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

N196668803

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:** 08/29/2023
STAFF: Stephanie Weems	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled inspection for FY23.		
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 August 29, 2023 I conducted an unannounced compliance inspection of Michigan Automotive Compressor, Inc. located in Parma, Michigan in Jackson County. 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-N1966-2020. I was accompanied by Brian Merle, the new AQD Environmental Engineer for the Jackson District Office.

Facility Location

The facility is located in a rural area. See aerial photo.

Facility Background

The facility was last inspected on November 24, 2021 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.

Regulatory Applicability

The entire facility operates under ROP # MI-ROP-N1966-2020 that expires on December 1, 2025.

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, EUFAC-BOILER5, EUFAC-BOILER6, 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 – Boiler MACT)

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.

Pre-Inspection Meeting

I arrived at the facility at approximately 9:06AM. No odors or visible emissions were observed on my approach to the faciltiy. Once Brian arrived, we proceeded to the security desk, signed in, and met with Jill Yoxhiemer and Amanda Schwartz, EHS Representative.

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

Jill outlined that the facility is operating two shifts for production (a day and night shift), and three shifts for the skilled trades. She stated that there are currently approximately 825 employees.

Jill stated that there are no new sources of air emissions at the facility.

Jill explained that the facility is starting to remove some of the existing equipment to prepare for bringing in equipment for the production of electric compressors for electric vehicles. She stated that ST3025 from EUSTATORLINE was fully dismantled in September of 2021, Hubline 1 (0110 and 0060) (along with the associated RTO) has also been removed, EUROTORLINE1 will be dismantled around October or November of this year, and that the remaining line for EUSTATORLINE will most likely be gone next year. She explained that the clutch components of their production are leaving as they are taking out the steel-based components and switching to aluminum-based components. She said that they are also removing all stacks associated with the dismantled processes. Overall, Jill stated that the facility's use of VOC and HAP containing materials has decreased as these lines are removed.

We then discussed the possible need for permitting new equipment. I explained to Jill that MACI should be sure to look into any necessary permitting that may be required for the new processes before installation occurs. Jill said that they have been looking into that. She explained that the new processes will have one new stack, and it will only be for their hot water wash system. She explained that the emissions from this stack would be steam, as chemicals would not be used in this process.

We then discussed how the remainder of the inspection would go. I explained to Jill that I would like to tour the whole plant, observing the emission units outlined in the permit as well as the areas where emission unit have been removed.

Inspection

Note: Safety glasses, ear protection, high-visibility vest, and steel toed boots required during onsite inspections.

The facility is very large at approximately 1 million square feet in size. Overall, the facility appeared to be practicing good housekeeping.

We began by observing where EUHUBLINE1 (0110 and 0060) were located. I was able to see that these lines are no longer at the facility and have been completely dismantled. We then proceeded outside where Jill showed us where the RTO used to be. I was able to see that the RTO was no longer installed.

We then proceeded through the scrap dock. I noted that all waste materials appeared to be stored in closed containers.

Next, we observed three of the four generators. These are located inside. Jill explained that the facility has had to use the generators more this year due to the numerous power outages that Michigan has faced.

We then observed the boilers. Two of the three boilers were running during this inspection. Jill explained that the facility is trying to sell one of the boilers (the one that was not running during the inspection). She also explained that, with the change in production, the facility will no longer need to use steam.

Next, we began our walk to the furnace area. Along the way we observed one of the facility's cold cleaners and I was able to see that the lid was closed. We also observed some of the die cast machines that are vented internally. Once we reached

the furnaces, Jill explained that the facility has removed one of the furnaces, leaving three functioning 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.

We then proceeded outside to view the baghouses. 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. The pressure drop gauges are located inside the building. Jill explained that preventative maintenance is performed on the baghouse each year, with one side being cleaned every other year. She also stated that the facility plans to conduct the required stack testing on the baghouses and the RTOs next summer.

Next, we observed the fourth emergency generator. Jill explained that it had just gone through its automatic testing cycle earlier that morning. I was able to see that there is a non-resettable hour meter on the device.

