

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

E509459161

FACILITY: Hutchinson Antivibration Systems, Inc.		SRN / ID: E5094
LOCATION: 460 Fuller Ave. NE, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Kaitlyn Laug , Health Safety and Environmental		ACTIVITY DATE: 08/04/2021
STAFF: David Morgan	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

At 9:30A.M. on August 4, 2021, Air Quality Division (AQD) staff Dave Morgan conducted a 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-E5094-2018. Accompanying AQD staff on the inspection was Kaitleyn Laug, Health Safety and Environmental Coordinator. Sue Kueick of FTC&H provided follow-up information. All Covid protocols were followed.

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 (#207) cut with methyl ethyl ketone (MEK) and an adhesive (#6411) cut with toluene. 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. The coating operations consist of one, two-booth, chain-on-edge COE machine (EUcoe01), one turbo spray machine (EUSIL02), two silver booths (EUSIL01, EUSIL03), a plastic overlay booth (EUAMS02), and four new robotic spray adhesive booths (EUADHESIVE 1-4) all controlled by a regenerative thermal oxidizer (RTO) under FGRT0. There is also a booth used to clean gun tips that is also exhausted to the 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-E5094-2018
- 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 DDDDD - NESHAP for Industrial Boilers
- 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) (for VOC)

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 having an insertable cartridge filter. The unloading area is enclosed within a building and the baghouse vents into this building. No material unloading was occurring during the inspection. 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-E5094-2018, EUCARBON. The company is monitoring and recording non-certified visible emission observations when loading is occurring; there have been no documented visible emission problems.

EUMIX:

This EU consists of four rubber mills and one mixer controlled by a baghouse. The baghouse is referred to as the "Fuller" baghouse. There was some carbon black staining on the baghouse inlet duct work and around the collection room which Ms. Laug attributed to when the collection totes are changed out. The company could improve housekeeping efforts to avoid carbon dust on the ground. 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 August 2020 through July 2021, company records estimate particulate emissions at 1.04 lbs/hr and 2.67 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 weekly maintenance records in accordance with ROP MI-ROP-E5094-2018. It is noted that quarterly records are required. In addition, the company is conducting weekly observations of the equipment and documenting any findings. The company should continue to specify and record whether visible emissions were observed from the process. Records indicate there have been no visible emissions from the unit. Also, the company is recording the daily pressure drop of the baghouse and maintaining the record at the unit. At the time of the inspection the unit was operating around 4.0 psi.

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). This process is not used very often, however, the company is still maintaining and monitoring the Torit collector. The company had weekly maintenance records in accordance with ROP MI-ROP-E5094-2018. In addition, the company is conducting weekly observations of the equipment and documenting any findings. Records indicate there have been no visible emissions from the unit. Also, the company is recording the daily pressure drop of the baghouse which runs around 1.0 psi. No emissions were recorded from this unit.

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. The process was not operating at the time of the inspection and therefore there were no visible emissions from the process. The company is maintaining daily pressure drop readings and weekly maintenance records in accordance with the ROP. The pressure drop is typically around 1.2 psi for this unit according to records. In addition, the company is conducting weekly observations of the equipment and documenting any findings. The company should continue to specify and record whether visible emissions were observed from the process. Records indicate there have been no visible emissions from the unit.

FGRT0:

During the inspection, the coating equipment and the RTO were visually inspected. The RTO was operating at a temperature around 1,682°F which is above the permit limit of 1,475°F minimum operating temperature that was established during the most recent performance test. The company continuously monitors the temperature of the RTO with a thermocouple. The company also relies on an interlock that shuts down the spray booths should the RTO temperature drop below 1,475F. According to the company's malfunction abatement plan (MAP), "In the event of an RTO system fault, the system will shut down and sound an alarm. The RTO temperature fault will automatically shut down cementing operations. The fault should be examined to determine the cause of the out of range reading and a repair determined. After the problem has been fixed, the RTO system must be restarted as per the SSMP to return the unit to operation before coating operations can resume." Under ROP No. MI-ROP-E5094-2018, Special Condition V.3 the company is required to verify every two years the operational integrity of the interlock system that shuts down spray booth operations when the temperature of the RTO drops below the minimum temperature requirement. Verification of the interlock system is to be conducted using methods, plans and procedures approved by the AQD prior to testing and with prior notification to AQD of the test. The company did not conduct this test which was also reported as a deviation on the ROP semi-annual certification report. Therefore, a violation will be cited.

