

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

N559964606

<b>FACILITY:</b> LYONS INDUSTRIES		<b>SRN / ID:</b> N5599
<b>LOCATION:</b> 30000 M-62 WEST, DOWAGIAC		<b>DISTRICT:</b> Kalamazoo
<b>CITY:</b> DOWAGIAC		<b>COUNTY:</b> CASS
<b>CONTACT:</b> Maryann Pears , Purchasing Manager		<b>ACTIVITY DATE:</b> 07/26/2022
<b>STAFF:</b> Rachel Benaway	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> On-site inspection to verify compliance with all state and federal air use regulations.		
<b>RESOLVED COMPLAINTS:</b>		

AQD staff (Rachel Benaway) conducted an unannounced air quality inspection of Lyons Industries, Inc. (N5599) on 7/26/2022. The purpose of the inspection was to verify Lyons Industries, Inc. is in compliance with their Renewable Operating Permit (ROP) #MI-ROP-N5599-2022 and all state and federal air use regulations. Lyons Industries, a tub and shower wall fiberglass lay-up operation, is a major source of organic HAPS, PM, and VOCs. The facility is subject to 40 CFR 63 Subpart ZZZZ for the stationary emergency engine and 40 CFR 63 Subpart WWWW for reinforced plastic composites production. Maryann Pears is the Purchasing/Materials Manager for the facility, responsible for the submission of records, and was present for the on-site inspection. Personal protection equipment required for plant entry includes safety shoes and glasses.

There were no visible emissions observed outside of the facility and no Styrene odor detected near the building, nor within the limits of the parking lot. The facility employs approximately 105 employees and operates 2 shifts per day, 5 days a week. The facility was in compliance at the time of their last inspection on 8/19/2020 and reported that no existing equipment has been relocated, modified, or reconstructed and no new equipment has been installed since that date. The renewal of the ROP was issued June of this year.

#	Equipment at Facility
2	Booths for gel coat spray or fiberglass lay-up operations (EUACRBOOTH1, EUGELBOOTH)
	Grinders, floor sweeps, saws with outside dust collector (EUDUSTCOLLECTOR)
	Diesel fired compression ignition emergency generator (EUGENERATOR)

The following is a list of special conditions listed in the ROP for each emission unit and flexible group of which staff was able to make a compliance determination.

**EUDUSTCOLLECTOR**

Description: Grinders, floor sweeps, saws

Pollution Control: Two dust collectors (1 indoor, 1 outdoor)

ROP #MI-ROP-N5599-2022

SC	Condition	COMPLIANT?
I.1	PM 0.1 lb/1,000 lbs exhaust gas, on a dry gas basis	N/A*
IV.1	Air-cleaning device shall be installed/maintained/operated	Yes
IV.2	Collected contaminants shall be removed/disposed of properly	Yes

\*No compliance determination can be made at this time because no emissions testing has been requested.

The hopper of the internal dust collector is changed once ever two shifts. Debris was observed surrounding the unit, but the area is well maintained.

**Monitoring/Recordkeeping:**

SC	Condition	COMPLIANT?
VI.1	Perform daily inspection of dust collector (visual emissions check)	Yes
VII.2	Semiannual reporting of monitoring and deviations (by 3/15 and 9/15)	Yes
VII.3	Annual certification of compliance (by 3/15)	Yes

Although dust and fiberglass remnants can be observed around the inside of the facility, there are housekeeping practices in place to ensure the fugitive dust and debris is confined to the building and regularly maintained. Waste management comes to replaces the hopper from the outdoor dust collector once a month. The area around the dust collector outside was free of debris. The facility reported that daily visual inspections are conducted on the dust collector in compliance with SC VI.1.

**EUDUSTCOLLECTOR appears to be in compliance at this time.**

**FGBOOTHSUMMARY**

Description: Gel coat spray and fiberglass lay-up operations (EUACRBOOTH1 and EUGELBOOTH)

Pollution Control: fabric filters

ROP #MI-ROP-N5599-2022

SC	Condition	COMPLIANT?
I.1	124.2 lb/hr VOC/hr on monthly basis	Yes
I.2	98.5 tpy VOC on a 12-month rolling time basis	Yes
I.3	123.9 lb/hr Styrene on monthly basis	Yes
I.4	98.2 tpy Styrene on a 12-month rolling time basis	Yes
I.5	40 lb/hr Acetone on monthly basis	Yes
I.6	29.75 tpy Acetone on a 12-month rolling time basis	Yes
III.1	Change all dry filters when pressure readings are outside manufacturer specified range or visual capture efficiency inspection concludes inadequate capture efficiency	Yes
IV.1	Must equip all booths with HVL.P spray guns	Yes
IV.2	All waste shall be captured/stored in closed containers and disposed of in acceptable manner	Yes

There was a considerable amount of fiberglass residue within the booth area, but regular maintenance manages the debris with no debris leaving the building. The filters are changed 4 times a day and appeared to be installed properly at the time of this inspection. Waste filters are disposed of in a trash receptacle inside the building.

