

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection

FY2016

B891932993

FACILITY: GREAT LAKES RUBBER CO INC	SRN / ID: B8919
LOCATION: 30573 BECK RD, WIXOM	DISTRICT: Southeast Michigan
CITY: WIXOM	COUNTY: OAKLAND
CONTACT: Don De Mallie , President	ACTIVITY DATE: 01/14/2016
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
SOURCE CLASS: SM OPT OUT	
SUBJECT: FY 2016 level-2 self-initiated SM CMS inspection of Great Lakes Rubber Co., Inc.	
RESOLVED COMPLAINTS:	

B8919 - SAR - 2016 01 14

Great Lakes Rubber Co., Inc. (B8919)  
30573 Beck Road  
Wixom, Michigan 48393-2817

Phone: 248-624-5710  
Fax: 248-624-4770

VN: AQD issued September 10, 2015, Violation Notice for failure to perform the required calculations (PTI No.: 146-14, FG-FACILITY, I.1, VI.1). AQD received Sep 22, 2015, VN response letter stating that the required calculations would be done.

PTI No.: 146-14 (ROP and HAP Synthetic Minor or Opt-out) dated October 24, 2014 (Andrew Drury of AQD). Separate VOC and HAP limits apply to both adjacent facilities: Great Lakes Rubber Co., Inc. (B8919) and Mac Valves, Inc. (N3254). Mac Valves has its own opt-out permit (PTI No. 130-94A). Total emission limits for the two facilities are VOC = 61 tpy, each individual HAP = 8 tpy, and total HAPs = 20 tpy.

Two voided PTI Application Nos.: 324-96 (01/08/1997) and 27-82 (07/27/1989). PTI App. No. 27-82 is associated with Great Lakes Fiberglass, which has nothing do with GL Rubber.

208a registered facility in association with Mac Valves, Inc. (SRN: N3254). Great Lakes Rubber (B8919, PTI No. 146-14) and Mac Valves, Inc. (N3254, PTI No. 130-94A) obtained ROP opt-out permits as stated above upon AQD rescinding Rule 208a.

SIC: 3069 for Great Lakes Rubber Co., Inc. (B8919) and 3491 for Mac Valves, Inc. (SRN: N3254). As first two digits are different (30 Vs 34), the two manufacturing plants are different facilities although under common ownership and contiguous and adjacent. For MACT rules, SIC does not matter.

Not subject to: area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations

On January 14, 2016, I conducted a level-2 self-initiated SM CMS inspection of Great Lakes Rubber Co., Inc. ("Great" or "GL Rubber"), adjacent to and owned by Mac Valves, Inc., located at 30573 Beck Road, Wixom, Michigan 48393-2817. The inspection was conducted to

determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules; and PTI No.: 146-14.

The inspection is a result of Rule 208a rescinding, ROP & MACT synthetic minor permits concerning two adjacent, contiguous, commonly controlled and owned facilities, and September 10, 2015 Violation Notice (VN). GL Rubber received June 27, 2014, letter from AQD regarding rescinding Rule 208a.

During the inspection, Mr. Don De Mallie (Phone: 248-624-5710; E-mail: ddemallie@GreatLakesRubberCo.com), President, and Ms. Amy Brown (Phone: 248-624-7700-ext. 340; Fax: 248-624-0549; E-mail: amy.brown@macvalves.com), Facility Engineer, Mac Valves, assisted me. Since 1989, Mac Valves owns Great Lakes Rubber Co., which is a principal supplier of rubber gaskets, O-rings and other sealer / leak-prevention devices to Mac Vales.

Mr. Dave Meinke (Phone: 248-624-7700; Fax: 248-624-0549; E-mail: dave.meinke@macvalves.com), Quality Manager, Mac Valves, is involved in quality management and not involved in safety and environmental issues any more. Ms. Amy Brown replaced him as Facility Engineer about May 2014.

Mr. Michael Clemens (Phone: 248-624-5710; E-mail: mclemens@greatlakesrubberco.com), Engineering Manager, separated in August 2013 from GL Rubber.

About July 2014, I explained Mr. Mallie and Ms. Brown the options available for both Great Lakes Rubber and MacValves as an alternative to Rule 208a. Accordingly, Great Lakes Rubber (PTI No 146-14) and MacValves (PTI No. 130-94A)obtained Synthetic Minor permits.