AQD staff inspected the ductwork on the roof from the coating booths to the RTO. There were no apparent holes or gaps on the duct work itself, however, solvent odors were observed. There were holes and gaps noted around the pre-filter box with solvent odors noted. See photos below. This area needs additional maintenance to identify and address solvent leaks.





All coating booths had fabric filters that appeared to be installed and maintained properly. In addition, in accordance with the permit, each booth uses Binks Mach 1 high volume low pressure (HVLP) applicators. The new booths EUADHESIVE 1-4 use Graco Air EFX-HVLP guns.

AQD staff observed strong solvent odors in the coating booth area. This is an ongoing problem at HAV. Very strong solvent odors were observed in the general area around EUSIL02 and EUSIL03 and additional solvent odors were noted specifically near paint pots to EUSIL01, EUSIL02, EUSIL03 and EUCOE. According to HAV's MAP, weekly checks for fugitive VOC emissions from the paint pots and associated piping were to occur using olfactory means and/or photoionization detector (PID). There is no indication or record that this occurred, despite apparent solvent emissions. These measures were to be conducted in order to minimize fugitive emissions. Based on AQD observations, fugitive emissions are not being minimized, which is a violation of MI-ROP-E5094-208, FGRT0, Special Condition III.3.

EUSIL01 is not considered a PTE so 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 inspection (even though the equipment was not operating); the company's MAP has a value of 2,396 cfm. Maintenance of the door seal was poor as gaps were noted. A new source review permit application has been submitted for a new chain on edge booth to replace EUSIL01.

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

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 last capture test.

EUAMS2 small volume overlay booth has been removed from the facility but is still in the ROP.

In April 2019, the company evaluated EUADHESIVE1-4 under Method 204 for permanent total enclosure. These booths were determined to be permanent total enclosures with a 100% capture efficiency. Also, the capture efficiency and destruction efficiency of the RTO were determined. Overall control efficiency is calculated to be 96.86% which is above the minimum overall control efficiency of 85%.

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.

The company is maintaining VOC emission and material usage records in accordance with the ROP. The following table summarizes emission from FGRT0 from August 2020 through July 2021

Emission Unit	Pollutant	Actual Emissions	Limit	Compliance
FGRT0	VOC	23.6 tpy	50.4 tpy	Y
EUADHESIVE1-4	VOC	0.69 tpy	23.6 tpy	Y
EUADHESIVE1-4	ethylbenzene	0.04 tpy	2.3 tpy	Y
EUADHESIVE1-4	methyl isobutyl ketone	0.29 tpy	11.0 tpy	Y

It is noted under FGMMMM, the capture and control efficiency of the RTO is assumed to be zero when deviations of process operating parameter limits occur.

Also, based on the most recent Method 24 analysis conducted in December 2020, the #207 primer has a VOC content of 6.07 pounds per gallon and the #6411 adhesive has a VOC content of 6.58 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 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 parameters. The company is maintaining 3-hr block averages of the data below. Records were reviewed and no issues were found with the operating values.