Next, we observed the RTOs associated with the other Hublines. These Hub lines associated with the RTOs 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.

During previous inspections, 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. The RTOs for EUHUBLINE6 and FGNEWHUBLINES 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.

I was able to see that the RTO for EUHUBLINE6 was operating at 1556 degrees F, and the RTO for FGNEWHUBLINES was operating at 1586 degrees F. This meets the permit requirement of operating at a minimum of 1500 degrees F.

Lastly, we walked through the assembly area. Jill showed us where the facility has moved all of their parts washers so that they duct to the RTO.

Record Request and Review

During the inspection, the following record request was provided to Jill. These records were requested as a partial compliance evaluation (PCE) conducted as part of a scheduled full compliance evaluation (FCE).

RECORD REQUEST

Please provide the following records as required by MI-ROP-N1966-2020 for the time period of July 2022 to June 2023 (unless otherwise noted). Please send to Stephanie Weems at weemss@michigan by September 6th

EUHUBLINE1

- The following monthly records for EUHUBLINE1 (0060):
  - Gallons (with water) of each coating, thinner and cleanup solvent used.
  - VOC content (with water) of each coating, thinner and cleanup solvent as applied.
  - VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
  - VOC mass emission calculations determining the annual emission in tons per 12-month rolling time period as determined at the end of each calendar month.
- Records of the temperature in the RTO **for September 25, 2022.**
- Records of the VOC emissions in pounds per calendar day and VOC mass emission calculations determining the annual emission in tons per 12-month rolling time period as determined at the end of each calendar month for EUHUBLINE1 (0110).

EUHUBLINE6

- The following monthly records for EUHUBLINE6:
  - Gallons (with water) of each material used.
  - VOC content (with water) of each material as applied.
  - VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
  - VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

- Records of the temperature in the combustion chamber of the RTO **for September 25, 2022.**
- Records of the pressure differential between the PTE for EUHUBLINE6 and the outside area **for September 25, 2022.**

EUROTORLINE1

- Monthly records of coating and reducer usage rates, including operating hours.
- The following records for EUTOTORLINE1:
    - The following daily records for each coating, thinner, and cleanup solvent used:
        - The coating, catalyst, thinner, and cleanup solvent identification
        - The amount used in gallons (with water and exempt solvents)
        - The VOC content in pounds per gallon (with water and exempt solvents)
        - The amount disposed of as waste coating, catalyst, thinner, and cleanup solvent.
    - Calculate the VOC emissions in pounds per calendar day
    - VOC emission calculations determining the calendar month emission rate in tons per month, and a 12-month rolling time period emission rate in tons per year.

EUSTATORLINE

- The following weekly records:
    - Number of gallons of each component used in the coating operation, as applied, including water
    - VOC content of each component used, in pounds VOC per gallon, as applied, including water
    - Calculations showing the VOC emission rate in pounds per calendar week and tons per year based on a 12-month rolling average

FGNEWHUBLINES

- The following records kept on a calendar month basis for FGNEWHUBLINES:
    - Gallons (with water) of each material used
    - VOC content (minus water and with water) of each material as applied
    - VOC mass emission calculations determining the monthly emission rate in tons per calendar month
    - VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month
- Operating temperature records for the RTO **for September 25, 2022**
- Records of the pressure differential between the PTE for FGNEWHUBLINES and the outside **for September 25, 2022.**

FGFURNACES

- Records of visible emission readings for FGFURNACES.
- Records of the monthly tonnage of aluminum melted in tons per month, the hours of operation and the hours of cleaning of FGFURNACES, the hourly usage rate of reactive flux in pounds per hour, the monthly usage of reactive flux in pounds per month, and the annual usage of reactive flux in pounds per 12-month rolling time period as determined at the end of each calendar month.

FGBOILERMACT

- A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or 2 or 5 year compliance report or one-time energy assessment, as applicable, that the permittee submitted.

