

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

N559946957

FACILITY: LYONS INDUSTRIES		SRN / ID: N5599
LOCATION: 30000 M-62 WEST, DOWAGIAC		DISTRICT: Kalamazoo
CITY: DOWAGIAC		COUNTY: CASS
CONTACT: Nikki Bisnett , Purchasing Materials Manager		ACTIVITY DATE: 11/14/2018
STAFF: Amanda Chapel	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On November 14, 2018 AQD's Amanda Chapel (staff) conducted an unannounced air quality inspection of Lyon's Industries (facility) located in Dowagiac, Cass County Michigan. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) MI-ROP-N5599-2017 and all applicable state and federal air regulations. The following will summarize plant operations and facility's compliance status.

The facility is a major source, subject to Title V due to the potential to emit over 10 tons/year of a single HAP and 25 tons/year of combined HAPs. The facility is also subject to NESHAPWWW for reinforced plastic composite production and NESHAPZZZZ for a stationary reciprocating internal combustion engine (RICE). Both NESHAPs are included in the ROP. The main land use surrounding the facility is rural with some scattered businesses. There have been no complaints received about the facility since the last inspection.

I arrived at the facility about 10:30 am. I drove around the facility and did not see any visible emissions or detect any odors. The weather was clear with an ENE wind about 2 mph. I parked and entered the building. I spoke to the secretary and stated I was there to complete an unannounced air quality inspection and that I was looking for Nikki Bisnett. She called Ms. Bisnett, told her I was there, and had me wait in the lobby for Ms. Bisnett to finish her meeting. After a small wait, Ms. Bisnett met me in the lobby and brought me back to a conference room.

The last inspection was completed by me and there were no violation notices written as a result of the inspection. The facility still uses a vacuum and thermoform molding process to make molds of showers and tubs. These molds are then coated with a resin mixture and chopped fiber glass and sent through a heat tunnel to cure. The finished products are packaged and shipped out from the facility. There are no cold cleaners or boilers at the facility and the emergency generator, installed in 2015, is subject to the NESHAPZZZZ.

According to Ms. Bisnett, there have been no changes to the process or the materials used at the facility since the last inspection. The facility stopped using acetone in 2008 and the records reflect this. They also no longer use gel coat and the EUGELBOOTH is unused. The facility is now tracking the trade secret material in the resin from AOC as it was identified as a VOC. Ms. Bisnett and I reviewed the records at the facility.

FGBOOTHSUMMARY includes both the EUACRBOOTH1 and EUGELBOOTH.

VOC:

The VOC limit is 124.2 pounds per hour, calculated monthly. The most current monthly average pounds per hour in September 2018 is 51.42 lbs/hr. This is also the highest month total since January 2017. The rolling 12-month tons per year VOC limit is 98.50 tons/year. The most recent calculated 12-month rolling calculation for September 2018 is 66.89 tons/year. The highest calculated amount is 80.02 in March 2017. Both calculations show compliance with the VOC limits in the permit.

Styrene:

The styrene limit is 123.9 pounds per hour, calculated monthly. The most recent monthly average pounds per hour in September 2018 is 37.95 lbs/hr. This is also the highest level since January 2017. The next highest is 32.53 in February 2017. The rolling 12-month tons per year styrene limit is 98.2 tons. The most recent calculations show the 12-month rolling styrene emission is 47.23 tons/year. The highest emission calculation shows that March 2017 had styrene emissions of 67.86 tons. Both calculations show compliance with the styrene limits in the permit.

Recordkeeping documents show the weight percent of VOC and free styrene in the materials used, the catalyst, resin, and Acrastrip. Monthly booth operating hours are being tracked as well as monthly and 12-month rolling usage in both pounds and tons. As previously mentioned, the facility is now tracking the trade secret ingredient found in the resin which was identified as a VOC but not a HAP. This is being added into the VOC calculations for the facility.

