

N6574
manila
Genesee

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

N657448918

FACILITY: Creative Foam Corporation		SRN / ID: N6574
LOCATION: 555 Fenway Drive, FENTON		DISTRICT: Lansing
CITY: FENTON		COUNTY: GENESEE
CONTACT: James Vargo, Alloy/Fenway Engineering Manager		ACTIVITY DATE: 05/20/2019
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled inspection of facility which was recently issued opt-out Permit to Install No. 181-17, to limit VOC emissions below major source levels.		
RESOLVED COMPLAINTS:		

On 5/20/2019, the Michigan Department of Environment, Great lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an inspection of Creative Foam's Fenway plant.

Environmental contact:

James Vargo, Alloy/Fenway Engineering Manager; 810-936-2215; jpvargo@creativefoam.com

Facility description

Creative Foam's Fenway Drive plant produces noise, vibration, and hardness (NVH) foam automotive parts, such as muckets, stuffers, and sound insulators by reaction injection molding.

Emission units:

Emission Unit* ID, and Flexible Group	Emission Unit Description	Permit to Install No.	Exemption rule	Compliance status
EURIMLINE1; FGRIM	A reaction injection mold processing line with robotic and manual spray application of mold release agents.	181-17	NA	Compliance
EURIMLINE2; FGRIM	A reaction injection mold processing line with robotic and manual spray application of mold release agents.	181-17	NA	Compliance
Cold cleaner	Solvent-based parts washer in maintenance shop.	NA	Rules 281(2)(h) and 285(2)(r)(iv)	Compliance
Die-cutting processes	Die-cutting of non-woven fabric	NA	Rule 285(2)(l)(vi)(B)	Compliance
Fusion Line ovens, #1-5	Ovens used to fuse parts together	NA	Rule 282(2)(b)(i)	Compliance
6 space heaters	Natural gas-fired units used for space heating	NA	Rule 282(2)(b)(i)	Compliance
Metal working processes	Metal working processes in maintenance shop	NA	Rule 285(2)(l)(vi)(A) and/or (B)	Compliance

* An *emission unit* is any part of a stationary sources which emits or has the potential to emit. an air contaminant.

Regulatory overview:

This facility has an opt-out permit, Permit to Install (PTI) No. 181-17, which contains limits to restrict the facility's potential to emit (PTE) for volatile organic compounds (VOCs). VOCs are one of the *criteria pollutants*, that is, pollutants for which National Ambient Air Quality Standards are set by the U.S. Environmental Protection Agency. The other criteria pollutants include carbon monoxide, nitrogen oxides, sulfur dioxide, lead, particulate matter smaller than 10 microns (PM-10) and particulate matter smaller than 2.5 microns (PM2.5). A major source has the PTE to emit 100 tons per year (TPY) or more of one or more of the criteria pollutants. Major sources are required to obtain a Renewable Operating Permit.

VOC Best Available Control Technology (BACT) for this process is considered to be the VOC limit in the PTI, and the use of High Volume Low Pressure (HVLP) applicators for the mold release agent.

The facility is considered to be an *area source*, or a minor source, for Hazardous Air Pollutants (HAPs). A facility is major for HAPs if it has PTE of 10 TPY or more for a single HAP, or 25 TPY or more for aggregate HAPs. In the FGRIM process, the large majority of methylene diphenyl diisocyanate (MDI) that goes into making the foam itself is consumed in the chemical reaction of foam ingredients. The AQD permit engineer who reviewed PTI No. 181-17 determined that based on material limits, MDI emissions would be less than 2 TPY. The HAP with the largest PTE was actually toluene, which itself would be less than 2 TPY. The engineer also calculated that total HAP PTE for the facility would be less than 2.5 TPY.

I inquired if they have any boilers onsite, to determine if they are subject to the federal boiler regulation for area sources, 40 CFR Part 63, Subpart JJJJJJ. Mr. Vargo checked with one of the Creative Foam employees onsite, and confirmed that they only have a hot water heater for their restrooms, which is under 55 gallons in size, and uses electricity to heat the water. To meet the definition of a hot water heater in this area source Generally Achievable Control Technology (GACT) standard, the unit must be no more than 120 gallons in capacity. Pursuant to Section 63.11195(f), because it is less than 120 gallons in size, it is exempt from the EPA boiler MACT regulation for area sources. Also, because it does not combust fuel, it can be considered exempt.

