

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

Facility : TRMI	SRN : N2354
Location : 100 HILL BRADY RD	District : Kalamazoo
	County : CALHOUN
City : BATTLE CREEK State: MI Zip Code : 49037	Compliance Status : Non Compliance
Source Class : SM OPT OUT	Staff : Amanda Chapel
FCE Begin Date : 5/24/17	FCE Completion Date : 6/12/2019
Comments :	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
05/24/2019	Scheduled Inspection	Non Compliance	Facility is in non-compliance with the Rule 290 exemption limits of 1000 lbs/month for IPA and Toluene squeeze bottles used throughout the facility.
05/20/2019	MAERS	Compliance	Emissions reported appear to match the calculations/attachments provided. They are similar to the previous years reported emissions. - AC 5/20/19

Name: Amanda Chapel Date: 6/12/19 Supervisor: RIL 6/12/19

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

N235449056

FACILITY: TRMI		SRN / ID: N2354
LOCATION: 100 HILL BRADY RD, BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: Emily Frederick ,		ACTIVITY DATE: 05/24/2019
STAFF: Amanda Chapel	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On May 24, 2019 AQD's Amanda Chapel and Chance Collins (staff) conducted an unannounced air quality inspection at TRMI, Inc. (facility) located at 100 Hill Brady Road, Battle Creek Michigan. The purpose of the inspection was to determine facility's compliance with Permit to Install (PTI) 158-11B for two paint lines (FGPAINTLINES) and an FGFACILITY restriction for HAPs and VOC to make the facility a synthetic minor emission source as well as all other applicable federal and state air quality emissions regulations. The following will summarize plant operations and facility's compliance status.

We arrived on site about 1:05pm and drove past the front of the facility. No visible emissions (VEs) were seen and no odors detected. Chance and I walked into the entry way and used the intercom to speak to a staff member. We identified ourselves and stated we were there to complete an air quality inspection. We identified Ms. Aya Hashimoto and Mr. Darrin Hobson as the contacts from the previous inspection. She buzzed us inside and we waited in the lobby for Mr. Darrin Hobson, Operations Manager and Ms. Emily Frederick, Quality Engineer. Mr. Hobson greeted us and provided us with boot covers, hair and beard net, and smock to wear during the inspection along with our steel toed boots and protective eyewear. We found a conference room and Ms. Frederick joined us.

I explained I was there to do an inspection of the facility and do a records review to ensure compliance with the permit. The facility manufacturers circuit boards and automotive switches like window switches and turn signals primarily for foreign automakers. They have about 700 associates and operate three shifts though the second shift is a type of skeleton shift. The facility does not have any boilers on site and uses natural gas space heaters for building heat. One was seen during the inspection. The space heaters are exempt from permitting under Rule 282(2)(b)(i).

The first place we observed on the facility tour was the circuit board manufacturing area or printed circuit board manufacturing area (PCB). Prior to entry into this room, staff stood in an enclosed area which blew air onto them to discharge any static electricity. This area contains seven (7) reflow soldering machines that use non-lead solder and one (1) reflow solder machine which uses lead solder. The lead solder is used less and will likely be phased out in the next few years. The area also has four (4) wave solder machines, one (1) with lead and three (3) without. These are vented externally. They are exempt under Rule 285(2)(i). The wave solder uses Koki flux which is 6.9 lb VOC/gallon and Haima GSP Lead Free solder which is 0.029% VOC. The reflow machines uses Tamura Lead Free solder and Tamura flux which is 6.16 lb VOC/gallon as well as leaded Harimatec Microsolder which is 6.2 lb VOC/gal. MSDS for all of the above were obtained during the inspection. The facility uses Citraflor as a cleaner to reduce IPA usage. Citraflor does contain 6.75 lb/VOC per gallon. These emissions are being tracked under FGFACILITY. There was a cold cleaner in this area which contained Citraflor. The lid was closed at the time of the inspection. This is exempt under Rule 281(2)(h).

This room also contains twelve (12) bench style coating machines which apply Elepcoat. This is applied to make certain parts of the circuit board impermeable to water to keep the electronics from corrosion. The facility uses one type of Elepcoat. These benches are currently operating under exemption 287(2)(c). During records review, the highest usage during the last two years was in March 2018 and they used 83 gallons. This is well below the 200 lbs per month allowed by the exemption. They use toluene as a reducer for the Elepcoat and they are currently tracking it under FGFACILITY.

Following the PCB area, the next step is parts production which includes molding, stamping, painting, and laser etching. The facility has approximately 50 plastic injection molding machines. During the last inspection, there was one plastic injection molding machine which used mold release. Since then, that machine has been removed from the facility. No other machines use mold release. The plastic injection molding machines are exempt from needing a PTI under Rule 286(2)(b).

