

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

E509438684

FACILITY: Hutchinson Antivibration Systems, Inc.		SRN / ID: E5094
LOCATION: 460 Fuller Ave. NE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Jim Niesen , Maintenance Manager		ACTIVITY DATE: 02/16/2017
STAFF: David Morgan	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

At 9:30 A.M. on February 16, 2017, Air Quality Division (AQD) staff Dave Morgan and Adam Shaffer conducted an unannounced scheduled inspection of Hutchinson Antivibration Systems Inc. located at 460 Fuller Avenue in Grand Rapids. The purpose of the inspection was to determine the facility's compliance with state and federal air pollution regulations as well as Renewable Operating Permit (ROP) No. ROP-MI-E5094-2012c. Accompanying AQD staff on the inspection was Jim Niesen, Maintenance Manager.

FACILITY DESCRIPTION

Hutchinson Antivibration Systems, Inc. (HAVS) manufactures rubber molded, metal automotive parts. The facility consists of natural and synthetic rubber manufacturing using mixing and milling machines and spray booths to apply primer and adhesive to parts. The rubber is manufactured using both natural and synthetic rubber and various types of binders. It is extruded and semi-cured then dusted with powder so it doesn't stick to itself. Next metal (and some plastic) parts are coated with a primer and adhesive top coat in either one of four silver booths or a chain-on-edge (COE) two booth system. Following the coating, the rubber and metal part meet in a molding cell where they are joined together under heat and pressure in a vulcanization process. Emissions from the coating process are controlled by a regenerative thermal oxidizer (RTO).

The primary pollutant are volatile organic compounds (VOCs). The facility is a major source of hazardous air pollutants (HAPs) and is also subject to the following:

- 40 CFR Part 63, Subpart Mmmm - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metal Parts and Products under and the
- 40 CFR Part 63, Subpart Pppp - NESHAP for Surface Coating of Miscellaneous Plastic Parts
- 40 CFR Part 63, Subpart Zzzz - NESHAP for Reciprocating Internal Combustion Engines
- 40 CFR Part 63, Subpart Dddd - NESHAP for Industrial Boilers
- 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) (for VOC)
- Consent Order AQD No. 25-2016

COMPLIANCE EVALUATION

EUCARBON:

This emission unit consists of the carbon black transport system, which includes four silos for different size/grades of carbon black with each silo controlled by a fabric filter "baghouse" which has an insertable cartridge filter. The transfer of the carbon black is also ducted to the main system lines, and as such can also be controlled by either the EUMIX or EURUBBERMIX2 collectors, depending on how much equipment is in operation at any one time. Each baghouse/silo has a particulate limit of 0.10 lbs/1,000 lbs corrected to 50% excess air. Compliance with this limit should be met by proper operation of the control device as well as preventative maintenance.

Mr. Niesen could not provide a copy of a written preventative maintenance plan for the equipment, however, he said the company is conducting maintenance on the unit. He also indicated that the company has an outdated maintenance software system and that any records of maintenance would be hand written on hard copy forms. Because a preventative maintenance plan was unavailable, a violation of ROP MI-ROP-E5094-2012c, EUCARBON, Special Condition IX.1 will be cited.

EUMIX:

This EU consists of four rubber mills and one mixer controlled by a baghouse. The baghouse is referred to as the "Fuller" baghouse. A significant amount of carbon black coated the baghouse exterior, baghouse ductwork, and was observed covering the ground underneath the baghouse. Mr. Niesen indicated that over the prior weekend there was an overflow of the baghouse collection bin after the baghouse cleaning cycle. It appeared that, as of the inspection, no actions had been taken to clean up the area since the overflow event. It also appeared that the

collection bin was not of sufficient size to accommodate the volume of material coming from the baghouse. Mr. Niesen said that the collection bin at the bottom of the baghouse is typically replaced on a daily basis. During the inspection, the bin was overflowing with carbon black particulate. Because carbon black particulate was not properly contained, which resulted in large amounts of fine carbon black dust coating the ground and baghouse equipment, a violation of ROP No. MI-ROP-E5094-2012c, General Provision No. 9 and Rule 370 will be cited. On February 22nd, a spill report was provided which documented cleanup actions subsequent to the AQD site visit.