FGCOLDCLEANERS

- For each new cold cleaner in which the solvent is heated, weekly records of the solvent temperature during routine operating conditions.
- The following information for each cold cleaner:
  - A serial number, model number, or other unique identifier for each cold cleaner.
  - The date the unit was installed, manufactured or that it commenced operation
  - The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h)
  - The applicable Rule 201 exemption
  - The Reid vapor pressure of each solvent used
  - If applicable, the option chosen to comply with Rule 707(2)

FGRICEMACT

- For existing emergency engines ≤ 500 HP, records of the maintenance conducted on the stationary RICE in order to demonstrate that the engine and after-treatment device (if any) was operated and maintained according to the maintenance plan.
- Monthly and 12-month rolling records of the hours of operation of each engine in FGRICEMACT. Records should document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency.
- Pictures of the non-resettable hour meter installed on each unit.
- For existing emergency engines ≤ 500 HP, records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment, if installed, to its normal or usual manner of operation.
- A list of all emergency engines subject to 40 CFR Part 63, Subpart ZZZZ, including the rating and date of installation of each emergency generator.

FGEMERG-IIII

- Pictures of the non-resettable hour meter installed on each unit.
- The following records for FGEMERG-IIII:
  - All notifications
  - All maintenance performed on the engine
  - If using a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards of 40 CFR Part 60, Subpart IIII
  - If not using a certified engine, documentation that the engine meets the emission standards, which shall be demonstrated with an initial performance test within one year of engine installation
  - A complete copy of the diesel fuel analysis including the sulfur content in percent, as supplied by the vendor for each shipment of diesel fuel received.
- Records of hours of operation showing how many hours were spent during emergency operation and how many hours were spent during non-emergency operation. If the engines were used for demand response operation, records of the

emergency situation and the time the engine was operated as part of demand response should also be provided.

On September 6, 2023, the requested records were received by email from Jill.

Attachment 1 (EUHUBLINE1-HB60 and EUHUBLINE1-HB0110) are the spreadsheets that document the daily and monthly usage and VOC information/calculations for EUHUBLINE1. A 12-month rolling calculation is also included in these spreadsheets. A review of these records shows that MACI appears to meet the emission limit of 56.88 lb of VOC per calendar day. Additionally, these records show that the Hub Line 1 spray painting machine (0110) has 12-month rolling VOC emissions of 0.5956 tons per year (tpy). This is well below the 7.14 tpy limit that is outlined in their ROP. The HB60 spreadsheet shows that the adhesive application dip tanks, conveyor lines, and flash-off area (0060) is also meeting their permitted 12-month rolling emission limit of 7.1 tpy. The facility reports 0.12 tpy of VOC for 0060. Overall, these records appear to show compliance with the permitted emission limits.

Attachment 2 (EUHUBLINE6-HB6060 and EUHUBLINE6-HB6100) are the spreadsheets that document the monthly usage and VOC information/calculations for EUHUBLINE6. A 12-month rolling calculation is also included in these spreadsheets. A review of these records appears to show compliance with the permitted emission limits and recordkeeping requirements. MACI reports VOC emissions of 0.064 tpy for EUHUBLINE6 on a 12-month rolling time period. This is well below the permitted limit of 1.1 tpy.

Attachment 3 (EUROTORLINE1) is the spreadsheet that documents daily information on material used and VOC content/VOC emission calculations. This spreadsheet also includes the monthly and 12-month rolling VOC emission calculations. A review of this spreadsheet shows that EUROTORLINE1 appears to meet the emission limit of 14.16 lbs of VOC per calendar day. Additionally, MACI reports 12-month rolling VOC emissions of 0.6939 tpy, which is below the 1.78 tpy permitted limit. Overall, EUROTORLINE1 appears to meet the permitted emission limits and recordkeeping requirements.

Attachment 4 (EUSTATORLINE-ST3025 and EUSTATORLINE-ST25) are spreadsheets that document the weekly coating operation material usage, VOC content, and weekly VOC emission calculations. This document also includes the 12-month rolling VOC emission rate calculation. A review of these records shows that EUSTATORLINE appears to be meeting the VOC emission limit of 70 lbs. per week. Additionally, MACI reports EUSTATORLINE is meeting the 12-month rolling VOC emission limit of 1.6 tpy with their actual VOC emissions for this process being 0.68 tpy. Furthermore, MACI includes information and calculations in the document for demonstrating compliance with the 3.0 lbs of VOC per gallon of coating (minus water) as applied. Overall, it appears that EUSTATORLINE is in compliance with the permitted emission limits, material limits, and recordkeeping requirements.

