

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

N196655913

FACILITY: Michigan Automotive Compressor Inc.		SRN / ID: N1966
LOCATION: 2400 N. DEARING RD, PARMA		DISTRICT: Jackson
CITY: PARMA		COUNTY: JACKSON
CONTACT: Jill Yoxheimer , Senior Environmental Engineer		ACTIVITY DATE: 10/28/2020
STAFF: Stephanie Weems	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection. Announced and scheduled with facility due to COVID-19 pandemic.		
RESOLVED COMPLAINTS:		

Major / ROP Source: Full Compliance Evaluation (FCE) and Inspection (PCE) of Michigan Automotive Compressor, Inc.

Facility Contact

Jill Yoxheimer – Senior Environmental Engineer

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Purpose

On October 28, 2020 I conducted an announced compliance inspection of Michigan Automotive Compressor, Inc. located in Parma, Michigan in Jackson County. This inspection was announced and scheduled with the facility due to safety precautions being taken during the ongoing COVID-19 pandemic. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules and their Renewable Operating Permit No. MI-ROP-N1966-2015.

Facility Location

The facility is located in a rural area.

Facility Background

The facility was last inspected on August 28, 2019 and was found to be in compliance.

This facility makes automotive compressors with magnetic clutches for air conditioning systems. They do this by melting clean aluminum ingots in reverberatory melt furnaces controlled by fabric filter baghouses. The melted aluminum is then transported to high pressure die cast machines that make the housing for the compressors. The other compressor components are machined, coated, and assembled on conveyor lines. Coatings are rubber, adhesive, or paint, and applied by robotic applicators. Some of the coating lines utilize permanent total enclosures (PTE) and regenerative thermal oxidizers (RTO) as air pollution control equipment. Other activities at this facility include natural gas fired process boilers and heaters and numerous exempt parts washers.

EU-HUBLINE3 (this includes EUHB3CC1 and EUHB3CC2) was dismantled on 8/8/2018.

EURO026, EURO027, and EURO028 were dismantled on 5/15/2015. EUFAC-BOILER4, EUFAC-BOILER5, and EUFAC-BOILER6 were dismantled on 11/30/2017.

Regulatory Applicability

The entire facility operates under ROP # MI-ROP-N1966-2015 that expired on August 18, 2020. The facility submitted their ROP renewal on February 28, 2020 and was granted an application shield on March 5, 2020. The ROP renewal is currently in the 45-day EPA review period.

The facility is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit (PTE) of a single hazardous air pollutant (HAP) is in excess of ten tons per year.

EUHUBLINE1, EUHUBLINE4, EUHUBLINE5, EUHUBLINE6, EUROTORLINE1, and EUSTATORLINE are subject to the National Emissions Standard for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metal Parts and Products. (40 CFR Part 63, Subparts A and MMMM.)

EUFAC-AHUS, EUFAC-BOILER1, EUFAC-BOILER2, EUFAC-BOILER3, and EUFAC-HEATERS are subject to the Maximum Achievable Control Technology (MACT) standards under the NESHAP for Major Sources for Industrial, Commercial, and Institutional Boilers and Process Heaters. (40 CFR Part 63, Subpart DDDDD)

EUEMERGEN1, EUEMERGEN2, EUEMERGEN3, and EUEMERGEN4 are subject to NESHAP for Major Sources for Stationary Reciprocating Internal Combustion Engines. (40 CFR Part 63, Subparts A and ZZZZ-RICE MACT)

EUEMERGEN4 is subject to the NSPS for Stationary Compression Ignition Internal Combustion Engines. (40 CFR Part 60, Subpart IIII)

The emission limitation(s) or standard(s) for HAPs from EUHUBLINE1, EUHUBLINE4, EUHUBLINE5, EUHUBLINE6, EUROTORLINE1, and EUSTATORLINE at the facility are EXEMPT from the federal Compliance Assurance Monitoring (CAM) regulation under 40 CFR Part 64 because HAPs are addressed by 40 CFR Part 63 Subpart MMMM- Surface Coating of Miscellaneous Metal Parts and Products, Major Source MACT standard.

Arrival & Facility Contact

No visible emissions or odors were observed upon my approach to the facility. I arrived at 9:51 AM, proceeded to the facility's lobby to request access for an inspection, provided my identification and met with Jill Yoxheimer, Senior Environmental Engineer.

