature check. Ms. Bothell met me at the security check in and we walked around the facility. Mr. Scott Kennedy, Track and Facilities Manager also joined us on the inspection. The following will describe operations at the facility and the emissions records submitted for the inspection.

Administration Building:

This building is used primarily to test superchargers and torque control components. All testing rooms use electrically and hydraulically driven equipment to test components.

We observed the 201 HP Kohler/John Deere (EU-G-003) diesel fired engine and associated emergency fire pumps (2) are located at the south end and around the back of the administration building. The engine was manufactured and installed in 2013 and is subject to 40 CFR Part 60, Subpart IIII. The engine is exempt from air permitting requirements under Rule 285(2)(g). Facility contracts Total Energy Services to maintain the engine. Current hours meter reading was 248.1

hours and the last PM was completed on 2/2/21. The facility tracks hours meter readings and hours run per month.

In August 2017, the facility installed a SAMSCO SWE-II Series wastewater evaporator in a small outbuilding adjacent to EU-G-003. The unit is natural gas fired (0.55 MMBtu/hr) and is used to evaporate process water used for cooling parts during testing. The tote water has been analyzed and characterized as nonhazardous wastewater and no VOCs were present above reportable limits, per the previous inspection report. Ms. Bothell confirmed this during the inspection and stated the continue to have the water analyzed to maintain the nonhazardous characterization. The evaporator is used, as needed. Based on calculations provided after the previous inspection, the calculated potential emissions for all air contaminants are below the respective emission limits contained in Rule 291 and therefore the process is exempt under this rule.

There is a lab room that contains both a manual and automated powder coat booth and associated electrically fired cure oven and a small, internally vented sand blast cabinet to coat and strip coating from parts produced at the facility. The filters in the powder coating booth appears to be in good shape and the last preventative maintenance performed on both the automated and manual booth was listed as 4/12/21. The sand blast cabinet is noted that only bead shot is used in the cabinet. The powder coat process is exempt from permitting under Rule 287(2)(d). The sand blast cabinet is exempt under Rule 285(2)(l)(vi)(B).

The machine shop has a TIG and MIG welding process equipped with a downdraft overhead hood and vent to the outside air. The welding equipment is exempt from permitting under Rule 285(2)(i).

The maintenance garage has one traditional style Safety Kleen cold cleaner which contains Safety Kleen premium solvent. The SDS was provided by Ms. Bothell via email after the inspection. During the last inspection a spray style cold cleaner was also identified which has been removed since the last inspection. The existing cold cleaner is exempt from permitted under Rule 281(2)(h).

Technical Building:

This building is used primarily to test engine components and most test rooms use electrically and hydraulically driven equipment.

We observed the 460 HP Kohler/Ford natural gas fired emergency generator denoted as EU-GENERATOR or EU-G-001 in the facility records. This unit was installed in 1995 and is subject to 40 CFR Part 63, Subpart ZZZZ. The unit is maintained by Total Energy Services. The last preventative maintenance on the unit was on February 3, 2021. This was annual service which includes changing the oil filters, checking the hoses, and all other maintenance requirements in Subpart ZZZZ. Hours meter reading during the inspection was 1,254.4. The generator is run for two hours every month for readiness testing. The facility is tracking natural gas usage monthly for the generator as well as hours run during the month. They are also maintaining monthly and 12-month rolling time period CO and NOx records as required by Special Condition VI.1.

On the south end of the building, there are three, double-walled, above ground storage tanks. The 2,000-gallon tank contains diesel fuel and the two 1,000-gallon tanks contain gasoline. Ms. Bothell stated that the tanks are still in use but there has not been a need to have fuel delivered

due to the dynamometers not being run as frequently now compared to previous years. Tank 2, which would traditionally hold gasoline, was empty during the inspection. The tanks are exempt from permitting under Rule 284(2)(d) and Rule 284(2)(g)(ii).

In an outbuilding adjacent to the tanks, an identical wastewater treatment was installed in 2017 and is also exempt under Rule 291.

FG-TESTCELLS consists of three engine dynamometer test cells that can use either diesel or unleaded gasoline. All three are located in the technical building. Ms. Bothell let me know that one of the rooms has been converted to electrical testing and the three dynamometers have not been run during 2020 or 2021 according the records. No diesel or gasoline has been used to operate the test cells. Mr. Kennedy said the change in usage is mostly due to the change in technology away from gas and diesel engines to electric engine testing. This saves on fuel and reduces emissions produced.

There are two traditional cold cleaners, similar to the cold cleaner located in the administration building. These are also exempt under Rule 281(2)(h).

The valvetrain area has a small paint booth with filter panels that uses only paint spray cans. No other painting is done in this area. This is exempt under Rule 287(2)(b).

There is an electrically fired heat treat furnace with a natural gas curtain which is equipped to inject anhydrous ammonia into the furnace atmosphere, as needed, during certain heat treat cycles. The furnace operator took us outside to the ammonia, nitrogen, and methanol storage building which is locked and labeled. He stated that the anhydrous ammonia tanks are approximately 140 pounds and they have been using the same one for about 7 years. There is also a spare ammonia tank, if needed. The methanol acts as a carrier for the anhydrous ammonia and is used very minimally. The heat treat furnace is used approximate 2-3 days per week. The furnace was installed in 1987 and does not heat treat any oil coated parts. There is also a standalone quench tank next to the furnace. The anhydrous ammonia tanks are exempt from permitting under Rule 284(2)(j). The oil quench tank is exempt under Rule 283(2)(a)(iv) for production of a product for field testing. The heat treat furnace is exempt under Rule 282(2)(a)(i) based on installation date. As noted in the previous inspection report, the facility is aware that installation of a similar heat treat furnace after 2016, at the facility, would be subject to new source permitting because the exemption language has been changed to exclude furnaces that use ammonia.

The facility has installed a new dust collector for the sandblast cabinet that are located inside the technical building. Mr. Kennedy said that this dust collector only runs, as needed, if the sand blast cabinets are running. It was not running during the inspection. It appeared clean with no visible dust around the collection barrel. This is now exempt under Rule 285(2)(l)(vi)(C) as it is controlled by a properly designed and operated fabric filter.

The multiple CNC machines in the model shop are internally vented and used to fabricate parts for testing to consumer specifications. These are exempt under Rule 285(2)(l)(vi)(B).

Conference Building (Lodge):

This building has a 45 HP Generac natural gas fired emergency generator (EU-G-002) that was manufactured and installed in 2012. The emergency generator is subject to 40 CFR Part 60, Subpart JJJJ and is exempt from air permitting under Rule 285(2)(g). The unit is maintained by Total Energy Services and the current hour meter reading is 192.4. The last PM was completed on 2/4/21.

FG-FACILITY

This includes all process equipment, source-wide including equipment covered by other permits, grandfathered, and exempt equipment. The facility is maintaining monthly and 12-month rolling NOx, CO, and CO2 emissions. Only NOx and CO are required for the permit. This emission calculations are based on Appendix A emission factors as required by Conditions VI.1 and VI.2. For March 2021, 12-month rolling NOx emissions were 0.62 tons/year and CO emissions were 1.5 tons per year which is well below their permitted limits for these pollutants.

At the time of the inspection, the facility appears to be in compliance with all requirements contained in PTI 34-98C and all other applicable state and federal air requirements.

NAME *Quinn Ayres*

DATE 5/14/21

SUPERVISOR *RIL 5/11/21*