

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

A430246657

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|---------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------|
| FACILITY: MAHLE Engine Components USA, Inc. | | SRN / ID: A4302 |
| LOCATION: 2020 Sanford Street, MUSKEGON HTS | | DISTRICT: Grand Rapids |
| CITY: MUSKEGON HTS | | COUNTY: MUSKEGON |
| CONTACT: Barb Hoffman, EHS/Quality Coordinator | | ACTIVITY DATE: 10/11/2018 |
| STAFF: Chris Robinson | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: FY'19 on-site inspection to determine the facility's compliance status with MI-ROP-A4302-2015. | | |
| RESOLVED COMPLAINTS: | | |

AQD staff, Chris Robinson (CR), arrived at MAHLE Engine Components USA, Inc. (MAHLE), located at 2020 Sanford Street, Muskegon Heights, MI on October 11, 2018 at approximately 9:40 am to conduct an unannounced scheduled inspection. CR met with Mr. Max Maschewske, Supervisor, and Ms. Barb Hoffman, Environmental Health & Safety/Quality Coordinator, announcing intent to perform an inspection of the facility in order to determine the facility's current compliance status with respect to ROP No. MI-ROP-A4302-2015. CR presented proper AQD identification. No odors or visible emissions were observed during this inspection.

A) FACILITY DESCRIPTION

This MAHLE location is an engine testing facility with 19 dynamometer test cells used to assess and compare engines against certain performance standards. Each test cell consists of an enclosed and monitored room. Emissions generated in each room are ducted through the facilities main corridor and eventually exhausted to ambient air through a single stack. The dynamometers are used for testing engine force, torque or power. In addition to the dynamometer tests this facility assembles and tests engines for emissions and component quality. Some of the engine components used/tested at this facility are manufactured by other MAHLE facilities. In 2015 Mahle completed demolition of their adjacent foundry where some of these components had been manufactured. A soil and groundwater remediation system, which is discussed further below, now resides on the site of the former foundry.

B) REGULATORY ANALYSIS

The stationary source is located in Muskegon County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants except for Ozone. Mahle is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit (PTE) of carbon monoxide exceeds 100 tons per year (tpy).

The facility is a "synthetic minor" source in regard to HAP emissions because legally enforceable source-wide permit conditions were accepted, limiting the PTE of any single HAP regulated by the federal Clean Air Act, Section 112, to less than 10 tpy and the PTE of all HAPs combined to less than 25 tpy. Because these legally enforceable HAP limits were taken, Mahle is not subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial/Commercial/ Institutional Boilers and Process Heaters under 40 CFR 63, Subpart DDDDD. In addition, it is noted that the engine test cells are not subject to the Engine Test Cells/Stands NESHAP under 40 CFR Part 63, Subpart PPPPP.

The following emission units were installed prior to August 15, 1967: EU-TestCell#3, EU-TestCell#4, EU-TestCell#5, EU-TestCell#6, EU-TestCell#7, EU-TestCell#8, EU-TestCell#9, EU-TestCell#10, EU-TestCell#11, EU-TestCell#12, and EU-TestCell#13. As a result, this equipment is considered "grandfathered" and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

The facility underwent a best available control technology (BACT) review during the process of applying for the original new source review permits for the eight (8) engine test cells that are permitted and not grandfathered. It was determined at the time of the BACT review that BACT for VOCs is good combustion practices and limiting fuel usage and therefore no add-on controls were required for the process. The facility also underwent a toxic review for Rule 225. The determination was made that the amount of each fuel used during the engine testing must be limited and monitored to ensure that toxics limits were met.

No emissions units at this facility are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, PSD of Air Quality of Act 451, because at the time of New Source Review permitting the PTE of carbon monoxide was less than 250 tpy. No emission units are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64, because all emission units at the stationary source either do

not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

C) COMPLIANCE EVALUATION

Eleven of the test cells (cells 3-13) were installed prior to August 15, 1967 and therefore currently considered to be grandfathered and do not have any applicable requirements associated with them. However, the facility has a source-wide HAP limit and conditions. Therefore, emissions from these units are calculated and recorded (**Attachment A**).

