

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

E509444021

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: 03/28/2018
STAFF: David Morgan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

At 10:00 A.M. on March 28, 2018, Air Quality Division (AQD) staff Dave Morgan 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. Sue Kueick of FTC&H provided follow-up information.

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:

- ROP No. MI-ROP-E5094-2012c (currently under renewal)
- 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 unloading area is enclosed within a building and the baghouse vents into this building. 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.

The company had appropriate maintenance records in accordance with ROP MI-ROP-E5094-2012c, EUCARBON.

EUMIX:

This EU consists of four rubber mills and one mixer controlled by a baghouse. The baghouse is referred to as the "Fuller" baghouse. During the 2017 AQD inspection, carbon black coated the baghouse exterior and the ground as a result of collection bin overflow. In response, the company erected corrugated walls to enclose the collection bins. During the 2018 inspection, the carbon black collection from the baghouse appeared to be contained better. It is noted that there were gaps where the new corrugated sheet metal met the old. Mr. Niesen indicated that additional sealant would be added to tighten up gas around the enclosure.

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 April 2017 through March 2018, company records estimate particulate emissions at 1.04 lbs/hr and 1.92 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.

The company had maintenance records in accordance with ROP MI-ROP-E5094-2012c. Written records at the baghouse magnahelic gauge documented any observed leaks or problems observed by company personnel. AQD staff recommended that the company also record the pressure drop since the gauge was right there and since a record of baghouse pressure drops could help identify potential operating issues with the baghouse. Mr. Nielsen is conducting quarterly maintenance checks, as well as weekly non-certified visible emissions checks.

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. Again, AQD staff recommended that the company record the pressure drop for this emission unit. No visible emissions were observed from the process. From March 2017 through February 2018, the highest particulate emissions from the process were 47.16 pounds in April 2017 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 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.

The company had appropriate maintenance records in accordance with ROP MI-ROP-E5094-2012c, EUWHEEL.

FGRTO:

This flexible group consists of one COE machine (EUcoe01), one turbo spray machine (EUSIL02), 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.

AQD staff inspected the ductwork on the roof from the coating booths to the RTO. There were various holes in the ductwork where solvent odors were present. In addition, there were solvent odors escaping around the seals of the pre-filter doors. The odors and small holes was an apparent maintenance problem. Mr. Nielsen followed up within a week to confirm that the leaks had been fixed. A record is attached to this report.

Upon entering the coating area, strong solvent odors were present. The solvent odors seemed unchanged from the 2017 inspection. 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. Although the company has taken some measures to improve seals around paint pots and lid seals, the solvent odors around the booths continues to be an ongoing issue for the facility. It is noted that the fugitive solvent emissions was cited as a violation in 2017 and further brings into question the effectiveness of the booth capture system despite conducting an acceptable capture efficiency test in 2017.

During the inspection, the coating equipment and the RTO were visually inspected. The RTO was operating at an instantaneous reading of 1,635°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 further established by performance testing required under 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. The company has a malfunction abatement plan (MAP) which identifies process operating values and a response to malfunctions. If the parameters are out of range, then the entire system will shut down in accordance with the company's MAP.

At the time of the inspection, the air flow to the RTO was 7,220 CFM (as read from the digital display of the control

panel) which is higher than the average airflow of 5,375 CFM that was present during the July 2016 performance test.

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.

EUSIL01 is not considered a PTE and was down for cleaning. Odors were observed from the seals on the paint pots associated with this booth. Since this booth is not a PTE, the company is monitoring airflow as a compliance monitoring parameter. The operating gas flow rate for EUSIL01 was determined to be 2,057 cubic feet per minute (cfm) during the capture test, however, the company's MAP has a value of 2,396 cfm. According to the company's consultant, Sue Kwieck of FTC&H, the 2,396 cfm value provides a buffer to avoid exceedances of the operational parameter determined during the capture test. Company records show deviations of the 2,057 cfm value in the first half of 2017, but have subsequently been corrected.

EUSIL02 is considered a PTE and was down for cleaning. The company is monitoring exhaust airflow and calculating facial velocity using the natural draft opening (NDO) area determined during the capture test.

EUSIL03 is considered a PTE and was operating. The company is monitoring exhaust airflow and calculating facial velocity using the natural draft opening (NDO) area determined during the capture test.

EUSIL04 is considered a PTE and was operating. The company is monitoring exhaust airflow and calculating facial velocity using the natural draft opening (NDO) area determined during the capture test. The company plans to replace this booth with additional booths in the summer of 2018.

EUCOE1 is considered a PTE and was operating. The company is monitoring exhaust airflow and calculating facial velocity using the natural draft opening (NDO) area determined during the capture test.

EUAMS1 consists of two booths, is considered a PTE and was operating. The company is monitoring exhaust airflow and calculating facial velocity using the natural draft opening (NDO) area determined during the capture test.