Attachment 5 (FGNEWHUBLINES-HB4060, FGNEWHUBLINES-HB4100, FGNEWHUBLINES-HB5060, and FGNEWHUBLINES-HB5100) are spreadsheets documenting monthly material usage, VOC content, and monthly and 12-month rolling VOC mass emission calculations. These records appear to show compliance with the permitted recordkeeping requirements. A review of these records shows that FGNEWHUBLINES appears to be in compliance with the 12-month rolling VOC emission limit of 2.5 tpy. MACI reports VOC emissions for FGNEWHUBLINES of 0.182 tpy.

Attachment 6 (EUHUBLINE1 RTO TEMP, EUHUBINE6 RTO TEMP, and FGNEWHUBLINES RTO TEMP) is a group of spreadsheet workbooks that includes the requested RTO temperature records for EHUBLINE1, EUHUBLINE6, and FGNEWHUBLINES. These records appear to show compliance with the required monitoring and recordkeeping requirements.

Attachment 7 (EUHUBLINE6 PTE and FGNEWHUBLINES PTE) is a group of workbooks that include spreadsheets for the PTE differential records for EUHUBLINE6 and FGNEWHUBLINES. These records appear to show compliance as well.

Attachment 8 (FGFURNACES) is the records for the monthly tonnage of aluminum melted, hours of operation, hours of cleaning FGFURNACES, hourly usage rate of reactive flux, visible emission checks, monthly usage of reactive flux, and the annual usage of reactive flux. These records appear to show compliance with the required recordkeeping as well as the material limits of 13 pounds per hour of reactive flux and 5.0 pounds per hour of reactive flux during cleaning process. Additionally, MACI reports 10,485 lbs of total flux on a 12-month rolling time period. This is well below the permit limit of 39,858 lbs per 12-month rolling time period.

Attachment 9 (Parts Washer Info) is records of the information for the cold cleaners/parts washer information.

Attachment 10 is the records for FGRICEMACT (including EUEMERGRICE4) hours. These records appear to show compliance with the hour limit as outlined in the applicable federal regulation (either NESHAP or NSPS).

Attachment 11 is the energy assessment report for the boilers as required by the Boiler MACT. The energy assessment was conducted on January 23, 2018.

Attachment 12 is the maintenance records for the emergency engines.

Overall, MACI appears to be in compliance with the permitted recordkeeping requirements, emission limits, and material limits.

MAERS Review

MACI reported the following emission totals for 2022:

- **NOx: 7.89 tons**
- **CO: 6.58 tons**
- **VOC: 4.83 tons**
- **PM10: 4.07 tons**
- **SO2: 0.17 tons**

Subpart MMMM Report Review

This review is for the most recently submitted report, received March 15, 2023. The report looked at compliance for the General Use Coating category, the Rubber to Metal Coating category and Extreme Performance Fluoropolymer Coating category. MACI appears to be 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 lasted tested on December 19, 2019 for PM, PM2.5 and PM10. The test results showed compliance. A new test is required every 5 years.

Post-Inspection Meeting

After the inspection, we returned to the conference room for a post-inspection meeting.

I asked Jill if there have been any changes to the coating used at the facility. Jill stated that there have been no changes to the coating used at the facility.

I then asked Jill about how they determine compliance with Method 24. During previous onsite inspections Jill has shown 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. At that time, I was able to see that the system does include the weight percent of each component. 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. Jill confirmed that they are still using this electronic database to keep records for the chemical composition and listings of all coating used at the site.

I then explained to Jill that a report would be written about the inspection, and, once approved by the Jackson District Supervisor, a copy would be sent to her.

I thanked Jill for her time and cooperation, and we departed the facility at approximately 10:31 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 8/29/2023 SUPERVISOR