ROP No. MI-ROP-A4302-2015

Mahle operates the following emission units covered under ROP MI-ROP0A4302-2015:

| Emission Unit ID | Emission Unit Description (Including Process Equipment & Control Device(s)) | ROP Flexible Group ID |
|------------------|-----------------------------------------------------------------------------|-----------------------|
| EU-TestCell#14 | Engine Test Cell #14 | FG-TESTCELLS |
| EU-TestCell#15 | Engine Test Cell #15 | |
| EU-TestCell#16 | Engine Test Cell #16 | |
| EU-TestCell#17 | Engine Test Cell #17 | |
| EU-TestCell#18 | Engine Test Cell #18 | |
| EU-TestCell#19 | Engine Test Cell #19 | |
| EU-TestCell#20 | Engine Test Cell #20 | |
| EU-TestCell#21 | Engine Test Cell #21 | |
| EU-Parts Washer | Cold Cleaner <10 sq. ft. of air to vapor interface | FG-COLDCLEANERS |
| EU-TRAYSTRIPPER | Tray-type air stripper used to treat groundwater | FGRULE290 |
| EU-SVESYSTEM | Soil vapor extraction system | |

The facility maintains records for at least 5 years. Semi-annual reports and annual certifications were submitted as required and on time. No deviations or issues were reported.

During the inspection, none of the stack dimensions were specifically measured. However, visual observations appear to reflect the measurements specified in the ROP.

Source Wide Conditions

MAHLE is subject to a source-wide HAP limit of less than 9.0 tpy individual HAPS and less than 22.5 tpy Aggregate HAPS based on a rolling 12-month period. Records were provided by Ms. Hoffman (**Attachment A**) covering the time period of October 2017 through September 2018 which indicates that the facility’s individual HAP emissions were 0.29 tons and aggregate HAPS were 1.40 tons. Both of which are well below the limits specified. Ms. Hoffman informed CR that HAP content is determined based on highest range provided by manufacturer’s Safety Data Sheets (SDS), which is currently allowed by Special Condition (SC) Source-Wide Conditions V.1 of the ROP.

The following monthly records were provided and are included in **Attachment A**:

- Gallons or pounds of each HAP containing material used.
- Gallons or pounds of each HAP containing material reclaimed (Mahle does not reclaim any materials).
- HAP content, in lbs/gal or lbs/lb, of each HAP containing material used.
- Monthly and annual individual and aggregate HAP emission rate calculations.

FG-TESTCELLS

Test cells 14-21 are subject to emission and material limits, for which Mr. Maschewski provided records (**Attachment B**) covering the time period of October 2017 through September 2018. The data is summarized in the table below and demonstrates that the facility is operating well within the limits specified in FG-TESTCELLS SC I.1-8 and SC II.1-2.

Emission Limits:

| Pollutant | Limit | Material Usage | Time Period/Operating Scenario |
|-----------|----------|----------------|--------------------------------|
| NOx | 34.3 tpy | < 10 tons | 12-month rolling |

| | | |
|----|----------|-----------|
| CO | 89.9 tpy | < 65 tons |
|----|----------|-----------|

Material Limits:

| Pollutant | Limit | Material Usage | Time Period/Operating Scenario |
|----------------------------|-----------------|----------------|--------------------------------|
| gasoline (E85), CNG or LPG | 45,709 gallons | < 50,000 | 12-month rolling |
| Diesel | 437,000 gallons | < 90,000 | |

The facility monitors and records gasoline (E-85), CNG, LPG, and diesel usage rates monthly and annually based on a on a 12-month rolling time period (**Attachment B**).

FG-RULE 290

The facility operates a soil and groundwater remediation system consisting of an air stripper and soil vapor extraction (SVE) unit located on the site of the former foundry. Based on monthly records provided by Ms. Hoffman (**Attachment C**) the emissions from the remediation system was approximately 7.93 lb TCE and 20.17 lb BTEX in 2017 and 4.09 lb TCE and 14.64 lb BTEX thus far in 2018. The maximum calculated emissions observed in 2017 - 2018 were 1.85 lb TCE in January 2018 and 2.30 lb BTEX in January 2017. These emissions are minimal and appear to be well below Rule 290 limits of 20 lb per month based on a Rule 290 determination provided during the previous inspection conducted on May 4, 2017.