Founded in 1979, Great Lakes Rubber Co. provides a wide range of services in rubber sealer products:

1. Custom rubber formulation and mixing: lubrication, environmental resistance (oils, fuels, solvents, etc.)
2. Prototyping: developing and testing prototype parts
3. Rubber testing: GL Rubber's laboratory supports product development, QC, etc.
4. Rubber Molding
5. Form Grinding: robotic grinding to tight tolerance and digital imaging
6. Cryogenic Deflashing: rubber, plastic, metal parts are deflashed and deburred using cryogenics.

7. Assembly etc.

This GL Rubber facility is also part of the same stationary source as Mac Valves, SRN N3254, which is also obtaining an opt-out permit, 130-94A. The permits together limit emissions from the stationary source to less than major source levels. Total emission limits for the two facilities are VOC = 61 tpy, each individual HAP = 8 tpy, and total HAPs = 20 tpy. Based on the information in the two PTI applications, the facilities do not emit the same HAPs. VOC and HAP emissions from the GL Rubber facility are limited by the adhesive VOC content limit (7.0 pounds per gallon) and the adhesive and coating usage limit (2,400 gallons per year of VOC/HAP containing adhesives and coatings).

The adhesive spray application process uses a HVLP spray gun. This process uses high VOC coatings (highest is 6.96 lb. VOC/gallon) but the usage rates are very low. Actual emissions are estimated by GL Rubber to be 0.85 tpy. Most of the VOC in these coatings are HAPs (MIBK, xylene, ethylbenzene, perchloroethylene, and trichloroethylene). The adhesive roll on application process uses a paint brush to apply the adhesive. This process uses high VOC coatings (highest is 6.29 lb. VOC/gallon) but the usage rates are very low. Actual emissions are estimated by GL Rubber to be 0.22 tpy. Most of the VOC in these coatings are HAPs (methanol, xylene, ethylbenzene, and toluene).

The largest source of VOC emissions is the use of methyl ethyl ketone (MEK) for clean-up and thinning. Actual emissions are estimated by GL Rubber to be 7.02 tons per year.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment that is part of Great Lakes Rubber, SRN B8919. Note that, as of the date of this permit, Great Lakes Rubber is part of the same stationary source as Mac Valves, SRN N3254. So long as these two facilities are a single stationary source, total emissions from both facilities must be added together to determine if the stationary source is a major source.	

**FG-FACILITY I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	Less than 18 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
2. Each individual HAP	Less than 4 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3)
3. Aggregate HAPs	Less than 10 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3)

**FG-FACILITYII. MATERIAL LIMITS**

1. The VOC content of any adhesive or coating used in FGFACILITY shall not exceed 7.0 pounds per gallon. **(R 336.1205(3))**
2. The permittee shall not use more than 2,400 gallons of VOC/HAP containing adhesives and coatings in FGFACILITY per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

18 tons of VOC per year limit includes 8.4 tpy VOC for coatings and adhesives (2,400 gallons per year, 7 lbs. of VOC per gallon of coating). The rest (18 – 8.4 = 9.6 tons per year) is for MEK which is used as clean-up solvent. MEK is delisted from Sec. 112 HAP. High clean-up solvent (MEK only) usage is done at GL Rubber but nil usage at Mac Valves.

Although data is available, GL Rubber has not started keeping records according to the permit as of September 3, 2015. I asked, during FY 2015 inspection, Ms. Brown to keep records (using MS Excel or such software) that readily show compliance with the HAP and VOC limits. AQD issued September 10, 2015, Violation Notice for failure to perform the required calculations (PTI No.: 146-14, FG-FACILITY, I.1, VI.1).

During FY 2016 inspection, I suggested improvement to the MS Excel spreadsheet calculations. GL emitted 9.32 tons VOC per 11-month (PTI No.: 146-14, FG-FACILITY, I.1 limit: 18 tpy), 3.7 tons of MEK per 11-month, and 6.05 tons of HAPs per 11-month (PTI No.: 146-14, FG-FACILITY, I.2 limit: 4 tpy Single HAP & I.3 limit: 10 tpy Aggregate HAPs). 9.32 tons represents MEK (clean-up solvents) plus coating VOC.

I asked Ms. Brown to keep records based upon formulation data sheets from the manufacturers rather than MSDS for the sake of greater accuracy. I also asked her to improve the MS Spreadsheet to show readily compliance; the limits must be noted correspondingly.

