

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

N621843388

FACILITY: Spectrum Cubic, Inc.		SRN / ID: N6218
LOCATION: 13 MCCONNELL STREET SW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Charlie Adams , Plant Engineer		ACTIVITY DATE: 02/15/2018
STAFF: April Lazzaro	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced scheduled inspection and met with Charlie Adams, Plant Engineer. We discussed the objective of the inspection, and the plan to inspect the roof and interior of the facility for compliance with Opt-out Permit to Install No. 277-97C.

FACILITY DESCRIPTION

Spectrum Cubic is a plastic parts automotive painting facility that is located on the south western edge of downtown Grand Rapids. One emission unit (two booths) at the facility is controlled by a Regenerative Thermal Oxidizer (RTO) and eight emission units are uncontrolled. The decorator booth is in the process of being modified pursuant to a permit modification. The facility operates three shifts, five days per week.

COMPLIANCE EVALUATION

Mr. Adams and I went to the roof to inspect the RTO and observe the stacks of the other paint booths. Upon accessing the RTO, a solvent smell was observed. Mr. Adams thought it was from the water treatment vent that was nearby. I observed the RTO and listened to the bed change outs, which sounded normal. I did not visually identify problems with the RTO shell at that time. Reports of the recent inspection and repairs was requested and received. (see attached) It appears that Spectrum Cubic has made repairs as recommended by Durr who has conducting the service inspections on the unit.

We accessed the other side of the roof, and I noticed that one of the stacks appeared black and sooty. I asked to walk closer, and I realized that it was not black sooty material, it was a paint booth stack, and it was black paint that was all over the roof and stack which was equipped with a rain cap. I learned that it was a Rule 287(2)(c) paint booth called EUBASECOAT, Booth #2 (aka overlay), and it is equipped with a waterwash particulate control system that is clearly not working properly. (see attached photos) This is a violation of Rule 910, failure to properly install, maintain and operate a control device. Additionally, Rule 287(2)(c) requires that the particulate air cleaning device be operating properly. A Violation Notice will be issued.

EUMAINLINE

Emission Limits

EUMAINLINE consists of two robotic (non-electrostatic) spray booths, with water wash particulate control systems vented to the RTO for VOC control. This emission unit also includes the decorator booth, which applies the hydro graphics to the painted plastic part. The decorator application area is vented uncontrolled through a dedicated stack to the ambient air.

VOC emissions for the two controlled robotic booths are limited to 9.9 tons per 12-month rolling time period combined. Reported VOC emissions through January 2018 are 9.20 tons. VOC emissions for the decorator booth are limited to 5.1 tons per 12-month rolling time period. Reported VOC emissions through January 2018 are 2.27 tons. Napthalene emissions for the three booths combined are limited to 1007.7 lb/year based on a 12-month rolling time period. Reported Napthalene emissions through January 2018 is 2.38 pounds.

Material Limits

No material limits are identified in this emission unit.

Process/Operational Restrictions

The facility inspection included the paint kitchen, and the variety of satellite solvent containers used for cleaning. Materials appeared stored and disposed of properly. Parts are being wiped with IPA and water at various points from satellite containers. I suggested as a method of managing cost that the usage be monitored and possibly limited. Mr. Adams indicated he would pass that information along. I also asked how this usage is being tracked in the recordkeeping. I was told by Mr. Adams that they currently track it per a Rule 290 exemption detailed further below.

The facility has a Malfunction Abatement Plan filed with the AQD, the most recent date being April 15, 2017. The RTO had a malfunction on November 20, 2017 and shut down from 10:00 AM to 5:18 PM. It appears the facility continued to paint parts from 10:00 AM to 3:00 PM, for a time frame of 5 hours of uncontrolled emissions. The MAP indicates that the Plant Manager will evaluate emissions during a malfunction to determine whether or not excess emissions will occur. The company provided AQD with an emissions record for review, which was compared to the permit limits, as well as Rule 632. Rule 632 regulates emissions of VOC from existing automobile, truck and business machine plastic part coating lines. Best Available Control Technology (BACT) was determined to be the use of the RTO to meet the VOC limit of 5.0 lb VOC per gallon of coating (minus water) as applied on a daily volume weighted average. With the use of the RTO as BACT the emission limit for this line as indicated is 15.0 tons per year. However, when the RTO is inoperable emissions would be above the exemption level of 30.0 tons in Rule 632 and as such the coating content limit of 5.0 lb/gallon VOC on a volume weighted average would apply. The company reported that emissions during the outage were reported at a volume weighted average of 2.70 lb/gallon VOC. (see attached)

Design/Equipment Parameters

The waterwash particulate control system on EUMAINLINE appeared to be working correctly.