FG-COLDCLEANER

MAHLE operates a small non-heated non-agitated parts washer with an air/vapor interface of no more than 10 square feet that contains overspray filters and vents to the outside environment. Operating instructions are posted, and the solvent is a non-halogenated compound provided by Heritage-Crystal Clean. Solvent is stored underneath the unit and pumped up to the cleaning area as needed, then gravity drained back into the storage container. An SDS is included in **Attachment D**. Per discussions with Mr. Maschewske and Ms. Hoffman, parts are drained, and maintenance is performed as required. No operational or material changes have occurred since the last inspection.

EXEMPTIONS

During the ROP renewal application period, the facility noted two boilers on-site, one of which was in the process of being dismantled. This boiler was dismantled during demolition of the foundry in 2015. At the time of this inspection only the 3.5 mbtu boiler located in the basement of the front office remained. This boiler is natural gas and appears to be exempt from Rule 201 permitting requirements per Rule 282(2)(b)(i) for fuel-burning equipment used for indirect heating which burns natural gas with a rated heat input capacity of less than 50,000,000 btu/hr. This boiler is also not subject to the New Source Performance Standard (NSPS) Subpart Dc for small industrial-commercial-institutional steam generating units because the rated heat input capacity is also less than 10,000,000 Btus/hr. The requirements of NESHAP Subpart JJJJJJ do not apply because this standard does not regulate natural gas fired only boilers.

Mahle operates a plasma coater which appears to be exempt from Rule 201 permitting requirements per Rule 285(2)(i). Emissions are controlled by a baghouse located inside the building that is vented outside. Rule 285 (2)(i) does not require control nor emissions to be vented to the in-plant environment. Therefore, the baghouse appears to also be exempt from Rule 201 permitting requirements per Rule 285(2)(f). A safety Data Sheet for one of the coatings used in this process is included in **Attachment D**.

Per discussions with Ms. Hoffman, the facility did not include the installation of a 228 hp natural gas emergency generator, installed in 2008, in past ROP renewal applications. Emissions for this unit are included with the boiler emissions and appears to be exempt per Rule 285(2)(g) for internal combustion engines with a maximum heat input of less than 10,000,000 btu. The emergency generator appears to be subject to NESHAP 40 CFR Part 63 subpart ZZZZ, (RICE MACT) which the AQD does not have area source delegation for at this time. There is only one (1) RICE MACT requirement, which requires the facility to comply with NSPS 40 CFR Part 60 subpart JJJJJJ. However, the emergency generator was installed prior to 1/1/2009, therefore it is not subject to this standard. Mahle will include the emergency generator as an exempt unit in the next ROP Renewal cycle. For AQD correspondence and generator specification sheets see Activity Report CA_A430239588.

MAERS

Mahle was not inspected during the 2018 Fiscal Year, therefore 2017 MAERS emissions data was not selected for auditing. However, emissions data for 2017 was submitted to MAERS on time and complete with no issues noted. A copy of Mahle's 2017 MAERS report is included in **Attachment E** and summarized below.

| Pollutant | Amount (lb) |
|-------------------|-------------|
| Ammonia | 9.50 |
| CO | 177,163.46 |
| NOx | 26,332.50 |
| PM10, Filterable | 5,562.12 |
| PM10, Primary | 22.57 |
| PM2.5, Filterable | 5,562.12 |
| PM2.5, Primary | 22.57 |
| SO2 | 5,173.95 |
| TOC | 6,100.87 |
| VOC | 14,020.39 |

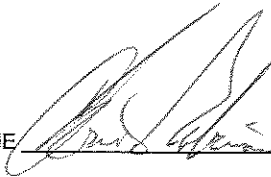
D) CONCLUSION

Based on observations and records reviewed during this inspection, MAHLE appears to be in compliance with the requirements of MI-ROP-A4302-2015.

Attachments

- A - Emission Calculations
- B - Fuel Usage Records
- C - Rule 290 Records
- D - Safety Data Sheet
- E - 2017 MAERS Report

NAME



DATE

10/18/2018

SUPERVISOR