**Mixer (1) and rollers (2) (one common baghouse) – Batch process**

Polymer, rubber, carbon black, waxes, oils and curing compounds are mixed, according to a formulation recipe, in the process using a mixing tank (Ban Bury Mixer). No external heat is provided to the mixture. However, the mixture temperature rises due to friction of mixing (T = 150-260 °F). The process is equipped with a dust collector (Dustvent) consisting of eight (8) bags with 55-gallon drum hopper.

Because exhaust air is recirculated upon cleaning into the building, the process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(I).

The bags are cleaned using a manual shaker mechanism; the bags are shaken daily. The dust collector is operated only when the rubber mix batches are made. About five (5) batches per day are made.

Besides, two roller units to flatten thus mixed rubber into sheets are also present. Each unit is equipped with a dedicated fume / particulate capture device. The captured fumes are ducted to the mixer's baghouse.

Because exhaust air is recirculated upon cleaning with a baghouse into the building, the process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(I).

In other words, one common baghouse serves one mixer and two rollers.

### **Sandblasting Unit (Cyclone and Fabric Filter)**

Metal parts surface is prepared by sandblasting with aluminum oxide grit (MultiBlast R1400). The process is equipped with an air pollution control system, 6-cartridge HEPA filter system, to collect the dust. The collected grit is reused. The six HEPA cartridges are cleaned using a pulse-jet air system based upon differential pressure across the filter ( $\Delta P \geq 2.5$  inches of water). Collected grit is reused and fines that are lost are made up with fresh grit.

Because exhaust air is recirculated upon cleaning with an air pollution control device into the building, the process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l).

### **6 feet \* 6 feet adhesive spray booth**

One adhesive spray booth (20 gallons / month), one rubber molding area, and one dip brush adhesive area are present. The adhesive booth is 6 feet \* 6 feet in dimension and is equipped with dry filters. During the FY 2009 inspection, filters were not installed properly; there were holes in the filter system. About 4.5 gallons per month toluene (CAA Sec. 112 Hazardous Air Pollutant or HAP) are used as diluent solvent for adhesives.

During the FY 2016 inspection, I asked Ms. Amy Brown to install the filters such that they fit, at all times, snugly without gaps and holes. I also asked her to keep records of adhesive and solvent usage.

GL Rubber's adhesives contain about 75% solvents and 25% solids by mass based upon MSDS. Obviously, adhesives have high VOC content.

The filters are changed every shift.

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(c) or Rule 336.1287(a). The booth is small source of VOC emissions.

### **3 ft \* 2 ft cold-cleaner**

There is one 3'x2' parts cold-cleaner with a solvent tank for soaking. The parts cleaner is soak tank type. No additional reservoir drum. The cold-cleaner is subject rule 336.611 or 336.1707 depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. By definition, the cold-cleaner is new because it was installed after 1990. The cold-cleaner is equipped with peddle-assisted lid that was closed during the inspection. During FY 2009 inspection, I gave Mr. Meinke copies of DEQ's "cold-cleaner operating procedures" so that he can post them at both Mac Valve and Great Lakes Rubber.

I gave on July 22, 2014 (FY 2014) and again on September 3, 2015, the cold-cleaner decals for posting. The procedures were posted during FY 2016 inspection.

Mr. De Mallie furnished MSDS for the cold-cleaner and proved that only solvent used was methyl ethyl ketone or MEK or 2-Butanone ( $C_4H_8O$ ; CAS # 78-93-3; density = 6.74 lbs. VOC / gal = 0.805 g / cm<sup>3</sup>; Specific Gravity = 0.81 (water =1); Flash Point =16 °F; Boiling Point (BP)

= 175 °F; Flammability Range: LEL = 1.8%v to UEL = 10%v; Vapor Pressure = 100 mm Hg at STP 25°C & 1 atm.; Viscosity = 0.43 cP or centipoise; BP = 176°F; MW = 72.12).

The solvent has high potential for fire and explosion due to low flash point (16 °F) and wide flammability range.

MEK Product Code: 217110 (Americhem)

### **Cryogenic deflashing unit**

One cryogenic deflashing unit, which uses liquid nitrogen to maintain cryogenic conditions (about - 40 °F, i.e., negative or below zero) is present. One 55-gallon drum is present to collect media particles. Cryogenic deflashing unit removes rough edges due to exposing a part to extreme cold.

### **Ozzy juice cleaner**

One Cyntas water-based parts washer is present. Ozzy juice, a certified Clean Air Solvent is used. The Ozzy juice contains emulsifiers and surfactants.