It is noted that at the time of the inspection no visible emissions were observed coming from the baghouse exhaust stack.

Records are being maintained of particulate emissions from the process. For the period from January 2016 through December 2016, company records estimate particulate emissions at 1.04 lbs/hr and 2.15 tons per year which are below permitted limits of 1.44 lbs/hr, 6.29 tons per year, respectively. In addition particulate emissions are limited to 0.01 lb/1,000 lbs exhaust gas calculated on a dry gas basis. Compliance with this limit should be met by proper operation of the control device as well as preventative maintenance.

A written preventative maintenance plan was not available for this emission unit, therefore a violation will be cited of MI-ROP-E5094-2012c, EUMIX, Special Condition IX.1. Again, the company is conducting maintenance but has hand written records. Mr. Niesen is conducting quarterly maintenance checks, as well as weekly non-certified visible emissions checks. There were no weekly visible emission checks with the weeks beginning on May 16, May 23, July 6, and December 27th. A violation of MI-ROP-E5094-2012c, EUMIX, Special Condition VI.2 will be cited.

FGRULE290:

This flexible group includes EURUBBERMIX2, which includes dry mix compounding, a small rubber mixing and milling process all controlled by a Torit baghouse (located outside the building). The process was not operating at the time of the inspection, however, the baghouse was running at a pressure drop of 2 inches of water column (" of w.c.). No visible emissions were observed from the process. From January 2016 through December 2016, the highest particulate emissions from the process were 60.03 pounds in November 2016 which is below the 500 pound per month limit in Rule 290 for controlled processes.

EUWHEEL:

This emission unit consists of a wheelabrator tumblast (shot blast) unit controlled by a baghouse (located inside the building, but exhausted out). There are emission limits for particulate limit set at 0.10 lbs/1,000 lbs of exhaust gas on a dry gas basis. Compliance with this limit should be met by proper operation of the control device as well as preventative maintenance. No visible emissions were observed from the process.

A written preventative maintenance plan was not available for this emission unit, therefore a violation will be cited of MI-ROP-E5094-2012c, EUWHEEL, Special Condition IX.1. Again, the company is conducting maintenance but has hand written records.

FGRTO:

This flexible group consists of one COE machine (EUcoe01), one turbo spray machine (EUSIL02 – Silver #2), three silver booths (EUSIL01, EUSIL03, EUSIL04) and a plastic overlay booth (EUAMS02) all controlled by the RTO. The coating booths are used to apply a primer (#207) cut with methyl ethyl ketone (MEK) and an adhesive (#6411) cut with toluene. There is also a booth used to clean gun tips that is also exhausted to the RTO.

Upon entering the coating area, strong solvent odors were present. AQD staff questioned whether the capture systems on the booths were working effectively as strong solvent odors would not be expected if the capture systems were working properly. During the inspection, the coating equipment and the RTO were visually inspected. The RTO was operating at an instantaneous reading of 1,670°F and the set point was 1,560 °F. The RTO was operating above the permit limit of 1,450 °F, however, the operating temperature limit is actually dictated by performance testing for FGMMMM which is discussed further below. During the most recent performance test the operating temperature of the RTO was determined to be 1,577°F. In addition, the operating gas flow rate for EUSIL01 was determined to be 2,369 cubic feet per minute (cfm). The company has a malfunction abatement plan (MAP) which is to identify the process operating values and a response to malfunctions. The MAP was not updated to include new operating values determined during the last compliant stack test. This is a violation of MI-ROP-E5094-2012c, FGRTO, Special Condition III.4.b.. In addition, according to the plan if temperature of the RTO, pressure drop of the booths, or volumetric flow rate operate out of range, then the entire system will shut down in accordance with the company's MAP. Mr. Niessen indicated that this was not occurring due to a relay being set to manual. This is also a violation of MI-ROP-E5094-2012c, FGRTO, Special Condition III.4.c.

At the time of the inspection, the air flow to the RTO was 4,659 CFM (as read from the digital display of the control panel) which is lower than the average airflow of 5,375 CFM that was present during the July 2016 performance test. Mr. Niesen stated that there is a discrepancy between the air flow readout on the RTO control panel and the total combined air flow from each booth. Because of this, it is difficult to determine how accurate the air flow value is as displayed on the control panel.