Jill extended her full cooperation during my visit and fully addressed my questions.

NOTE: While waiting for Jill, I noticed that the facility is taking all recommended precautions to protect against the spread of COVID-19. All employees were wearing masks, social distancing was being followed, and signs were posted encouraging workers to limit contact points where possible (doors, entryways, etc.)

Pre-Inspection Meeting

A brief safety video was viewed in the lobby before Jill lead us back into the plant.

Jill outlined that the facility is operating between 6:00 AM and 2:30 PM for the first shift and 9:00 PM to 5:30 AM for the second shift. Both shifts are occasionally extended for overtime. The facility operates 5 days a week with overtime work on Saturdays as needed. There are currently approximately 1000 employees

There are no new sources of air emissions at the facility and no changes have occurred since the last inspection. Jill did indicate that the facility is thinking about making some changes to the paint they use and possibly to some of the process equipment on site. Jill said that she is aware that the facility would need to submit a PTI application for any proposed changes.

Jill explained that during the initial shutdown from COVID-19 (from March to mid-May) there was little to no production for the facility.

I then explained to Jill that I mainly wanted to see the control units outlined in the permit.

NOTE: Due to COVID-19 precautions, only a limited amount of time was spent on site. Therefore, a shorter than normal onsite inspection was conducted to mainly check the control units and operational requirements outlined in the permit.

Onsite Inspection

Note: Safety glasses, ear protection, high-visibility vest, and steel toed boots required. Additionally, everyone in the plant is currently required to wear a mask.

The facility is very large at approximately 1 million square feet in size. Overall, the facility appeared to be clean and very busy, with no smoke inside the building. Odors were minimal suggesting that the coating booths were doing a good job at capturing VOC emissions. I only observed materials in closed containers during my inspection.

Though the control units were the focus of the onsite inspection, we were able to walk through most of the facility and were able to observe all the major emission units either by being directly adjacent to them or via distant view.

We began by viewing the water wash system for EUHUBLINE1. I was able to see that the water wash curtain was installed and operating at the time of this inspection. Jill explained that they clean this booth and water wash system during every shutdown.

We proceeded to view the RTO associated with EUHUBLINE1. I was able to see that the RTO was operating at a temperature of 1571 degrees. This meets the permit requirement of operating at a temperature of at least 1450 degrees.

We next visited the 2 baghouse filters that control the melt furnaces.

The following summary is from a previous inspection report that pertains to the baghouses:

“The baghouses are checked weekly and there is a written log tracking form, in addition to a computer program to determine when to change out bags due to inadequate collection efficiency. Circular charts are used to continuously record pressure drop to monitor baghouse operating conditions to ensure the baghouse is operating properly. The permit requires that the baghouses are installed, maintained and operated in a satisfactory manner. Monitoring the pressure drop and the

collection efficiency provides a method to meet the permit requirement.”

The 2 baghouses are located outside the building immediately adjacent to the furnaces that are inside the building. Both baghouses share a common fan/stack. No opacity was seen coming from the stack, and the baghouses appeared to be in excellent condition. Both baghouses were in operation at the time of this inspection. The pressure drop gauges are located inside the building.

Jill explained that that preventative maintenance is performed on the baghouse each year, with one side being cleaned every other year.

We then observed the emergency generator located next to the baghouse. I was able to see that the unit is equipped with an hour meter, and it keeps track of the hours and the number of times the engine has been started. Jill explained that all of the emergency generators are checked every week to check their timers. She explained that the units do automatic testing, so the facility personnel will check the hours meters every week to make sure they are within the required hours.

We then walked back inside, and we were able to observe the melt furnaces. These furnaces melt only clean aluminum and provide molten aluminum to the die cast machines for the manufacture of automotive compressors. Each furnace is equipped with hoods that duct all exhaust processes to the baghouses. There is a ducted hood for the melting/cleaning process and for the skimming of slag process. The weight for each charge is measured using a floor scale located near the furnace. The scale(s) takes into consideration the weight of the cart used to hold the clean aluminum. The scales are checked every Monday for accuracy and are calibrated based on MACI's internal TS program. The weights are handwritten on a tracking sheet by the furnace operator. All of the additions to the furnace use standard weights of material for melting, flux and cleaning. Each furnace is cleaned once per hour removing all metal form inside the furnace. The fluxing process removes everything that is not aluminum from the molten bath and then is skimmed off into a separate holding trough.