In their maintenance shop, the Fenway plant has a solvent-based parts washer which does not heat the solvent. Therefore this unit is considered a cold cleaner. Michigan Air Pollution Control Rule 103(aa) contains the definition of a cold cleaner, as follows:

(aa) "Cold cleaner" means a tank containing organic solvent with a volatile organic compound content of 5 % or more, by weight, and at a temperature below its boiling point that is used to spray, brush, flush, or immerse metallic and/or plastic objects for the purpose of cleaning or degreasing.

The age of the unit is not certain, but it appears to have been manufactured after 7/1/1979. This would mean it is subject to Michigan Air Pollution Control Rule Rule 707, for new cold cleaners, rather than Rule 611, for existing cold cleaners.

Fee status:

This facility is not considered fee-subject, for the following reasons. Because it is not a major source for criteria pollutants, it is not classified as Category I. Additionally, because it is not a major source for Hazardous Air Pollutants (HAPs), and is not subject to federal New Source Performance Standards, it is not classified as Category II. Finally, because it is not subject to federal Maximum Achievable Control Technology standards, it is not classified as Category III. The facility reports through the Michigan Air Emissions Reporting System (MAERS). Their 2018 MAERS report was the first they have submitted, as the facility began operating FGRIM in mid-2018.

Location:

The facility is located in an industrial park or business park. The surrounding businesses are a mixture of industrial and commercial. The nearest businesses are roughly 150 feet to the south, 250 feet to the north, and 175 feet to the east, as measured by me in Google Maps. The Fenway plant is located a short distance north of the line with Livingston County.

Recent history:

This facility, under the ownership of Creative Foam, previously had an air permit, PTI No. 229-97, for an adhesive coating line. The permit was issued in 1997, then was voided in 2001. The associated equipment was removed.

On 1/11/2018, opt-out PTI No. 181-17 was approved, for two reaction injection molding processing lines, along with permit conditions to keep the plant from becoming a major source.

Complaint history:

No complaints are on file for this facility.

Stack testing:

No stack testing has been conducted at this facility, to AQD's knowledge.

Safety attire required:

Safety glasses with side shields are required, for visiting this plant.

Arrival:

This was not an unannounced inspection. Earlier in 2019, AQD had attempted to conduct an unannounced inspection, but the environmental contact and other plant representatives were unavailable. Therefore, the date and time for this inspection were arranged in advance. AQD was represented today by inspector Samantha Braman, Secretary Kelly DeWitt, for educational purposes, and by myself.

We checked for odors downwind, while we approached. Weather conditions were overcast with a light mist of rain, and 50 degrees F, with winds out of the west northwest at 15-20 miles per hour. At 9:26 AM, I noticed a barely detectable chemical odor that briefly became distinct and definite, as we drove east of the plant, northbound on Fenway Drive. We came back, and I did not detect the odor again until we were in the parking lot, where it was barely detectable. I was not able to confirm that this odor came from Creative Foam. I could not see any visible emissions from the facility, as we approached it.

We met with Mr. James Vargo, Alloy/Fenway Engineering Manager for Creative Foam. We provided our identification/credentials, per AQD procedures. We discussed the goal of this inspection, which was to check compliance with the opt-out/synthetic minor permit issued 1/11/2018 for VOC emissions, PTI No 181-17.

We discussed the cold cleaner used for parts washing in their maintenance shop. AQD provided one of the AQD neon orange cold cleaner stickers, so they could have operating procedures posted on or nearby the unit and help ensure compliance with the AQD rules for cold cleaners. It was not clear if the unit is existing or new, under the AQD rules, but the back of the sticker sheet contains the Part 6 rule for existing cold cleaners, Rule 611, and the Part 7 rule for new cold cleaners, Rule 707. Mr. Vargo indicated that the sticker would be applied to the unit, which was done, during the course of the inspection. Creative Foam staff also laminated a copy of the Part 6 and Part 7 rules for cold cleaners, to be posted.