The coating line is equipped with the Ransburg Evolver 560 spray gun. I was unclear as to whether or not it is considered HVLP comparable technology, so Mr. Adams and I spoke with Dylon Moore, Engineering Manager about the guns and whether or not test caps were available. Mr. Moore was able to use the test caps to confirm that the psi at the tip was between 8-9 with an input pressure of 65 psi. This indicates that the gun meets the definition of a HVLP applicator, which is defined as a tip pressure of 10 psi or less. (see attached photo)

The permit states that the permittee shall not operate the two spray booths, flash-off area and curing oven portions of EUMAINLINE, unless the RTO is installed, maintained and operated in a satisfactory manner. Spectrum Cubic, Inc. chose to continue coating operations after the RTO was no longer operational on November 20, 2017. This is a violation of Opt-out PTI No. 277-97C, EUMAINLINE, Special Condition No. IV.3, and will be included in the Violation Notice.

The temperature monitoring device for the RTO has a redundant recording system. The temperature of the RTO at the time of the inspection was 1,540°F, which is above the minimum allowed 1,500°F. There is a circular chart, and continuous recording to a database. The circular chart was not operational at the time of the inspection, because the paper needed to be changed. Mr. Adams changed the paper and was able to provide the electronic temperature charts which is acceptable. (see attached) The company keeps the unit at a low temperature at all times even if the line is shut down in order to maintain the interior of the unit. They started this practice after the unit was rebricked in 2016. They conduct a burn-out of the unit once every three months.

Testing/Sampling

The permit requires that the permittee determine VOC content, water content and density of any material as applied using Federal Reference Test Method 24, unless prior approval by the AQD District Supervisor to use manufacturer's formulation data has been given. This condition has been added to the permit during a modification in 2016 which is after the last AQD inspection was conducted. The facility is not currently conducting Method 24 testing, and is relying on SDS for VOC content, water content and density which is not consistent with how the permit is written. This is a violation of Opt-out PTI No. 277-97C, EUMAINLINE, Special Condition No. V.1, and will be included in the Violation Notice. In response, the company should request to use formulation data or submit a plan to outline how testing on the materials will be conducted.

The permit states that upon request, verification of the capture efficiency and destruction efficiency of the RTO for EUMAINLINE by testing at the owner's expense may be required. Due to the recent repairs to the RTO, and the odors noted near the unit, the AQD will request that destruction efficiency of the RTO be conducted. The facility should discuss options for capture efficiency testing with the AQD Technical Programs Unit staff to be determined if this is feasible prior to submittal of a test plan.

Monitoring/Recordkeeping

Recordkeeping and monitoring of EUMAINLINE was up-to-date, and the temperature monitoring and recording is acceptable as previously discussed. The permittee is currently keeping a list of the chemical composition of the material based on the use of SDS. This should be updated going forward with the formulation data information as it is received from the paint manufacturer or supplier after approval is received.

Laura Holman maintains the records based on paint usage. A ticket is generated anytime paint leaves the paint kitchen, which is used in the emissions recordkeeping. The emissions records are attached for reference. Emissions of naphthalene is being maintained separately as required, and the emissions are below the permit limit.

There were no obvious changes to the stacks at the facility.

FGFACILITY

Emission Limits

Each individual HAP at the facility is limited to 8.9 tons per 12-month rolling time period. The highest reported individual HAP at the facility is xylene at 0.33 tons for the 12-month time period of February 2017 – January 2018. Aggregate HAP are limited to a total of 22.4 tons per 12-month rolling time period. Reported aggregate HAP are 1.27 tons for the 12-month time period of February 2017 – January 2018. Reported emissions for both indicate compliance. VOC's are limited to 89.9 tons per 12-month rolling time period. Reported VOC emissions are 17.99 tons for the 12-month time period of February 2017 – January 2018. Ethylbenzene is limited to 1,824.0 pounds per 12-month rolling time period. Reported ethylbenzene emissions are 220 pounds for the 12-month time period of February 2017 – January 2018.

Material Limits

All surface coating lines that operate pursuant to a permit exemption at the facility are limited to using coatings with a VOC content of 8.0 lb/gal (with water as applied) coating content limit. A review of the records provided did not identify the use of any coatings above that limit in the spreadsheet being used on an exempt emission unit. Three materials in the facility master list have a VOC content above 8.0 lb/gallon.

Testing/Sampling

The permittee is required to determine the HAP content of any material as applied using manufacturer's formulation data. The permittee is required to determine VOC content using federal Reference Test Method 24, unless prior written approval is obtained to use manufacturer's formulation data. The permittee is currently using SDS's which is not what the permit specifies.

Monitoring/Recordkeeping

Overall, with some clarification e-mail communication (attached) it appears as though the facility is maintaining appropriate records in the spreadsheet.