Jill explained that Furnace 1200 and Furnace 13 were operating today. No smoke was seen while observing these units. Flux or pouring was not observed during this inspection. She also explained that Furnace 1100 was running as a back up to Furnace 1200, but it was not currently being used.

Next, we walked by the die cast machines and the machining lines. We stopped to view one of the cold cleaners. I was able to observe that the cold cleaner was closed while not in use and the proper safety labels were on the unit.

We next visited the RTOs associated with the remaining Hub coating lines. These Hub lines are as follows:

FGNEWHUBLINES consists of EU-Hubline 4 and EUHUBLINE5. These lines involve coating a part with a primer, then adhesive, and then a rubber spray coating using spray robots all within a Permanent Total Enclosure (PTE).

EU-Hubline 6 involves the robotic application of a primer, adhesive, flexible rubber spray, and protective resin coating onto a magnetic clutch hub all within a PTE.

The RTOs for EUHUBLINE6 and FGNEWHUBLINES are located adjacent to each other, outside on the south side of the building. The RTO for EUHUBLINE6 was operating at a

temperature of 1556 degrees, meeting the permit requirement of keeping a temperature of at least 1550 degrees. The RTO for FGNEWHUBLINES was operating at 1590 degrees, meeting the permit requirement of operating at temperature of at least 1550 degrees.

During the last inspection, Jill explained that all the RTOs are interlocked to the machines to which they are connected. If the temperature drops below 1500F, the machine will fault out, discontinuing the ability to run production. For the two new RTOs for EUHUBLINE6 and FGNEWHUBLINES, they are also interlocked to the machines such that if the machines are idle for more than 30 minutes, the RTO temperature will drop to 1300F for energy savings. Additionally, after this energy saving temperature drop, the lines will not be able to run again until the RTO temperature has reached 1500F. In addition, security monitors the temperature of each RTO on an hourly basis via the intranet, and the actual control screens on the units are checked weekly.

During the last inspection Jill showed me the program that they use to keep a current listing of the chemical composition of each coating, thinner, and cleanup solvent like their permit requires. I was able to see that the system does include the weight percent of each component. Jill explained that this system is called Material Inventory Reporting System (MIRS). She said that they also keep the SDS sheet on file for each coating, thinner, and cleanup solvent, and that will also include the chemical composition and weight percent of each component.

Record Request and Review

The required recordkeeping was requested from Jill through email on October 7, 2020. Jill provided the records on October 21, 2020. The record review was completed before this inspection (see report dated October 23, 2020). The records appear to show compliance with the required emission limits, material limits, and monitoring and recordkeeping requirements.

2020 MAERS Review

MACI reported the following emission totals for 2019:

- NOx: 13.1 tons
- CO: 10.9 tons
- VOC: 5.9 tons
- PM10: 4.6 tons
- SO2: 0.2 tons

Subpart Mmmm Report Review

This review is for the most recently submitted report, dated August 3, 2020. The report looked at compliance for the General Use Coating category, the Rubber to Metal Coating category and Extreme Performance Fluoropolymer Coating category. MACI was well under the limit for each of the categories.

The report further stated that MACI claims permanent total enclosure (PTE) for its capture systems on the rubber to metal adhesive coating process and with its extreme fluoropolymer coating process.

No emission exceedances were reported.

Testing Review

The company's ROP requires a variety of stack tests to be performed.

The RTO associated with EUHUBLINE6 was tested on December 18, 2019. The test results showed compliance for VOC destruction efficiency. A new test is required every 5 years.

The RTO associated with FGNEWHUBLINES (Hub lines 4 & 5) was tested on December 19, 2019. The test results showed compliance for VOC emission rate and VOC destruction efficiency. A new test is required every 5 years.

The Baghouse filter system for FGFURNACES was last tested on December 19, 2019 for PM, PM2.5 and PM10. The test results showed compliance. A new test is required once every 5 years.

NOTE: The new ROP language for all testing will state that a new test is required every 5 years from the date of the last test.

Post-Inspection Meeting

I held a brief post-inspection meeting with Jill. I thanked Jill for her time and cooperation, and I departed the facility at approximately 10:40 AM.

Compliance Summary

Based upon the facility inspection, review of the records, and review of the applicable requirements, it appears that MACI is in compliance at the time of this inspection.

NAME



DATE 10/28/20

SUPERVISOR