Inspection:

Mr. Vargo explained that they run two 10-hour shifts here, 4 days per week. He provided a spreadsheet of facility throughput and emissions for 2018, please see attached. He also provided Safety Data Sheets (SDS) for two Chem Trend products which they use, please see attached.

The mold release agent for FGRIM contains naphthalene, and they use about 2 gallons per day, Mr. Vargo explained. He advised us that they may try going to a water-based mold release agent in the future, to eliminate the VOCs which are currently emitted. The mold release agent also contains a wax. There are particulate filters which capture airborne droplets of mold release agents, and we were informed that these are replaced about once per week.

The raw materials to make the foam are MDI and polyol, and we were told that they are mixed at the point of use, and poured into the mold, which then closes. It is my understanding that the molds are heated with water, to speed the curing process. We were able to witness the operation of FGRIM, which is discussed below.

FGRIM; Permit to Install No. 181-17:

We checked compliance with the conditions of PTI No. 181-17 as follows:

Special Condition (SC) FGRIM I. 1 limits VOCs to 39.5 TPY.

INSPECTION RESULT: COMPLIANCE. VOC emissions for all of 2018 were 4.82 TPY, according to spreadsheet provided by Mr. Vargo. The FGRIM process was not operating for the entire year, so future emissions may be somewhat higher, but are still expected to be well below the 39.5 TPY VOC limit.

SC FGRIM II. 1 limits mold release usage to 48.0 gallons per 8-hour time period.

INSPECTION RESULT: COMPLIANCE. We were advised that they are meeting the above limit. The highest use of mold release agent plantwide, since FGRIM began operating, was 660 gallons per month in February and April 2019. Attached spreadsheets show the usage in gallons per month. An additional column shows the daily average usage in gallons for mold release.

- The highest daily average usage in 2018 of Chem Trend 16263 was 0.34 gallons, for the months in which it was used.
- The highest daily average usage in 2018 of Chem Trend 16264 was also 0.34 gallons, for the months in which it was used.
- The highest daily average usage in 2019 YTD of Chem Trend 16263 was 0 gallons, because it was not used.
- The highest daily average usage in 2019 YTD of Chem Trend 16264 was 16.5 gallons, for the months in which it was used.

Per the attached 9/3/2019 email, Creative Foam is measuring average daily mold release use over a 20-hour time period, corresponding to two 10-hour shifts. They pointed out that if they tracked this over an 8-hour time period, the numbers would be lower, still. They are aware they are meeting the 8-hour limit, but I recommended adding a column for an 8-hour value to their spreadsheet, so the data is readily accessible.

Note: On the electronic spreadsheet, the columns for tracking average daily use over a 20-hour time period are visible, but I have been unable to successfully print these columns. The electronic version of the spreadsheet should be referred to, for compliance purposes.

SC FGRIM III.1 requires all waste materials to be captured, stored in closed containers, and disposed of in accordance with all applicable state rules and federal regulations.

INSPECTION RESULT: COMPLIANCE. We were advised that their waste is handled by Crystal Clean, and that they comply with the above. Mr. Vargo showed us spill kits stationed throughout the plant for the purpose of cleaning up any spilled chemicals.

SC FGRIM III. 2 requires spent filters to be disposed of in a manner which minimizes the introduction of air contaminants to the outer air.

INSPECTION RESULT: COMPLIANCE. We were advised that they comply with the above. The particulate filters for FGRIM are changed out and disposed of once per week, we were told.

SC FGRIM III. 3 requires VOC and/or HAP containing materials to be handled in a way so as to minimize the generation of fugitive emissions. This includes keeping containers covered at all times except when operator access is necessary.

INSPECTION RESULT: COMPLIANCE. We were advised that they comply with the above. I did not see any open containers, as we inspected the plant.

SC FGRIM IV. 1 requires that exhaust filters are installed, maintained, and operated in a satisfactory manner.