Unlike MDEQ-AQD's database (Permit Cards), Mr. De Mallie stated that Great Lakes Rubber had nothing to do with Great Lakes Fiberglass (PTI No. 27-82). He did not know why AQD's database associated GL Fiberglass with this address.

Mac Valve purchased GL Rubber in 1989 and Mac Valve continues to own it. While SIC for Great Lakes Rubber Co., Inc. (B8919) is 3069, SIC for Mac Valves, Inc. (SRN: N3254) is 3491. As first two digits of SIC are different (30 Vs 34), the two manufacturing plants are different facilities although both are under common ownership and adjacent to one another. MACT rules do not consider SIC. It may also be noted that GL Rubber supplies substantial portion of its rubber products to Mac Valves.

The definition of "**major stationary source**" requires a tripartite test for determining the geographic extent of a single source. Specifically, a major stationary source is defined as all of the pollutant emitting activities that are (1) located on one or more contiguous or adjacent properties; (2) are under common control of the same person (or persons under common control); and (3) belong to a single major industrial grouping or are supporting the major industrial group (as determined by the Major Group codes in the Standard Industrial Classification Manual). For MACT standards, SIC code does not matter.

Ms. Noelle Grain of MDEQ-OWMRP (Office of Waste Management and Radiological Protection) conducted a RCRA inspection about March 6, 2013. Ms. Grain was helping the company with a RCRA re-designation from "*Small Quantity Generator*" to "*Conditionally Exempt Generator*".

### **September 10, 2015, Violation Notice.**

AQD issued September 10, 2015, Violation Notice for failure to perform the required calculations (PTI No.: 146-14, FG-FACILITY, I.1, VI.1).

Although data was available, GL Rubber had not started keeping records according to the permit as of September 3, 2015. I asked Ms. Brown to keep records (using MS Excel or such software) that readily show compliance with the HAP and VOC limits.

On September 25, 2015, AQD received the VN response letter dated September 22, 2015, stating that the required calculations would be performed using MS Excel.

### Conclusion

AQD issued September 10, 2015, Violation Notice for failure to perform the required calculations. GL Rubber started performing MS Excel based calculations and AQD suggested improvements.

### FYI: September 10, 2015, VN

September 10, 2015

Mr. Don De Mallie  
Great Lakes Rubber Company, Inc.  
30573 Beck Road  
Wixom, Michigan 48393-2817

SRN: B8919, Oakland County

Dear De Mallie :

### VIOLATION NOTICE

On September 3, 2015, the Department of Environmental Quality (DEQ), Air Quality Division (AQD), conducted an inspection of Great Lakes Rubber Company, Inc. located at 30573 Beck Road, Wixom, Michigan. The purpose of this inspection was to determine Great Lakes Rubber Company's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the administrative rules; and the conditions of Permit to Install (PTI) number 146-14 (ROP and HAP Synthetic Minor or Opt-out).

During the inspection, staff observed the following:

**FG-FACILITY - All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment that is part of Great Lakes Rubber, SRN B8919. Note that, as of the date of this permit, Great Lakes Rubber is part of the same stationary source as MAC Valves, SRN N3254. So long as these two facilities are a single stationary source, total emissions from both facilities must be added together to determine if the stationary source is a major source.**

During this inspection, Great Lakes Rubber was unable to produce emission calculations required to be performed by the permit.

Please initiate actions necessary to correct the cited and submit a written response to this Violation Notice by October 1, 2015 (which coincides with 21 calendar days from the date of this letter). The written response should include: the dates the occurred; an explanation of the causes and duration of the ; whether the ongoing; a summary of the actions that have been

taken and are proposed to be taken to correct the and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence.

If Great Lakes Rubber believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Thank you for your attention to resolving the cited above and for the cooperation that was extended to me during my inspection of Great Lakes Rubber.

If you have any questions regarding the or the actions necessary to bring this facility into compliance, please contact me at the number listed below.

Sincerely,

Iranna Konanahalli

Air Quality Division  
586-753-3741 or konanahalli@michigan.gov

IK/DC

cc: Ms. Amy Brown, MAC Valves, Inc.  
Ms. Lynn Fiedler, DEQ  
Ms. Barb Rosenbaum, DEQ  
Ms. Teresa Seidel, DEQ  
Ms. Heidi Hollenbach, DEQ  
Mr. Thomas Hess, DEQ  
Mr. Chris Ethridge, DEQ

NAME Iranna Konanahalli

DATE 01/15/2016 SUPERVISOR CJE