In accordance with the permit, each booth uses Binks Mach 1 high volume low pressure (HVLP) applicators. Also, each booth had fabric filters installed. 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 March 2017 through February 2018 were calculated at 24.15 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 #207 primer has a VOC content of 6.11 pounds per gallon and the #6411 adhesive has 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 FGRT0 and associated coating booths subject to 40 CFR Part 63, Subpart 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 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 airflow at the two natural draft openings to each booth to verify face velocity which verifies PTE requirements. Because of the design and configuration of the booths, AQD has determined that these are appropriate monitoring points for airflow. Also under 40 CFR Part 63.3968(a), air flow

can be determined on a 3-hour block average basis for a PTE.

Below is a summary of facility monitoring:

Emission Unit	Monitoring Parameter	Minimum Operating Value	Natural Draft Opening Area	Compliance Point (based upon a 3-hour block average)	**Deviations (9/2017-2/2018)
EUCOE1	Air flow	296 ft ³ /min	1.48 ft ²	200 ft/min	0
EUSIL01	Air flow	2,369 ft ³ /min	NA	2,054 ft ³ /min	0
EUSIL02	Air flow	236 ft ³ /min	1.18 ft ²	200 ft/min	0
EUSIL03	Air flow	554 ft ³ /min	2.77 ft ²	200 ft/min	0
EUSIL04	Air flow	502 ft ³ /min	2.51 ft ²	200 ft/min	10
EUAMS01	Air flow	6 ft ³ /min	0.3ft ²	200 ft/min	0
FGRT0	Temperature	1,577F	NA	1,577F	0

** Data from September 2017 through February 2018 is represented as the company was addressing ongoing monitoring issues from April 2017 through July 2017. It is noted that the company is maintaining three different calculation methods for a 3-hour average, this is due to no clear guidance by USEPA on how to calculate a 3-hour block average at the time the record was established. Deviations identified are based on company records identifying "Reportable Deviations". On May 8, 2018, Jason Schenandoah of USEPA, Region V, provided the following clarification on calculating a 3-hour block average:

- A 3-hour block average does not necessarily need to begin at midnight. However, whichever hour is chosen to start the 3-hour block average should be consistent throughout all monitoring periods and should not change.
- Any data that is recorded during periods of start-up, shutdown, and malfunction (SSM) should not be considered in any averaging.
- All readings that are recorded that do not occur during SSM, should be used to produce the 3 hour average. There is no requirement for percentage of readings, the readings just need to be weighted properly while calculating the average.
- Only weight the average by the number of readings that are not part of SSM. (Example: If you have ten 15-minute readings that occurred during the 3 hour block that are not during SSM, you would sum the ten readings and divide by 10 while calculating the average).

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 24.8 lbs/gal of coating solids. From March 2017 to February 2018, records show controlled HAPs to be 9.73 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. The company reported deviations for operating parameters that were outside of the acceptable range established during performance testing. However, during these periods, the company assumed zero percent control of the RTO. Emissions calculated with zero percent control demonstrate that emissions are

below the applicable facility specific limit.

40 CFR Part 63, Subpart PPPP:

The facility is also subject to Subpart PPPP, but compliance is established through meeting the facility specific emission limit.

FGCOLDCLEANERS:

There are three cold cleaners at the facility that are exempt from new source review permitting under Rule 281(2)(h). These units are serviced by Safety Kleen.

BOILERS:

The facility has two active natural gas-fired boilers, a third has been decommissioned. Boiler2, a Wickes model, was manufactured and installed in 1956 and has a heat input capacity of 25.9 MMBtu/hr. Boiler4, a Johnson model, was manufactured in 1985 and installed on January 22, 2018 and has a heat input capacity of 12.55 MMBtu/hr. Both boilers are exempt from new source review permitting under Rule 282(2)(b)(i). Both boilers are subject to the requirements of 40 CFR Part 63, Subpart DDDDD. Although EUBOILER4 was recently installed at the facility, it is not subject to NSPS for Industrial Steam Generating Units under 40 CFR Part 60, Subpart Dc because the unit was operating prior to the 1989 applicability date in the rule; per 40 CFR 60.14(e), relocation or change in ownership does not affect the rule applicability to an "existing facility" (see attached USEPA Applicability Determination).

GENERATOR:

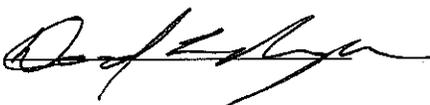
The facility has one small natural gas fired emergency generator. It has a faceplate manufacture date of 1-30-2007 and it is unlikely to have been ordered before June 2006 since it was installed in May 2007. Therefore, the unit has no recurrent status of subject to the NSPS with no requirements is acceptable.

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. Stipulated penalties were assessed for violations identified in 2017.

EVALUATION SUMMARY

Although HAVS continues to have solvent odors within the plant, operation and monitoring has been improved. AQD will continue to evaluate fugitive solvent odors. As of the date of the Full Compliance Evaluation, Hutchinson Antivibration Systems Inc. appears to be in compliance. A copy of records obtained during the compliance evaluation will be included in the file.

NAME 

DATE 5/22/18

SUPERVISOR 