INSPECTION RESULT: COMPLIANCE. *We saw mold release agent being sprayed in. It was pointed out that the filter is behind the mold being coated with mold release agent, to catch the waxy particulates and the filters are changed out about once per week. There was a slight naphthalene odor near the spray booth.*

We stepped outside the plant at one point, to check for visible emissions from the exhaust stacks for EURIMELINE1 and EURIMLINE2. There were no visible emissions. Exhaust fans were in excellent condition, with no vibration. S. Braman noted that one stack had a maintenance issue, a support bracket which was down. Mr. Vargo directed Creative Foam staff to fix this promptly. This maintenance item did not constitute a violation of the air permit.

SC FGRIM IV. 1 requires that the permittee shall equip and maintain FGRIM with HVLP applicators or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing.

INSPECTION RESULT: COMPLIANCE. *Because Creative Foam did not have pressure test caps onsite, this at first appeared to be a compliance concern. However, a subsequent email (please see attached) from Mr. Vargo on 8/15/2019 indicates that they do not have HVLP applicators, but airless sprayers which are more efficient than HVLP. HVLP applicators were said to be 25-35 % efficient, according to information found by Creative Foam and their consultant, BB&E, while airless sprayers, which they use, are said to be 75-99 % efficient. Creative Foam appears to be in compliance with the requirement to use comparable technology with equivalent (or better, in this case) transfer efficiency.*

Additionally, because they are not using HVLP applicators, the requirement to keep pressure test caps available does not apply.

SC FGRIM V. 1 requires use of Method 24 to determine VOC content, water content, and density of any coating as applied and as received, unless prior written approval is granted to use manufacturer's formulation data instead of Method 24.

INSPECTION RESULT: COMPLIANCE. *Mr. Vargo submitted a Method 24 request in writing on 3/12/2019 to the AQD District Supervisor Brad Myott. A letter from B. Myott approving use of manufacturer's formulation data to determine VOC content in lieu of Method 24 was sent to the company on 4/11/2019.*

SC FGRIM VI. 1-4 require recordkeeping to be conducted.

SC FGRIM VI. 1. requires calculations in a format acceptable to the AQD DS by the fifteenth day of the month for the preceding calendar month.

INSPECTION RESULT: COMPLIANCE. *Mr. Vargo indicated that they comply with this.*

SC FGRIM VI. 2. The facility shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data is allowed to consist of material Safety Data Sheets, now known as Safety Data Sheets (SDS) sheets, manufacturer's formulation data, or both.

INSPECTION RESULT: COMPLIANCE. *Mr. Vargo provided SDS sheets, please see attached, indicating that they comply with this.*

SC FGRIM VI. 3. This requires the following to be kept on a monthly basis for FGRIM:

- a. Gallons with water of each material used, and , if applicable, as reclaimed. *They are tracking materials used, per the attached email and spreadsheets for 2018 and 2019 year to date (YTD).*
- b. VOC content with water and minus water of each material as applied. *They are tracking this, and the VOC content is 6.3 lb/gal, as indicated on the attached spreadsheets for 2018 and 2019 YTD.*
- c. VOC mass emission calculations determining the monthly emission rate in tons per month. *The attached spreadsheet for 2018 demonstrates that this is being done.*

- d. VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period. *The attached spreadsheet for 2018 demonstrates that this is being done. Annual VOC emissions for 2018 were 4.82 tons per year. FGRIM was not operated for all of calendar year 2018, as it was installed during the year. 2019 YTD VOC emissions were 6.20 tons, so far.*

INSPECTION RESULT: COMPLIANCE. Please see the italicized text, above. Also please see the section of this report devoted to recordkeeping, below.

SC FGRIM VI. 4. requires the permittee to keep records of the amount of mold release used in gallons per 8-hour time period.

INSPECTION RESULT: COMPLIANCE. Their spreadsheets for 2018 and 2019 (attached) list average daily gallons used per month, which are below the 48.0 gallon limit, as discussed earlier in this report. They are already tracking the daily usage over 20 hours (corresponding to two 10-hour shifts) but the hours will be even lower if they track over an 8-hour time period. I recommended adding a column to their spreadsheet to track mold release usage over an 8-hour time period.