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?
VI.1	a. Records of each resin, gel coat, catalyst, purge, and cleanup solvent used	Yes
	b. Composition in weight % of VOC, free styrene, and acetone in each resin, gel coat, catalyst, purge, and cleanup solvent used	Yes
	c. Monthly operating hours	Yes
	d. Monthly and 12MRT usage, in lbs, each resin, gel coat, catalyst, purge, cleanup solvent	Yes
	e. Monthly and 12MRT reclaimed amount, in lbs, of purge and cleanup solvent	N/A
	f. Calculated monthly and 12MRT total mass VOC emissions in lbs or tons	Yes
	g. Calculated monthly and 12MRT total mass styrene emissions in lbs or tons	Yes
	h. Calculated monthly and 12MRT total mass acetone emissions in pounds or tons	Yes
VI.2	Records of daily visual installation and capture efficiency inspections of particulate filters during maximum routine operating conditions	Yes
VI.3	Records of daily differential pressure readings across each particulate filter	Yes

The resin used contains 32% styrene and has a trade secret ingredient which is 10% VOC. From July 2020 to July 2022, the most resin used in one month was 385,020 lb in May of 2022.

The most catalyst used in one month between July 2020 to July 2022 was 8,492 lb in October of 2020. The catalyst is 34% VOC. Within this same time period, in 5 separate months the facility recorded AcraStrip usage at 165 gallons per month. The number of booth hours logged per month between July 2020 and July 2022 ranged from 249.20 (April 2021) to 416 (October 2020).

The facility maintains a spreadsheet with all material usage and emissions calculations listed.

- From July 2020 to July 2021, the highest lb/hr VOC emission value was 47.82 lb/hr in August of 2021. This is well below the permit limit of 124.2 lb/hr (SC I.1). The highest annual VOC emission value by 12-month rolling time basis was 87.58 tons in May of 2022. This is below the permit limit of 98.5 tpy (SC I.2).
- From July 2020 to July 2021, the highest lb/hr styrene emission value was 34.84 lb/hr in August of 2021. This is well below the permit limit of 123.9 lb/hr (SC I.3). The highest annual styrene emission value by 12-month rolling time basis was 63.52 tons in May of 2022. This is below the permit limit of 98.2 tpy (SC I.4).
- The facility is not using acetone (since 2008) and is in compliance with the emissions limits listed in SC I.5-6.

The facility submitted daily spray booth inspection sheets demonstrating compliance with SC VI.2 and 3 for two years, as requested. The spray booth inspection forms include differential pressure readings and confirmation of filter maintenance and dust collector visual inspection.

FGBOOTHSUMMARY appears to be in compliance at this time.

FGNESHAP WWWW

Description: Includes all reinforced plastic composites production (EUACRBOOTH1, EUGELBOOTH)

Pollution control: fabric filters

SC	EMISSION LIMIT	COMPLIANT?
I.1	Organic HAP from Open-Moulding-Mechanical Resin Application: 88 lb/ton resin	Yes*
I.2	Organic HAP limit Open-Moulding-Filament Resin Application: 188 lb/ton resin	N/A
I.3	Organic HAP limit Open-Moulding-Manual Resin Application: 87 lb/ton resin	N/A
I.4	Organic HAP limit Open-Moulding-Mechanical Tooling Resin Application: 254 lb/ton resin	N/A

I.5	Organic HAP limit Open-Moulding-Manual Tooling Resin Application: 157 lb/ton resin	N/A
I.6	Organic HAP limit Open-Moulding-Gel Coat (Tooling Gel Coat): 440 lb/ton gel	N/A
I.7	Organic HAP limit Open-Moulding-Gel Coat (White/Off-White Pigmented Gel): 267 lb/ton gel	N/A
I.8	Organic HAP limit Open-Moulding-Gel Coat (Other pigmented gel): 377 lb/ton gel	N/A
I.9	Organic HAP limit Open-Moulding-Gel Coat (Corrosion resistant/High strength/high-performance gel): 605 lb/ton gel	N/A
I.10	Organic HAP limit Open-Moulding-Gel Coat (Fire retardant gel): 854 lb/ton gel	N/A
I.11	Organic HAP limit Open-Moulding-Gel Coat (Clear production gel): 522 lb/ton gel	N/A
III.1	The permittee shall not operate FGNEHAP WWWW except in compliance with the applicable work practice standards in Table 4 of 40 CFR Part 63 Subpart WWWW	Yes
III.2	The permittee shall keep containers that store HAP-containing materials closed or covered except during the addition or removal of materials. Bulk HAP-containing materials storage tanks may be vented as necessary for safety.	Yes
III.3	The permittee shall not use cleaning solvents that contain any HAP except that styrene may be used as a cleaner in closed systems, and organic HAP containing cleaners may be used to clean cured resin from application equipment. Application equipment includes any equipment that directly contacts the resin	Yes