Stamping, painting, and laser etching are all located in the same area. Some of the parts are painted in one of the two coating booths which are located in a paint clean room which uses water for particulate control. To track usage of paint, Ms. Frederick does inventory at the beginning of the month, end of the month, and factors in what is purchased during the month. The paints being used in the clean room were all covered with lids and there were holes for the tubes to extract the paint. The water curtain was operating at the time of the inspection. The mechanical arms each have two guns, each of which can spray a different color paint. One gun operates at a time. Some parts require one coat of paint of one color and another coat of paint of a different color on top. The permit requires the facility to either use method 24 testing to verify the VOC content or obtain permission from the district supervisor to use formulation data. The facility received permission to use Red Spot Paint and Varnish formulation data on September 22, 2017. Red Spot Paint and Varnish is still the manufacturer of the paints used at the facility. Methyl acetate is used as paint gun cleaner. This is not being tracked as methyl acetate is an exempt VOC under the definition of VOC in the Michigan Air Pollution Control Rules. Waste is shipped to Brenteg for disposal.

The facility has two (2) automated and seven (7) manual Tampo Printing Lines which are exempt under Rule 287(2)(c). According to records, the highest usage month was January 2018 and the facility used 67 gallons of ink which is well below the 200 gallons per month allowed under the exemption. The facility uses both ink thinners and hardeners which contain HAPs. These are being tracked under FGFACILITY.

The facility has two (2) laser etching machines which are used to remove the topcoat of paint which allows the buttons to be back-lit. They are self-contained and vent internally. One machine was in use at the time of the inspection. This is exempt under Rule 285(2)(l)(vi)(B).

The facility has three cold cleaners in the facility. There is one located in the PCB room which contains Citraflor. Two others are located in the maintenance area. One is maintained by safety-kleen and contains safety-kleen premium solvent which contains 100% petroleum distillates. These are being tracked under FGFACILITY. This is exempt under Rule 281(2)(h). The third parts washer is a heated blue wave washer which contains dirl-strip 606-3% which contains 2% sodium hydroxide. There are three tanks, one contains the dirl-strip and is heated to 150-160 degrees F, the middle tank is water, and the last tank contains a rust inhibitor, dirl-hip. It is used daily and cleaned weekly. It is maintained on site. Dirl-strip 606-03% does not appear to contain any VOCs. Therefore this cleaner is exempt under Rule 281(2)(k). The maintenance area also has a small paint booth. During the inspection, it was noted that there were a few small gaps around the edge of some of the filters. It was not in use during the inspection. The filters were last changed in April of 2019. The only paint used in that booth are aerosol cans. This booth is exempt under Rule 287(2)(b).

Both IPA and toluene bottles are used throughout the facility. These are being tracked under Rule 290 as well as FGFACILITY. Based on records, 1439 lbs of toluene was emitted in March 2019 and 1783 lbs of IPA was emitted in March 2019. This exceeds the 1000 lbs limit which is allowed under Rule 290.

There is a 162 HP Emergency Generator which is used for backup for the IT servers. It was seen as the staff was leaving site. It is exempt under Rule 285(2)(g) but is subject to 40 CFR Part 63 Subpart ZZZZ. The generator is serviced by an off-site company. It has a test run for 20-minutes once per week and the generator runs during the holiday shutdowns.

Outside by the generator is a small dust collector which is connected to the area which grinds keys for the local dealers. There did not appear to be any metal particles around the base of the dust collector. This operation is exempt under Rule 285(2)(l)(vi)(C).

Records were reviewed after the facility tour. Records are kept monthly for all the processes in the facility. PTI 158-11B contains limits for the paint lines and FGFACILITY. The emission limits in FGPAINTBOOTH are 17.18 tpy of VOC on a 12-month rolling average basis for coating only and 7.02 tpy on a 12-month rolling average basis for purge and cleanup solvents. According to records, there were 4.76 tpy for coating only and 0.72 tpy for purge and cleanup solvents. As previously noted, the facility now uses methyl acetate and that is not being tracked either under FGPAINTLINES or FGFACILITY as it's exempt.

FGFACILITY has limits for individual and aggregate HAPs as well as VOC limits for the facility as well as all plastic parts coating lines. The highest individual HAP is toluene which is 2.78 tpy (limit is 9.0). Total,

facility wide VOC emissions appear to be 18.8 tpy (limit is 90 tpy) and VOC emissions for plastic parts coating is 4.76 (limit is 30 tpy). There are also material limits under FGFACILITY.

Material Usage Group	Max VOC Content as applied permit limit	Max VOC Content as applied actual	Material Usage Limit (gallons 12-month rolling)	Material Usage Actual
IPA Squeeze Bottles	6.6	6.485	11,294	2,303
Toluene	7.3	7.23	1,000	905.7
Solder Enhancing Elements	6.9	6.2	3,500	2214
Elepcoat	6.74	5.11	2,242	477.28
Printing	7.3	0.5	1,233	104.6
FGPAINTLINES Coating	6.0	5.7 as applied	5,693	1,985
FGPAINTLINES Purge Solvent	6.73	0	1,200	0

Records contain all required information about pounds and/or gallons of each VOC and HAP containing material. There is also a requirement to use manufacturers data for all HAP containing material and method 24 for any coatings as applied and as received.

The facility will be receiving a VN for exceeding the 1000 pound limit for both IPA and toluene under Rule 290. In a conference call with the facility on June 3, 2019, we spoke about next steps regarding the VN. The facility will look into obtaining a PTI to cover the use of IPA and toluene.

NAME *Anna Uppell*

DATE 6/19/19

SUPERVISOR *RIL 6/11/19*