In July 2016, the capture efficiency of each booth going to the RTO was determined. Five booths had a capture efficiency of 100% considered a permanent total enclosure (PTE) and one booth (the Silver #1 booth or EUSIL01) had a capture efficiency of 71.02%. The overall VOC emission control efficiency for the RTO was determined to be 96.86% which is above the minimum overall destruction efficiency of 85% required in the permit.

Again, AQD staff observed strong solvent odors in the coating area. The first booth where a strong solvent odor was observed was around EUSIL03. Spraying was halted at the booth and the odor was less. The recorded pressure drop across the openings to the booth were 0.013 inches of water column and 0.017" of w.c. which are above the minimum pressure of 0.007" of w.c.

No spraying was conducted in EUSIL04 because it was being cleaned.

EUSIL01 had a gap around the door due to a broken door latch. The door was being held shut with duct tape. The door latch was replaced while on site. The recorded pressure drop across the openings to the booth were 0.033" of w.c. and 0.018" of w.c. which are above the minimum pressure of 0.007" of w.c. This booth is not considered a PTE.

For EUSIL02, the recorded pressure drop across the openings to the booth were 0.011" of w.c. and 0.021" of w.c. which are above the minimum pressure of 0.007" of w.c.

For EUCOE1 the recorded pressure drop across the openings to the first booth were 0.008" of w.c. and 0.002" of w.c. for the second were 0.290" of w.c. and 0.334" of w.c. Solvent odors were observed at the entrance to the booth. A gap was noted in the sheet metal at the entrance to the booth.

Again fugitive solvent emissions were verified at several areas around the coating booths, including areas downwind of ceiling fans. Solvent odors were verified coming from the valves on top of the paint pots to EUSIL01, EUSIL02, and EUCOE1. Because of these observations, fugitive emissions were not being minimized, which is a violation of MI-ROP-E5094-2012c, FGRTTO, Special Condition III.3.

In accordance with the permit, each booth uses Binks Mach 1 high volume low pressure (HVLP) applicators. Also, each booth had fabric filters installed. It is noted that the filters were heavily coated with adhesive. According to HAVS personnel, the filters are changed at the beginning of each shift.

The company is maintaining VOC emission and material usage records in accordance with the ROP. According to company records, overall VOC emissions from February 2016 through January 2017 were calculated at 27.39 tons which is below the permit limit of 50.4 tons per year. However, as noted under FGMMMM, the capture and control efficiency of the RTO is assumed to be zero when deviations of process operating parameter limits occur.

The company provided Method 24 results (attached) for the primer and adhesive coatings used at the facility. The #207 primer had a VOC content of 6.11 pounds per gallon and the #6411 adhesive had a VOC content of 6.15 pounds per gallon. The company is using the highest VOC content from Method 24 Analysis and Air Quality Data Sheets to calculate VOC emissions.

FGMMMM:

This flexible group consists of FGRTTO and associated coating booths subject to 40 CFR Part 63, Subpart M MMMM. It is considered an existing affected source and had an initial compliance date of January 2, 2007. The facility utilizes the emission rate with add-on controls option.

The facility is required to install, operate and maintain a Continuous Parameter Monitoring System (CPMS) for each coating emission unit. Under Subpart M MMMM, the company is required to monitor the temperature of the RTO, pressure drop or face velocity of booths that are PTE, and the volumetric flow rate for booths that are not PTE. Monitoring parameter values are to be established during performance testing. Through the CPMS the company is recording (at 15 minute intervals) the RTO temperature, the air flow to the RTO, the air flow for each booth, and the pressure drop. HAVS provided these records.

It is noted that the company is monitoring the pressure drop at the two natural draft openings to each booth. Because of the design and configuration of the booths, AQD has determined that these are appropriate monitoring points for pressure drop. Also 40 CFR Part 63.3968(a) appears to allow pressure drop to be determined on a 3-hour block average basis for a PTE. However, there is no additional guidance from U.S.EPA on how this should be applied for booths that are PTEs and required to have air flow direction into the enclosure at all times. AQD staff accessed the pressure drop over 3-hour block averages for the purpose of identifying pressure drop deviations. Many more deviations would have been identified if the data was not a 3-hour block.