**Monitoring/Recordkeeping:**

SC	Condition	COMPLIANT?
VI.1	The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material	Yes
VI.2	The permittee shall maintain all applicable records as required by 40 CFR Part 63, Subpart WWWW, §63.5915 and §63.5920	Yes
VI.3	comply with the recordkeeping requirements as detailed in 40 CFR Part 63 Subpart WWWW, §63.5895 and §63.5900	Yes
VI.4	The emission factors from Table 1 to Subpart WWWW of 40 CFR Part 63 shall be used to calculate organic HAP emissions for the purposes of this compliance demonstration. Table 1 is included in Appendix 4.	Yes
VI.5	The permittee shall determine compliance with the applicable emission limits in the FGNEHAP WWWW Emission Limit Table and in Table 3 of 40 CFR Part 63, Subpart WWWW by using one of the following methods (40 CFR 63.5810): a. In accordance with 40 CFR 63.5810(a), demonstrate that an individual resin or gel coat, as applied, meets the applicable emission limit. b. In accordance with 40 CFR 63.5810(b), demonstrate that, on average, the permittee meets the individual organic HAP emissions limits for each combination of operation type and resin application method or gel coat type. c. In accordance with 40 CFR 63.5810(c), demonstrate compliance with a weighted average emission limit. d. In accordance with 40 CFR 63.5810(d), meet the organic HAP emissions limit for one application method and use the same resin(s) for all application methods of that resin type.	Yes*

\*The time period/operating scenario for the emission limit in SC I.1 is dependent on the compliance method. Per SC VI.5(d), the permittee has demonstrated that the organic HAP emission rate is less than the applicable emission limit by meeting the organic HAP emissions limit for one application method and using the same resin for all application methods of that resin type.

The facility is subject to this 40 CFR 63 subpart WWWW for their open molding mechanical resin application which includes mechanical application of composite materials. The method of application is HRLV guns with non-mechanical tools used before the curing process. The emission limit established by the NESHAP is 88 lb/ton of resin. The resin contains 32% styrene. Based on the emission factor for this process (listed in Appendix 4 of the ROP), the HAP emissions (0.107\*0.32\*2000= 68.48 lbs/ton of resin) is below the permitted limit. The facility is tracking their styrene emissions on a monthly and 12-month rolling time period.

FGNEHAP WWWW appears to be in compliance at this time.

**FGNEHAP ZZZZ**

40 CFR Part 63, Subpart ZZZZ is the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions. The 1,135 BHP (2.89 MMBTU/hr) #2 diesel fired compression ignition stationary RICE is used for emergency purposes.

SC	Condition	COMPLIANT?
II.1	Burn only diesel w/ max sulfur content of 15ppm (0.0015%) by wt and a min Cetane Index of 40 or max aromatic content of 35 volume %	Yes
III.1	Operate and maintain in manner consistent with good air pollution control practices	Yes
III.2	Minimize engine idle time during startup -not to exceed 30 minutes	Yes
III.3	Operate no more than 100 hrs/yr for maintenance	Yes
III.4	May be operated up to 50 hrs for non-emergency, no peak shaving or income generating use	Yes
IV.1	Equip with hours meter	Yes*

\*The generator is equipped with a non-resettable hours meter (SC IV.1), however, there were issues demonstrating this reading during the inspection. The facility reported the reading afterwards as 737.4 hours with 835 starts. Since the inspection, protocols have been put in place to record meter readings whenever the engine is used or serviced.

**Monitoring/Recordkeeping:**

SC	Condition	COMPLIANT?
VI.1	Keep records of maintenance conducted	Yes
VI.2	Monitor and record total hours of operation on monthly basis and hours of operation in emergency/non-emergency use on a calendar year basis	Yes
VI.3	Keep fuel supplier certification records or fuel sample test data for each delivery (SC II.1)- must show supplier or lab name, sulfur content, cetane index or aromatic content of fuel oil	Yes

To comply with SC VI.3, the facility submitted a diesel fuel supplier certificate demonstrating compliance with the max sulfur content and minimum cetane index listed in SC II.1. A service order for the engine was submitted, demonstrating compliance with SC VI.1.

The facility submitted documentation that they are tracking monthly and yearly usage and recording the purpose of each use, demonstrating compliance with the 100 hours per year limit in SC III.3 and SC VI.2.

FGNESHAP ZZZZ appears to be in compliance at this time.

The facility appears to be in compliance with all state and federal air use regulations at this time.

NAME Rachel Fenaway      DATE 9/21/22      SUPERVISOR RIL 9/21/22