



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Air Branch

Air Branch Inspection Report
Unannounced Full Compliance Evaluation
Mahle Engine Components USA, Inc.
(also known as Glacier Vandervell)
60428 Marne Road
Atlantic, Iowa 50022
FRS# 110000412580

Inspection Date(s):

February 21, 2024

AVERY
BOWERS

Digitally signed by
AVERY BOWERS
Date: 2024.05.29
14:14:16 -05'00'

Avery Bowers, Inspector, ECAD, Air Branch

Authorized for Release by:

Tracey Casburn, Air Branch Chief, ECAD

TRACEY
CASBURN

Digitally signed by
TRACEY CASBURN
Date: 2024.05.29
14:49:32 -05'00'

11201 Renner Boulevard
Lenexa, Kansas 66219

CONTENTS

INSPECTION OVERVIEW	3
INSEPTION OBJECTIVE	3
FACILITY CONTACT INFORMATION	3
FACILITY OVERVIEW	3
FACILITY OPERATIONS SUMMARY	4
FIELD ACTIVITIES SUMMARY	5
INSPECTION OBSERVATIONS AND POTENTIAL FINDINGS	7

TABLES

Table 1. PROJECT TEAM MEMBERS	Error! Bookmark not defined.
Table 2. FACILITY CONTACT INFORMATION	3
Table 3. APPLICABLE REGULATIONS AND STANDARDS	4

APPENDICES

- A - Mahle inspection photo log (47 pages)
- B - Receipt of Documents (1 page)
- C - Signed Confidential Business Information (1 page)
- D - Follow-up Records Needed (2 pages)

**This Contents page shows all the sections contained in this report
and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

The objective of the full compliance evaluation (FCE) inspection was to determine compliance of the facility with the Clean Air Act (CAA), specifically those requirements listed in the facility's construction permit. The facility is a synthetic minor source.

Table 1 lists the inspection team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Avery Bowers	EPA Region 7, ECAD, Air Branch	Lead inspector
Kristi Burg, Environmental Specialist Senior	Iowa Department of Natural Resources (IDNR), Field Services and Compliance Bureau	Field team member
Wendy Wittrock, Environmental Specialist Senior	IDNR, Field Services and Compliance Bureau	Field team member

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts in alphabetical order during the inspection.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Jodi Allen, Human Resources Manager	(712) 250-3479	Jodi.allen@mahle.com
Luke Atheide, PM scheduler	No phone number obtained	No email obtained
Diane Mitchell, Health and Safety Engineer Coordinator and Human Resources	No phone number obtained	No email obtained
Cody Weaver, Plant Manager	(712) 250-3471	Cody.weaver@mahle.com

FACILITY OVERVIEW

The facility was originally owned by Gould, Inc., Engine Parts Division when it first opened and has been owned by several companies (including Glacier Vandervell) since. Mahle took over the facility in 2007. Mahle Engine Components USA, Inc. (Mahle), began doing business in Iowa 1979. The facility produces internal components for automotive transportation vehicles. The facility operates every day with three different shifts. The first shift is from 5 a.m. to 3:30 p.m. The second shift is from 3:30 p.m. to 2 a.m. The third shift is from 11 p.m. until 7 a.m. Shifts one and two are for the production process and shift three is for the maintenance. The facility employs about 145 people. Mr Weaver stated that the facility plans to move most of its production process to Mexico in April 2025 to reduce cost and that the only process that will continue at the plant on Marne Road will be plating. In the last five years, the state has not

visited the site. During that time frame, the EPA performed a RCRA inspection on June 8, 2022. RCRA filed an Expedited Settlement Agreement (ESA) on March 21, 2023, for \$7,500 because the facility failed to have emergency preparedness and prevention plans, as well as contingency plans.

Mahle is a synthetic minor source and does not need to have a Title V permit. The facility is required to have construction permits for the equipment that is located and used on-site. The construction permits are issued by Iowa Department of Natural Resources (IDNR). The facility's most recent construction permit (**# 98-A-431-S5**) was issued on May 10, 2022. The permit was issued to change the volatile organic compounds (VOC), single hazardous air pollutant (SHAP), and total hazardous air pollutants (THAPs) emission limits for emission units 7, 8 and 15. The new limit set VOCs at 59 tons per year (tpy), SHAP at 7 tpy, and THAP at 7 tpy. The facility does not have any New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements to meet. The rated capacity of the boiler installed in 2014 is less than the requirement established in the NSPS Subparts Dc and JJJJJ. The solvents used do not contain any of the six compounds listed in NESHAP Subpart T. Mahle is subject to the following regulations and standards subject to review during this inspection (**Table 3**):