The facility is subject to NESHAPWWWW. The facility is considered an open molding mechanical resin application because they use an open molding process to which composite materials are applied by mechanical tools such as spray guns and then rolled out by non-mechanical tools before curing. Based on the limits in the NESHAP, this limits the facility to 88 lb/ton resin of organic HAP. The catalyst does contain an organic HAP, Dimethyl phthalate. This does not need to be included in the calculation because it is not part of the resin, as received, by the supplier. The emission factor for open molding mechanical resin application is $0.107x\%HAPx2000$. The resin contains 32% styrene. This equates to $0.107x0.32x2000 = 68.48$ lbs of organic HAP emitted per tons of resin. This is below the 88 lbs/ton resin limit established in the NESHAPWWWW.

Ms. Bisnett did mention that the facility was planning to install a fourth robotic arm within EUACRBOOTH1. This will not affect the permit limits at the facility. Upon discussion with Mary Douglas, the facility needs to submit a C-001 form and an M-001 form to the department to notify us of the change. This would be considered a 215 off permit change and would be noted in the staff report when the ROP is updated but would not be included in the ROP itself.

After reviewing the records, Ms. Bisnett took me on a tour of the facility. The facility was in operation during the walkthrough. First, we observed the 8 vacuform machines set up into two sets of four. These machines use heat and vacuum to mold the plastic sheets into the shape of the tub or shower. Once formed, these molds go into holding to be coated with the resin/TIO2/filler mixture. No waste materials are collected from this process.

The facility uses approximately 42,000 pounds of resin per week which is about two tanker trucks of resin. This equals about 10,000-11,000 lbs per day. The resin is held in the tanker and attached to the building to use as needed. Once one tanker is empty, the second tanker is hooked up and the first tanker is hauled away and replaced. In the mixing area where filler and titanium are added, where the resin mixture is made, there were three mixers in operation. The mixers were all closed or actively being loaded.

The molds are loaded onto carts and wheeled into EUACRBOOTH1 where the mechanical arm uses an HVLP ATC-4000-FIT External Mix Chop Gun to combine the mixed resin with the chopped fiber glass. The arm is programmed to spray each part according to the programmed information. The filters in the booth are changed once per day. The permit requires monitoring and recording of the differential pressure readings across each of the particulate filters on a daily basis during maximum routine operating conditions. Ms. Bisnett does a daily visual inspection of the filters, but the differential pressure readings are not being recorded. The differential pressure gauge has been moved since the last inspection. The gauge was routinely being covered with overspray from the process, so the gauge was moved to be above door R3, making it difficult to read. It was suggested the gauge be moved to a different area, away from the spray, to allow daily readings to be done.

Once the molds are sprayed, the employees roll out the coating to make sure everything is coated. The legs and reinforcement are added, and the mold is sent through the heat tunnel to cure. After the product has cured, it goes to the saw area. Here the edges are cut and sanded. Each of the saws is individually vented to the dust collector. Ms. Bisnett and I went outside to view the dust collector. There was a small amount of saw dust on top of the dumpster, but the area was generally clean. There were no visual emissions from the collector. The dumpster is hauled away when it is full. The saws and sanders are exempt from permitting under Rule 285(2)(l)(vi)(C).

Finally, we viewed the emergency generator located along the west side of the building. The generator only runs for a power outage. It does a self-test 1x per month to make sure it is in working order.

When we returned inside the building, Ms. Bisnett made me a copy of the records for the facility to take back to the office. We sat back down in the conference room for the close-out discussion. The only cause for concern at the facility is the lack of daily pressure drop readings across the fabric filters. A VN

will be written for this. The facility appears to be in compliance with all other requirements in MI-ROP-N5599-2017. I thanked Ms. Bisnett for her time and showing me around the facility. I left around 12:30 pm.

NAME Aimee Cline

DATE 11/15/18

SUPERVISOR MA 11/15/2018