Based on stack test data and monitoring records for the period from July 2016 through February 2017, the following is a summary of facility monitoring:

Emission Unit	Monitoring Parameter	Minimum Operating Value	Parameter Averaging time	# of 3-hour blocks below limit	Compliance (Y/N)
EUCOE1	Pressure Drop	0.007" w.c.	3- hour block	103	N
EUSIL01	Air flow	2,369 cfm	3- hour block	1,194	N
EUSIL02	Pressure Drop	0.007" w.c.	3- hour block	890	N
EUSIL03	Pressure Drop	0.007" w.c.	3- hour block	46	N
EUSIL04	Pressure Drop	0.007" w.c.	3- hour block	203	N
EUAMS01	Pressure Drop	0.007" w.c.	3- hour block	0	undetermined due to possible downtime
FGRTO	Temperature	1,577F	3- hour block	229	N

Based on company records, exceedances of monitored parameters in the above table will be cited in violation of ROP No. MI-ROP-E5094-2012c, FGMMMM, Special Conditions III.1 and VI.4.

Furthermore, under Subpart MMMM the company is required to conduct an accuracy audit of monitoring equipment for every deviation. The company did not conduct an audit for any deviation of temperature, pressure or flow as recorded by the CPMS. Separate violations will be cited of MI-ROP-E5094-2012c, FGMMMM, Special Conditions VII.7 and corresponding underlying applicable requirements.

The organic HAP limit under Subpart MMMM is 37.7 lbs/gal of coating solids per 12-month rolling time period. However, since the facility is also subject to Subpart PPPP for coating plastic parts, a facility specific emission limit can be established to meet both Subpart MMMM and Subpart PPPP. This specific limit for HAPs has been determined to be 26.0 lbs/gal of coating solids. From February 2016 to January 2017, records show controlled HAPs to be 15.52 lbs/gal of coating solids which is below the established limit.

It is noted that under 40 CFR 63.3963(c)(2), if an operating parameter deviates from the operating limit specified in Table 1 to the rule, then the company must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation, unless the company has other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator. Therefore, the company will have to recalculate HAP emissions during those periods when the operating parameters were not met and submit these calculations to the AQD.

The company is required to minimize HAP emissions under Subpart MMMM. Again since fugitive solvent emissions were verified at several areas around the coating booths a violation of MI-ROP-E5094-2012c, FGMMMM, Special Condition III.2 will be cited.

40 CFR Part 63, Subpart PPPP:

As mentioned, the facility is also subject to Subpart PPPP. Therefore, any noncompliance with the monitoring requirements of FGMMMM also results in non-compliance with the monitoring provisions of Subpart PPPP.

FGCOLDCLEANERS:

There were three cold cleaners at the facility that are exempt from new source review permitting under Rule 281(h). Mr. Niesen was provided DEQ guidance for cold cleaners that could posted. These units are serviced by Safety Kleen.

BOILERS:

The facility has two boilers in the boiler room, but one has been decommissioned. Both boilers are exempt from new source review permitting under Rule 282. The operational boiler is from the 1950's and is likely actually grandfathered. The boilers are subject to the requirements of 40 CFR Subpart DDDDD which will be included in the ROP renewal.

GENERATOR:

The facility has one small natural gas fired emergency generator. It has a faceplate manufacture date of 1-30-2007 and it is unlikely to have been ordered before June 2006 since it was installed in May 2007. Therefore, the unit has no recurrent status of subject to the NSPS with no requirements is acceptable.


CONSENT ORDER AQD No. 25-2016:

Consent Order AQD No. 25-2016 was signed on August 22, 2016 to resolve previous violations related to ROP MI-ROP-E5094-2012b, 40 CFR Part 63 Subpart MMMM and 40 CFR Part 63 Subpart PPPP. Citations identified in this report and the Violation Notice for FGRT0 fall under Paragraph 9.A of the Order and citations for FGMMMM fall under Paragraph 9.B of the Order.

EVALUATION SUMMARY

Hutchinson Antivibration Systems Inc. is in violation of applicable requirements as identified above. A Violation Notice will be sent to the company. A copy of records obtained during the compliance evaluation will be included in the file.

NAME



DATE

3/10/17

SUPERVISOR