Table 3. APPLICABLE PERMIT CONDITIONS, REGULATIONS AND STANDARDS	
Iowa Administrative Code	Standard Name
567 IAC 22.1(1)	Permit required for construction of any equipment
567 IAC 23.3(2)	Opacity standard 40%
567 IAC 25.1(7)	Stack testing requirements

FACILITY OPERATIONS SUMMARY

Mahle has a Standard Industrial Classification (SIC) 3714, categorized as Motor Vehicle Parts and Accessories Mailing List and a North American Industry Classification System (NAICS) code 336310 categorized as Motor Vehicle Gasoline Engine and Engine Parts Manufacturing. The facility processes include bearings, plating, bushing, and thrust washer. The facility receives raw metal coils (**Photolog Appendix A**, IMG_0030.JPG), and each coil gets cut into its desired size. A forming press cuts the coil into its desired shape (IMG_0034.JPG). A U-shaped coil is created for the bearings process. The U-shaped coil then goes to the bearings barrel (IMG_0038.JPG) and is magnetically conveyed to a machine that corrects the width, and smooths the bearing. A notch is placed in the bearing (IMG_0041.JPG), and then a hole is pierced through the bearing

(IMG_0043.JPG). The next steps involve creating a groove on the bearing (IMG_0045.JPG) and “washing” the bearing to get rid of any striations on the outside of the bearing. Next, the bearing is shaved to remove the striations on the inside and change the inside diameter. The bearing goes through a bore machine which smooths the hole previously created and makes sure the dimensions are accurate. The bearing goes through a mechanical inspection process to ensure that the diameter and bores are perfect dimensions (IMG_0052.JPG). Next the bearing goes through a degreasing machine that removes the excess oil. From the degreaser, the bearings are prepared for plating. The plating process adds lead, tin and copper. The bearings get stored onto the plating rack which is picked up by a plating arm (IMG_0059.JPG). The rack gets dipped in an alkaline bathtub, then in a rinse tub, and a live entry bath that adds ions to the bearing. The bearings get rinsed in hot water and become finished products after the final inspection is done by facility personnel.

The bushing process is similar to creating bearings, but the forming press creates bushes that are fully circular metal cuffs (IMG_0070.JPG). Thrust washers are manufactured at the site, too, and share a similar process, but the forming press creates a thrust washer that is in the shape of a scythe (IMG_0073.JPG).

FIELD ACTIVITIES SUMMARY

On February 21, 2024, Miss Burg and Miss Wittrock met me at a designated location at 8:00 a.m. We discussed the inspection procedures, and I gave an overview of what the inspection entailed. We arrived at the facility at 8:45 a.m. I did not complete a drive by surveillance inspection. We made entry at the visitor door at 8:45 a.m., and I dialed to the front desk. Mr. Weaver let us in the visitor’s office. I introduced myself and members of the inspection team, presented my credentials, and provided my business card to Mr. Weaver. He informed us that we would have to watch the facility’s safety video before we could get permission to tour the facility. At 8:54 a.m., we watched the 10-minute safety video. I conducted an opening conference during which I explained that the purpose of the visit was to conduct an inspection to determine compliance with the CAA, specifically, to determine compliance with the regulations and standards listed in Table 3. I explained that after asking for some general business information, I would observe work practices, process units, emission units, and control equipment, as well as review associated records demonstrating compliance.

We started the facility tour around 9:15 a.m. when Miss Allen arrived. We were given a facility tour by her and Mr. Weaver. We were asked to wear steel-toed boots, high visibility jacket, hard hats, and ear plugs because of the facility’s safety protocol.

We watched the bushings, plating, bearings, and thrust washer processes (**Appendix A**). I reviewed the conditions of all process units and the operating status of the equipment. I examined the scrubbers and boiler which were the two air emission points located in the facility. Mr. Weaver pointed out the location where the degreaser had been (IMG_0067.JPG) and stated that it had been removed from the facility's property between January and February 2023. The facility tour concluded around 10:30 a.m. After the tour was finished, we went to the conference room where I asked about the equipment, process flows, and solvents used in the new degreaser. I reviewed the required recordkeeping for the equipment for compliance with the regulations and permit conditions noted in Table 3 only. Ms. Mitchell arrived during records review. Mr. Atheide arrived at 11:07 a.m. to assist Mr. Weaver and Ms. Allen with obtaining the records I wanted to review. I obtained copies of the process flow diagrams and the purchase order for the Leksol SG AL solvent used in the degreaser as indicated on the Receipt for Documents (**Appendix B**). During the records review, Mrs. Allen emailed me the following items I requested:

- 1) Safety Data Sheets (SDS) for the chemicals/solvents used at the facility,
- 2) Process flow diagrams
- 3) Purchase records for the chemicals/solvents
- 4) Maintenance order for the boiler
- 5) Boiler emission tests done by Carroll Systems
- 6) Boiler agreement with Carroll Systems
- 7) Solvent disposal records
- 8) Diesel fuel purchase record for 12/8/23

At 11:52 a.m. Miss Burg and Miss Wittrock departed the facility. After receiving the documents I requested, I conducted a closing conference with Messrs. Weaver and Atheide, and Miss Allen at 12: 35 p.m. I explained to Mr. Weaver that the facility could make a claim of business confidentiality and provided him with a Confidential Business Information form via email on February 27, 2024. Mr. Weaver signed and sent the CBI form back to me on February 27, 2024. He made no CBI claims (**Appendix C**). I did not leave a notice of potential findings. I departed the facility at 12:47 p.m.

On March 12, 2024, I sent Miss Allen an email requesting additional documents. **Appendix D** contains the email and documents requested. Miss Allen provided the documents via Dropbox on April 11, 2024.

Observations and potential findings from the facility tour, and records review, are noted in the **Investigation Observation and Potential Findings** section below.

INVESTIGATION OBSERVATIONS AND POTENTIAL FINDINGS

Ambient weather, as well as site conditions and activities, were documented in field records. All photographs are attached as **Appendix A**. I made the following observations during the inspection. I discussed all observations with facility representatives during the closeout meeting unless otherwise noted in the observation description.

These observations are not final compliance determinations. The EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

567 IAC 22.1(1) Permit required for construction of any equipment.

The facility is required to submit an air quality construction permit for any equipment changes that occur on-site. Prior to the inspection, I reviewed all the construction permits submitted by the facility. In 2014, the facility was issued a violation for operating its new boiler prior to the approval of the construction permit. During the inspection, Mr. Weaver stated that when new equipment was being added or old equipment was removed, the facility notified the delegated authority and submitted correct paperwork.

567 IAC 23.3(2) Opacity standard 40%

The facility must ensure that emission units and control devices do not emit opacity above 40%. During the inspection, I did not see any opacity from any emission units or control devices.

567 IAC 25.1(7) Stack testing requirements

The facility was required to stack test the original equipment, and no subsequent tests were required after the initial tests were completed. Prior to the inspection, I reviewed the stack tests that had been performed on the old degreaser in 1998 and the plating process in 2006. The stack tests showed that the degreaser and plating process were within permitted limits.

Permit Condition 5. Operating Requirements with Associated Monitoring and Recordkeeping

- A. The facility's total VOC emissions from emission units (EUs) 7, 8, and 15 cannot exceed 59.0 tons per daily rolling 365-day period. On April 11, 2024, the facility provided an excel sheet calculating the total VOCs from 2020 through 2023. The spreadsheet provided did not contain the 365-day rolling emissions calculations. I contacted Mahle and requested the 365-day rolling calculations again on May 9, 2024. The 365-day rolling calculations had not been received by report transmission.
- B. The facility's total SHAP emissions from EUs 7, 8, and 15 cannot exceed 7.0 tons per daily rolling 365-day period. The spreadsheet provided on April 11, 2024, did not contain the 365-day rolling emissions calculations. I emailed the facility again and requested the 365-day rolling calculations on May 9, 2024. The 365-day rolling calculations had not been received by report transmission.
- C. The facility's total HAP emissions from EUs 7, 8, and 15 cannot exceed 7.0 tons per daily rolling 365-day period. The spreadsheet provided on April 11, 2024, did not contain the 365-day rolling emissions calculations. I requested the 365-day rolling calculations on May 9, 2024. I had not received the 365-day rolling calculations by report transmittals.
- D. The facility is required to maintain daily records of the identification each VOC or HAP containing material used in EUs 7, 8, and 15. The facility provided the SDS for the HAP and VOC containing materials used. The facility must also provide the number of gallons of each VOC or HAP containing material used in EUs 7, 8, and 15. The facility tracks the usage of Leksol. The facility states that Leksol is the only source of a HAP containing material. Other VOC containing materials are used and are tracked in a spreadsheet labeled "Solvent Disposal Records", however the VOC emissions from those materials are not tracked on the spreadsheet. The facility provided the spreadsheet on February 22, 2024. The facility provided purchase records of the HAP and VOC containing materials used. The Leksol purchase records are shown in pounds but are converted to gallons in the monthly usage spreadsheet. Daily records were requested from the facility again on May 9, 2024, and had not been received by report transmission.
- E. The facility is required to maintain monthly records of each VOC or HAP containing material used in EUs 7, 8, and 15. Monthly records of Leksol usage for reporting years 2019 through 2022 were provided by the facility. The facility must also provide the number of gallons of each VOC or HAP containing material used in EUs 7, 8, and 15. The monthly usage records of Leksol are converted to gallons in the spreadsheets.
- F. The facility is required to calculate the total VOC emissions from EUs 7, 8, and 15 monthly and maintain the rolling 12-month totals. The facility provided spreadsheets for the total monthly usage (2019 through 2022) and annual VOC calculations (2020

through 2024). Twelve-month rolling totals were not provided at the time of the inspection. According to the Mahle annual VOC calculations, 2,900 pounds of VOC were emitted in 2023 and 0 pounds of VOC were emitted in 2024.