EXEMPT EQUIPMENT

During the facility inspection, the facility exempt equipment was observed which include: EUMINILINE- two booths that are currently out of service, Rule 287(2)(c), highest reported 2017 usage was 79 gallons. EUBASECOAT- two robotic booths each with waterwash particulate control, Rule 287(2)(c). As indicated previously, booth number #2 of this series is in non-compliance for improper operation of the waterwash particulate control. In February 2017, the usage of coating through this emission unit was greater than 200 gallons. It has not gone over since so a violation will not be cited at this time.

EUSAMPLE- one spray booth with fabric filter, one dip tank, Rule 287(2)(c), highest reported 2017 usage was 19 gallons.

RGHS123- three hand spray booths w/ fabric filter control, Rule 287(2)(c), the highest usage reported was 141 gallons.

EUPURGE- Purge solvent use from all Rule 287(2)(c) exempt equipment, currently utilized Rule 290. The spreadsheet takes into account the solvent reclamation that the facility does and calls it "purge control efficiency". Mr. Adams will have that description updated to more accurately reflect that the solvent is being reclaimed. This would utilize the Rule 290 exemption, and the emissions are reported at a high of 30.7 pounds during April 2017.

SUMMARY

Spectrum Cubic, Inc. was in non-compliance at the time of the inspection.

There are two exempt natural gas fired boilers at the facility. One is a 14.6 mmBtu/hr unit installed in 1967 which is grandfathered from new source review permitting. The other is a 8.4 mmBtu/hr unit that was installed in 1966 and is also grandfathered from new source review permitting.

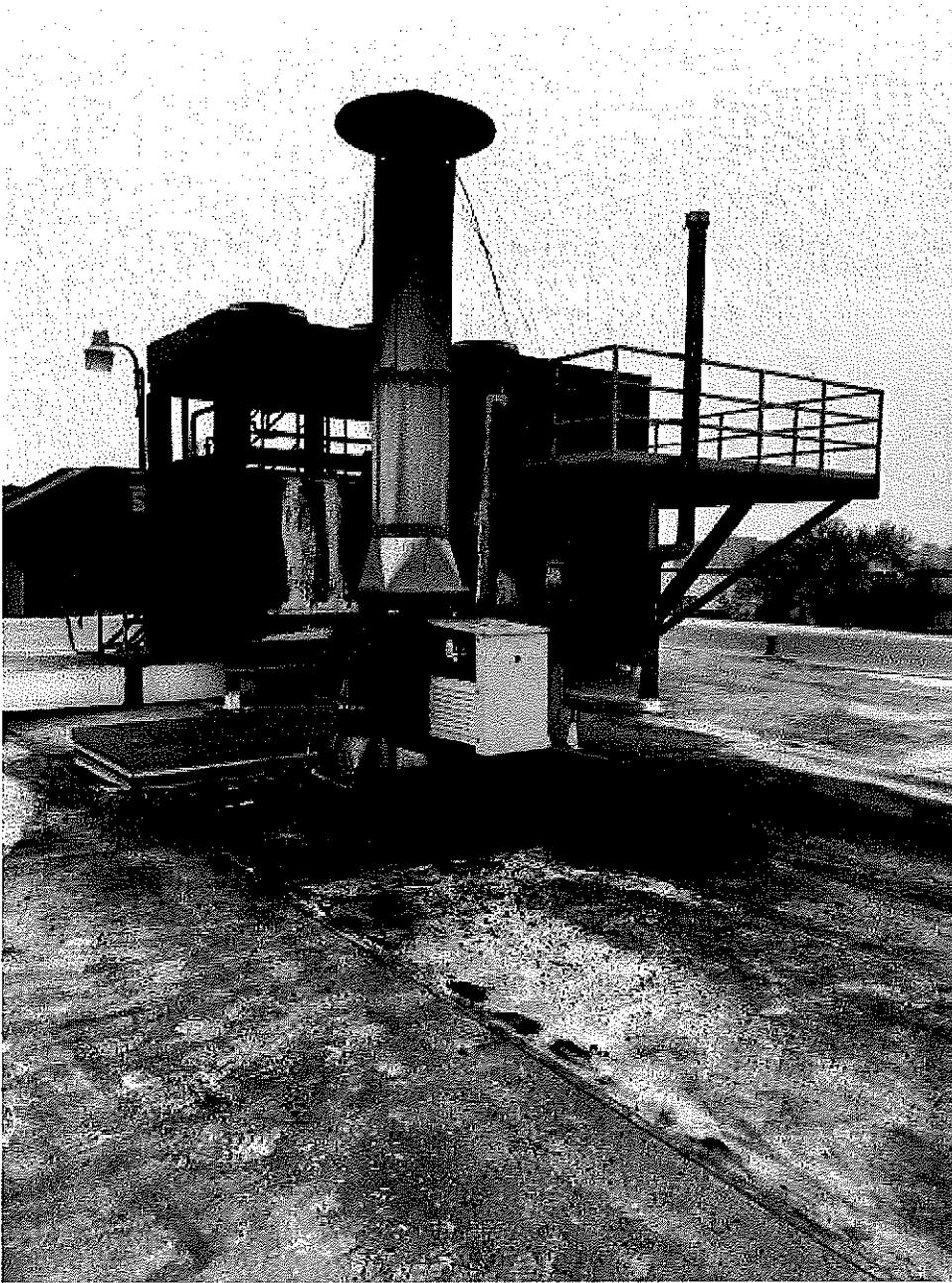


Image 1(EUBASECOAT #2.1) : Improper control of paint particulate.



