

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

E509449138

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: 05/23/2019
STAFF: David Morgan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Capture testing on SIL1, RTO destruction efficiency testing, inspection.		
RESOLVED COMPLAINTS:		

At 9:00 A.M. on May 23, 2019, 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 and to observe capture and destruction efficiency testing. Accompanying AQD staff on the inspection was Jim Niesen, Maintenance Manager. Also on site was Dave Patterson of the AQD, Technical Programs Unit and Steve Byrd and Scott Cargill of Network Environmental. Sue Kuieck 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 (#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 booths 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 FGRTO. 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)
- Consent Order AQD No. 25-2016

COMPLIANCE EVALUATION

Testing:

At the time of the inspection, a destruction efficiency test was being conducted on the regenerative thermal oxidizer and a capture efficiency test on EUSIL1 in accordance with ROP No. MI-ROP-E5094-2018. The testing was conducted by Network Environmental. The first of three one hour test runs began at 10:25 A.M. and ended at 11:25 A.M. The test began late because the company was attempting to get two of the four new adhesive booths operating appropriately for the test. At

the time, two of the adhesive booths (EUADHESIVE1 and EUADHESIVE4) were operating in automatic mode; the other two booths (EUADHESIVE2 AND EUADHESIVE3) had to be operated in manual mode by an operator. An hour test run was completed, however there were continued problems to keep the two manual mode booths operating.

Between the first and second run, HAVS could not keep EUADHESIVE2 and EUADHESIVE3 operating in manual mode due to the booths faulting out. EUADHESIVE1 also had a problem with the robotic molding system. Because HAVS could not keep the booths running, HAVS reprogrammed the booths to spray a dummy part at a set spray interval to represent normal operations for testing purposes. This was acceptable to AQD staff.

The second run began at 1:04 P.M. and ended at 2:04 P.M. The third run was not observed by AQD district staff as the process operations appeared stable for testing purposes. Results from the test will be reviewed and capture and control efficiency verified once a test report is submitted.

FGRTO:

During the inspection/test, the coating equipment and the RTO were visually inspected. The RTO was operating at a temperature between 1,475°F and 1,500°F which is above the permit limit of 1,450°F. The company was testing at a RTO temperature lower than that in the operating plan (1,577°F) in order to re-establish the operating temperature limit as required under FGMMMM. At the time of the inspection, the air flow to the RTO was 9,233 CFM. Although this airflow is higher than the historical average airflow, additional booths were added which changed the total airflow. AQD staff inspected the ductwork on the roof from the coating booths to the RTO. There were no apparent duct gaps or holes and no solvent present. There were some minor solvent odors escaping around the seal of the pre-filter doors.

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.

In July 2016, the capture efficiency of each booth going to the RTO was evaluated. Five booths had 100% capture efficiency which is considered 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. 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.

EUSIL01 is not considered a PTE and a capture efficiency test was being conducted. 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 for minute (cfm) during the capture test; the company's MAP has a value of 2,396 cfm. Mr. Niesen indicated that EUSIL01 handles larger parts which makes it more difficult to rebuild the unit to meet PTE requirements.

EUSIL02 is considered a PTE and was down for part of the test. 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.

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. The AMS booths are low volume spraying and therefore have a low airflow minimum around 6 cfm.

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. All booths had fabric filters installed. Filters are changed at the beginning of each shift.

Solvent odors were observed around the booths but were less than noted in previous inspections.

The company is maintaining VOC emission and material usage records in accordance with the ROP. According to company records, overall VOC emissions from May 2018 through April 2019 were calculated at 13.4 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 6.44 pounds per gallon. The company is using the highest VOC content from Method 24 Analysis and Air Quality Data Sheets to calculate VOC emissions. The Method 24 analysis was last conducted in October 10, 2018.

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 on the day of the test and the number of deviations of these monitored parameters identified in records from May 2018 through May 2019:

Emission Unit	Booth	Monitoring Parameter	Minimum Operating Value ft ³ /min	Actual Operating Value on 5/23/19 ft ³ /min	Compliance Point (based upon a 3-hour block average)	**Deviations (5/2018-5/2019)
EUcoe1	COENorth	Air flow	296	1314	200 ft/min	14
	COESouth	Air flow	296	737	200 ft/min	
EUSIL01		Air flow	2,369	3289	2,054 ft ³ /min	0
EUSIL02	SIL2East	Air flow	236	382	200 ft/min	4
	SIL2West	Air flow	236	382	200 ft/min	
EUSIL03		Air flow	554	1825	200 ft/min	8
EUAMS01	AMSEast	Air flow	6	137	200 ft/min	0

	AMSWest	Air flow	6	123	200 ft/min	
EUADHESIVE1		Air flow	232*	559	200 ft/min	0
EUADHESIVE2		Air flow	593*	580	200 ft/min	0
EUADHESIVE3		Air flow	349*	484	200 ft/min	0
EUADHESIVE4		Air flow	556*	750	200 ft/min	0
FGRTO		Temperature	1,577°F	NA	1,577°F	0

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

** According to the company, many of the deviations occurred in March 2019 during which time the company was bringing the additional four adhesive booths online. It is also 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 27.0 lbs/gal of coating solids. From May 2018 to April 2019, records show controlled HAPs to be 5.56 lbs/gal of coating 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. Any exceedances or excursions have been reported and submitted to the AQD in accordance with the permit.

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-E5094-2018, 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. The carbon black collection from the baghouse appeared to be contained better than noted in previous inspections. There was some carbon black staining on the baghouse inlet duct work which Mr. Niesen attributed to bag maintenance. Approximately 400 bags were replaced in March 2019. 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 May 2018 through April 2019, company records estimate particulate emissions at 1.04 lbs/hr and 2.21 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 non-certified visible emissions checks. 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.

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 has not operated since June 2018.

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 is maintaining daily pressure drop readings in accordance with the ROP. The company had appropriate maintenance records in accordance with ROP MI-ROP-E5094-2018, EUWHEEL. The company had weekly maintenance records even though the permit requires quarterly. In addition, the company is conducting weekly non-certified visible emissions checks. 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.

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.

FGDDDDD (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. This boiler did not operate in 2018 or 2019. 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 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".

Both boilers require annual tune-ups. Boiler 4 was last tuned-up on December 13, 2018 in accordance with Subpart DDDDD requirements. This tune-up included inspection, cleaning and maintenance in accordance with manufacturer specifications as well as carbon monoxide emission optimization through carbon monoxide concentration

measurements and tuning. It is noted that since Boiler 2 did not operate in 2018 or 2019 no tune-up was conducted, however, a tune-up will be required within 30 days of start-up should the boiler become operational. All reports were submitted in accordance with Subpart DDDDD and the ROP.

EUGENERATOR:

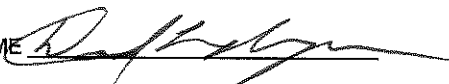
The facility has one small natural gas fired emergency generator that is exempt from permitting under Rule 285(g). The generator is subject to the NESHAP for Reciprocating Internal Combustion Engines promulgated under 40 CFR Part 63, Subparts A and ZZZZ. The generator is a 70 horsepower natural gas spark 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. No non-compliance issues were identified.

EVALUATION SUMMARY

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 6/19/19

SUPERVISOR 