- G. The facility is required to calculate the total SHAP emissions from EUs 7, 8, and 15 on a monthly basis and maintain the rolling 12-month totals. The facility provided monthly spreadsheets for the total SHAP calculations but did not provide rolling 12-month totals. Records for SHAP emissions shall be kept on a monthly basis until the time that SHAP emissions exceed 5.60 tons per year, at this point, 365-day rolling records must be kept. According to the Mahle monthly calculations, n-propyl bromide (a HAP contained in Leksol) was used in quantities greater than 5.6 tons per year in 2020, 2021, and 2022.
- H. The facility is required to calculate the total THAP emissions from EUs 7, 8, and 15 on a monthly basis and maintain the rolling 12-month totals. The facility provided monthly spreadsheets for the total SHAP calculations but did not provide rolling 12-month totals. Records for SHAP emissions shall be kept on a monthly basis until the time that THAP emissions exceed 5.60 tons per year. At this point the owner or operator shall immediately begin keeping a 365-day rolling total of the quantity of THAP emissions emitted from EU 7, EU 8, and EU 15, in tons. Calculation requirements will revert back to a monthly basis if the 365-day rolling total is returned below 5.60 tons per year for THAP emissions. According to the Mahle monthly calculations, n-propyl bromide (a HAP contained in Leksol) was used in quantities greater than 5.6 tons per year in 2020, 2021, and 2022.
- I. The facility cannot use any solvent that contains the following six compounds or combination of the following six compounds at concentrations greater than five percent by weight: methylene chloride, perchloroethylene, trichlorethylene, 1-1-1 trichloroethane, carbon tetrachloride, and chloroform. I reviewed all the SDS the facility submitted, and none of the solvents contain those compounds at 5% by weight or greater.

Potential Finding 1: The facility's daily recordkeeping requirement was not met.
Observation Summary: The facility did not submit required daily records of each VOC or HAP containing material used in EUs 7, 8, and 15.
Citation: <i>Permit condition D (ii)</i>
Evidence: no data provided
Description of Observation: The facility must provide the number of gallons of each VOC or HAP containing material used in EUs 7, 8, and 15 daily. The facility provided purchase records of the solvents used but did not provide daily records of how much VOC or HAP containing material was used.

Potential Finding 2: The facility's HAP emissions exceeded the required threshold.
Observation Summary: The facility's SHAP and THAP emissions cannot exceed 7.0 tons per daily rolling 365-day period and the yearly totals exceeded 7.0 tons.
Citation: <i>Permit condition B and C</i>
Evidence: no data provided
Description of Observation: The facility did not provide the rolling 365-day calculations, however, the facility provided monthly spreadsheets for SHAP and THAP calculations. Based on its statement that Leksol is the only source of HAP, and the provided annual totals for 2020 and 2022, the pounds of HAP calculated were 29,700 and 21,285 respectively. Converting that to tons, the values are 14.85 tons and 10.64 tons.

Potential Finding 3: The facility's recordkeeping requirement was not met.
Observation Summary: The facility did not submit 365-day rolling totals of the quantity of SHAP and THAP emissions emitted by EUs 7, 8, and 15.
Citation: <i>Permit condition G and H</i>
Evidence: no data provided
Description of Observation: Records for SHAP and THAP emissions shall be kept on a monthly basis until the time that SHAP emissions exceed 5.60 tons per year, at that point, 365-day rolling records must be kept. The facility did not provide 365-day rolling totals despite n-bromopropane exceeding 5.6 tons per year for SHAP emission.

Potential Finding 4: The facility's recordkeeping requirement was not met.
Observation Summary: The facility did not submit 12-month rolling totals of the quantity of SHAP and THAP emissions emitted by EUs 7, 8, and 15.
Citation: <i>Permit condition G and H</i>
Evidence: no data provided
Description of Observation: The facility is required to calculate SHAP and THAP emissions in tons from EU 7, EU 8, and EU 15, on a monthly basis and keep rolling 12-month totals. Although the facility provided monthly calculation spreadsheets, the facility did not provide 12-month rolling totals.

End of report.