Image 2(EUBASECOAT #2.2) : Improper control of paint particulate.



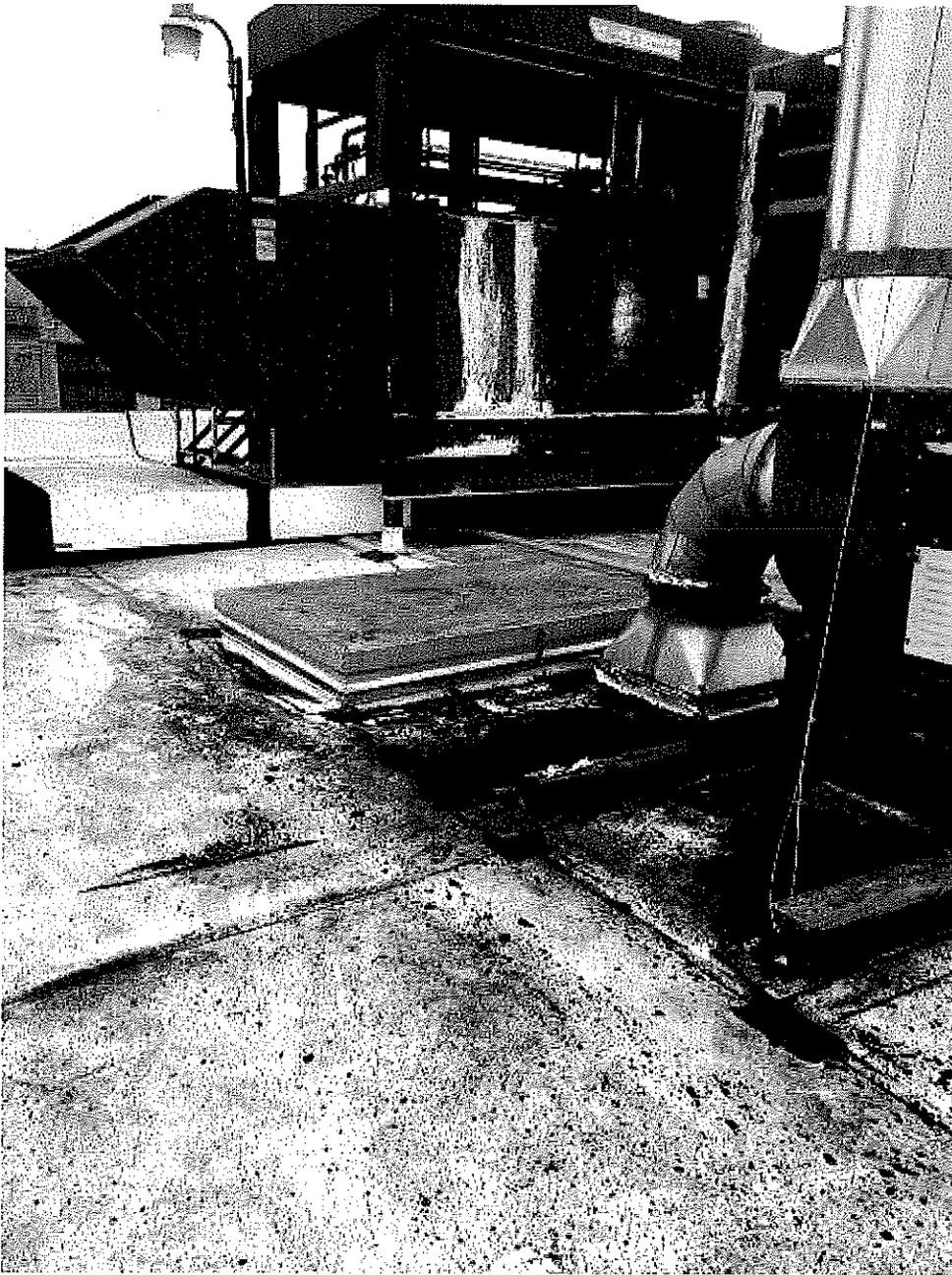


Image 3(EUBASECOAT #2.3) : Improper control of paint particulate.

NAME *Paul Longano*

DATE 3-23-18

SUPERVISOR *[Signature]*