Note: On the electronic spreadsheet, the columns for tracking average daily use over a 20-hour time period are visible, but I have been unable to successfully print these columns. The electronic version of the spreadsheet should be referred to, for compliance purposes.

SC VII. 1 requires notification within 30 days of completion of installation or construction.

INSPECTION RESULT: UNKNOWN. It is not clear if notification was provided to AQD, but the facility's submittal of the MAERS report for the 2018 operating year confirmed the operational status of the facility.

Recordkeeping for FGRIM:

Mr. Vargo provided spreadsheet of facility throughput and emissions for 2018, and for 2019 YTD please see attached. He also provided Safety Data Sheets (SDS) for two Chem Trend products which they use, please see attached.

VOC emissions for 2018 were reported to be 4.82 TPY, well below the 39.5 TPY VOC limit for FGRIM in PTI No. 181-17. VOC emissions for 2019 YTD were 6.20 tons, so far.

Cold cleaner; Rules 281(2)(h), 285(2)(r)(iv), and either 611 or Rule 707:

We were shown the cold cleaner in the Fenway plant's maintenance shop. The unit is labeled as the Job Smart brand. It appears to be exempt from the requirement of Michigan Air Pollution Control Rule 201 to obtain a permit to install, under either of two exemptions. It can satisfy the exemption criteria of Rule 281(2)(h), because the air/vapor interface of the unit is less than 10 square feet. My estimation is that the air/vapor interface is actually about 6 square feet. It can also satisfy the exemption criteria of Rule 285(2)(r)(iv), because it is a metal cleaning process which has emissions that are only released into the general, in-plant environment.

Rule 701 defines a new source under the Part 7 VOC rules, such as a cold cleaner, in the following way:

Rule 701. For the purpose of this part, a "new source" means any process or process equipment which is either placed into operation on or after July 1, 1979, or for which an application for a permit to install, pursuant to the provisions of Part 2 of these rules, is made to the department on or after July 1, 1979, or both, except for any process or process equipment which is defined as an "existing source" under R 336.1601.

The Job Smart cold cleaner appeared new enough that I suspect it would be considered a "new" cold cleaner, subject to Rule 707, rather than subject to Rule 611, which is for "existing" cold cleaners. Rule 707 is stricter than 611.

The cover to the unit was closed, as no parts were being worked on. Creative Foam staff applied the orange AQD sticker to the cover, while we were onsite today. They also laminated a copy of the Part 6 and Part 7 cold cleaner rules, to be posted. The cold cleaner sticker lists the following operating procedures for operators to follow:

- Open cover
- Clean parts and let them dry in a basket or on a rack for at least 15 seconds
- Close cover when allowing parts to soak
- Waste solvent should be collected and placed in a sealed container
- Close cover after use

I subsequently inquired by email, on 9/3/2019, as to the nature of the cleaning solution used in the cold cleaner. Mr. Vargo sent me the attached email with SDS sheet. The cleaning solution is a solvent called Crown PSC 1000 Part Cleaner. The product is listed as being 95-100% by weight Medium Aliphatic Naphtha, CAS #64742-47-8. The SDS reports that there are no HAPs over 0.1% by weight. Vapor pressure at 20 C is listed as 0.2.

I checked compliance with Rule 707, for new cold cleaners, as follows:

- Rule 707 (1) requires the following to be met in order for operation:
- Rule 707(2) applies to cold cleaners with a Reid vapor pressure of 0.6 psia or above. It therefore does not apply to this cold cleaner, as the Crown PSC 1000 Part Cleaner has a vapor pressure of only 0.2 psia.
- Rule 707 (3)(a) requires a cover to be installed and closed when parts are not being handled in the cleaner. This cover was closed when we saw it, meeting this requirement. The requirements of 707(3) (a)(i) to (iii) do not apply, however, because the solvent was not over 0.3 psia, the solvent was not agitated, and the solvent was not heated.
- Rule 707(3)(b) requires a device for cleaning drained parts, and that parts be drained no less than 15 seconds or until dripping ceases. There was a built in parts rack for draining parts, so that parts could drain while the cover was closed. No parts were in the unit at this time.
- Rule 707(3)(c) requires waste solvent shall be stored only in closed containers unless demonstrated to be a safety hazard and disposed in a manner such that not more than 20% by weight is allowed to evaporate into the atmosphere. I saw no evidence of waste solvent being stored improperly. Mr. Vargo indicated elsewhere during the inspection that waste materials are handled properly.
- Rule 707(4) requires a person responsible for the provisions of this rule to develop written procedures and to post them in an accessible, conspicuous location near the cold cleaner. The orange AQD cold cleaner sticker was posted on the lid of the cold cleaner during the inspection, satisfying this requirement.
- Rule 707(5) excludes from Rule 707 a cold cleaner using halogenated solvent. Because this cold cleaner did not use a halogenated solvent, 707(5) does not exclude it from Rule 707.

INSPECTION RESULT: COMPLIANCE. The cover was closed on the Fenway plant's cold cleaner, when we came across it. The orange AQD sticker was applied today. The Job Smart cold cleaner has a built in rack for draining parts, which can be accomplished while the lid is closed. The unit appeared to comply with Rule 707, as detailed above.

Die-cutting processes, Rule 285(2)(l)(vi)(B):

As we walked through the plant, we observed die-cutting activities for non-woven fabric which appeared to be exempt from needing a permit under Rule 285(2)(l)(vi)(B), because they exhaust to the in-plant environment. I saw no visible emissions from the die-cutting. We were advised that scrap fabric is recycled.

Fusion Line Ovens #1-5 and 6 space heaters; Rule 282(2)(b)(i):

We discussed the plant's processes which use natural gas. The fuel burning appears to be exempt pursuant to Rule 282(2)(b)(i). I requested information on the rated heat input capacity of these processes, to determine if they met the Rule 282(2)(b)(i) exemption for processes fueled by sweet natural gas which are each rated at less than 50 million BTU/hr heat input capacity. Mr. Vargo indicated that he would follow up on this request, and on 5/23/2019, sent me information on the units by email (please see

attached). The email contained the following information, which I compiled into a table for this activity report.

Unit	Rated heat input capacity in Btu/hr	Exemption rule
Fusion Line Oven # 1	2,000,000	Rule 282(2)(b)(i)
Fusion Line Oven # 2	2,500,000	Rule 282(2)(b)(i)
Fusion Line Oven # 3	2,500,000	Rule 282(2)(b)(i)
Fusion Line Oven # 4	2,500,000	Rule 282(2)(b)(i)
Fusion Line Oven # 5	2,500,000	Rule 282(2)(b)(i)
2 Cambridge Floor Heaters	410,000	Rule 282(2)(b)(i)
2 Reanor Dock Heaters	400,000	Rule 282(2)(b)(i)
2 Vantage III Wall Heaters	125,000	Rule 282(2)(b)(i)

It is not clear to me at this time if the use of heat to fuse parts together has any air emissions from melted or fused materials. This is believed by me to be a minor item, and can be explored at some point in the future.

Metal working processes; Rule 285(2)(l)(vi)(a) and/or (B):

The Fenway plant has a maintenance or repair shop, with metal working processes such as a Bridgeport vertical milling machine which exhaust into the general, in-plant environment. These processes are used on a non-production basis, and can be considered exempt under Rule 285(2)(l)(vi)(A). In addition, because their emissions are released only to the general, in-plant environment, they can also be considered exempt under Rule 285(2)(l)(vi)(B).

MAERS report:

The MAERS report for the 2018 operating year was the first submitted for the Fenway Drive plant, as FGRIM was permitted in 2018 and began operating in mid-2018. VOC emissions for 2018 were reported to be 4.82 TPY, well below the 39.5 TPY VOV limit for FGRIM in PTI No. 181-17.

Conclusion:

The Fenway plant was clean and neat. No instances of noncompliance could be found.

NAME 

DATE 9/3/18

SUPERVISOR B.M.