Emission Unit	Booth	Monitoring Parameter	Minimum Operating Value ft ³ /min	Compliance Point (based upon a 3-hour block average)
EUOE1	COENorth	Air flow	296	200 ft/min
	COESouth	Air flow	296	200 ft/min
EUSIL01		Air flow	3,229	2,054 ft ³ /min
EUSIL02	SIL2East	Air flow	236	200 ft/min
	SIL2West	Air flow	236	200 ft/min
EUSIL03		Air flow	554	200 ft/min
EUADHESIVE1 (PR1)		Air flow	232* (175)	200 ft/min
EUADHESIVE2 (RC1)		Air flow	593* (175)	200 ft/min
EUADHESIVE3 (RC2)		Air flow	349* (175)	200 ft/min
EUADHESIVE4 (RC4)		Air flow	556* (175)	200 ft/min
FGRTTO		Temperature	1,475°F	1,475°F

* These flows were determined during the most recent Method 204, permanent total enclosure evaluation.

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. Per 40 CFR 60.3890(2) the site specific limit for HAPs has been determined to be 2.52 lbs/lbs of coating solids (or 26.5 lbs/gallon of solids). From August 2020 through July 2021, records show controlled HAPs to be 0.47 lbs/lbs of coating solids (or 6.99 lbs/gallon of solids) which is below the established 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.

FGCAM:

The company is conducting all the Compliance Assurance Monitoring (CAM) requirements as outlined in the ROP and maintaining required records and documentation. Monitoring under CAM includes the proper operation of temperature monitoring device in the combustion chamber of the RTO. No issues have been identified with this monitoring device. Any exceedances or excursions have been reported and submitted to the AQD in accordance with the permit. No Quality Improvement Plan (QIP) is required at this time.

FGCOLDCLEANERS:

There are three cold cleaners at the facility that are exempt from new source review permitting under Rule 281(2)(h). No known compliance issues. Lids were closed and procedures posted. It is noted that the ROP has six units identified but there are only three at the facility.

FGDDDDD (Boilers):

The facility has two active natural gas-fired boilers. Boiler2, a Wickes model, was manufactured and installed in 1956 and has a heat input capacity of 25.9 MMBtu/hr. This boiler is operated on a limited basis to provide backup to Boiler 4. 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) however both boilers are subject to the requirements of 40 CFR Part 63, Subpart DDDDD. EUBOILER4 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".

Both boilers require annual tune-ups. Boiler 4 was last tuned-up on October 20, 2020 and Boiler 2 on January 13, 2021 in accordance with Subpart DDDDD requirements. This tune-ups included inspection, cleaning and maintenance in accordance with manufacturer specifications as well as carbon monoxide emission optimization through carbon monoxide concentration measurements and tuning. All reports were submitted in accordance with Subpart DDDDD and the ROP and were certified by the responsible official.

EUGENERATOR:

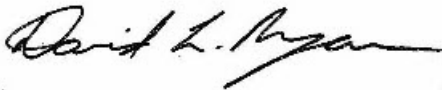
The facility has one small natural gas fired emergency generator that is exempt from permitting under Rule 285(g). The generator is subject to the NESHAP for Reciprocating Internal Combustion Engines promulgated under 40 CFR Part 63, Subparts A and ZZZZ. The generator is a 70 horsepower natural gas spark ignition (SI) reciprocating internal combustion engine (RICE) used for emergency purposes and was installed in May 2007 (it has a faceplate manufacture date of 1-30-2007 and it is unlikely to have been ordered before June 2006). Due to the installation date, it is considered a new source. A new source is considered to be in compliance with the RICE NESHAP by being in compliance with the New Source Performance Standard (NSPS) for Spark Ignition Internal Combustion Engines promulgated under 40 CFR Part 60, Subpart JJJJ. Only engines installed after June 12, 2006 and manufactured after January 1, 2009 are subject to the NSPS, thus there are no applicable requirements involved. Since there are no actual requirements that EUGENERATOR has to meet, a table was not included in the ROP.

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. This consent order, although still referenced in the ROP, was terminated in 2019.

EVALUATION SUMMARY

A Violation Notice will be sent for the violations described above. A copy of records obtained during the compliance evaluation will be included in the file.



NAME _____

9/24/2021

DATE _____



SUPERVISOR _____