

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

N150768604

FACILITY: TOTAL DOOR		SRN / ID: N1507
LOCATION: 6145 DELFIELD DR, WATERFORD		DISTRICT: Warren
CITY: WATERFORD		COUNTY: OAKLAND
CONTACT: Patricia Yulkowski , CEO		ACTIVITY DATE: 12/06/2022
STAFF: Noshin Khan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled on-site inspection		
RESOLVED COMPLAINTS:		

On Tuesday, December 6, 2022, I, Noshin Khan, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, performed a scheduled, on-site inspection of Total Door located at 6145 Delfield Drive, Waterford, Michigan 48329 (SRN: N1507). The purpose of the inspection was to determine the facility's compliance status with the requirements of the federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended (Act 451); the AQD administrative rules, and the conditions of Permit to Install (PTI) Number 15-09A.

I arrived at the facility at 1PM and met with Patricia Yulkowski, President and CEO of Total Door. Total Door fabricates, primes, and coats custom metal doors. According to Patricia, the production floor operates 4 days a week for 10 hours a day, and the office is open 8 hours a day, 5 days a week. The facility has about 40 employees.

The facility receives foam material that composes the core for the doors produced at the facility. The facility also receives sheet metal that they cut to size to cover each side of the core. The sheet metal goes through a forming/bending line and punch to cut a window opening if required by the design. These metal processing activities are exempt from permit requirements per Rule 285(2)(l)(i) and 285(2)(l)(vi)(B). Adhesive is applied on foam cores to bind them to the metal shells. Then, doors go to a body assembly area for final fabrication, including metal welding that is exempt per R 285(2)(i). After this, they are hung on a conveyor that leads through the coating area. Some doors will have architectural film, architectural metal, or wood veneer finishings applied if requested by the customer. During the walkthrough, I did not observe any emergency generators or boilers, and Patricia said that there were none on-site.

During the walkthrough I observed a conveyORIZED parts washer for various metal door pieces. Patricia told me that this process uses a zinc phosphate wash and the stack vents steam to ambient air. According to a material SDS I reviewed on-site, the wash is composed of phosphate, accelerators, surfactants, and fluoride. Waste water from this washer is collected in drums and picked up by a disposal company. I observed that these waste drums were closed with tight-fitting lids.

EU-ELECTRO

This emission unit is a spray coating line consisting of a booth equipped with an atomizing bell coating applicator, which meets the requirements of Special Condition (S.C.) IV.2 for coating application technology. EU-ELECTRO and EU-HANDHLD share use of an IR oven and a UV oven. According to Patricia, about 80% of the coating jobs go through EU-ELECTRO, and EU-HANDHLD is mostly for coating smaller door components. During the inspection, EU-ELECTRO was operating and I observed dry fabric filters in place in compliance with S.C. III.1 and IV.1. The filters appeared to be in good operating condition, with no gaps or tears. Patricia informed me that the filters are changed weekly and disposed in the garbage. Patricia also confirmed that the booth is not used to coat cans, coils, large appliances, metal furniture, magnet wire, fabrics, paper, vinyl, or graphic arts products in accordance with S.C. III.2.

The material use in this booth is automatically tracked, and Patricia showed me the monitor that indicates the amount of coating and purge solvent that has been processed through the booth.

Emission Limits

S.C. I.1 sets a VOC emission limit of 10.0 tons per year (tpy) based on a 12-month rolling time period as determined each calendar month. S.C. I.2 sets a VOC emission limit of 2,000 lbs/month.

In accordance with FG-COATING S.C. VI.3.b-VI.3.e and FG-COATING S.C. VI.6, the facility provided material VOC content, material usage, and VOC emission calculations. The facility maintains these calculations in a spreadsheet which tracks throughput in each emission unit and calculates emissions for VOCs and HAPs using mass balance. Patricia provided material SDS sheets for coatings used and the calculations are consistent with the information provided in the SDS's. From January 2021 through December 2022, the highest monthly VOC emissions for EU-ELECTRO were 1,210.58 lbs in August 2022, which is below the limit. The highest 12-month rolling VOC emissions were 4.43 tons as calculated in April 2021, in compliance with S.C. I.1.

Stack/Vent Restrictions

S.C. VIII.1 requires that exhaust gases from EU-ELECTRO be discharged unobstructed vertically upwards to the ambient air at an exit point not less than 1.5 times building height. I used the Nikon Forestry Pro II to determine compliance with this condition. The average of my measurements indicated a building height of 4.6 meters and a stack height of 9.7 meters. I observed the stack exhausting vertically upwards, unobstructed. These measurements and observations indicate compliance with this condition.

EU-HANDHLD

This emission unit is a spray coating line consisting of a booth with handheld HVLP applicators. During the inspection, EU-HANDHLD was in operation and I observed dry fabric filters in place in compliance with S.C. III.1 and IV.1. The filters appeared to be in good operating condition, with no gaps or tears. As with EU-ELECTRO, Patricia informed me that these filters are replaced weekly and disposed of in the garbage. Patricia again confirmed that the booth is not used to coat cans, coils, large appliances, metal furniture, magnet wire, fabrics, paper, vinyl, or graphic arts products in accordance with S.C. III.2. I observed that the booth was equipped with HVLP applicators in accordance with S.C. IV.2.

Emission Limits

S.C. I.1 sets a VOC emission limit of 10.0 tpy based on a 12-month rolling time period as determined each calendar month. S.C. I.2 sets a VOC emission limit of 2,000 lbs/month.

In accordance with FG-COATING S.C. VI.3.b-VI.3.e and FG-COATING S.C. VI.6, the facility provided material VOC content, material usage, and VOC emission calculations. From January 2021 through December 2022, the highest monthly VOC emissions for EU-HANDHLD were 106.9 lbs in October 2022, which is below the limit. The highest 12-month rolling VOC emissions were 0.44 tons as calculated in June 2021, in compliance with S.C. I.1.

Stack/Vent Restrictions

S.C. VIII.1 requires that the stack height be 1.5 times building height. According to Patricia, the stack for EU-HANDHLD has the same dimensions as the stack for EU-ELECTRO, and they looked identical when I was taking measurements for the stack for EU-ELECTRO. Based on my measurements, the facility is in compliance with this condition.

EU-ROLL

This emission unit is a coat line used to apply adhesive to foam core material. During the inspection, I observed one roll coat applicator used to apply adhesive to foam core material, in accordance with S.C. IV.1. According to Patricia, the facility uses two types of glue: a 2-part glue for steel and a water-based contact adhesive for foam materials.

Emission Limits

S.C. I.1 sets a VOC emission limit of 5.8 tpy based on a 12-month rolling time period as determined each calendar month. S.C. I.2 sets a VOC emission limit of 2,000 lbs/month.

In accordance with FG-COATING S.C. VI.3.b-VI.3.e and FG-COATING S.C. VI.6, the facility provided material VOC content, material usage, and VOC emission calculations. From January 2021 through December 2022, the highest monthly VOC emissions for EU-ROLL were 0.57 lbs in July 2022, which is below the limit. The calculations indicate only a couple of pounds of VOC emissions per year, so the facility is below the 12-month rolling limit.

FGCOATING

The conditions of this flexible group apply to EU-ELECTRO, EU-HANDHLD, and EU-ROLL.

Emission Limits

S.C. I.1 sets a VOC emission limit of 30.0 tpy based on a 12-month rolling time period as determined each calendar month. S.C. I.2 sets a VOC emission limit of 2,000 lbs/month.

In accordance with S.C. VI.3.b-VI.3.e and S.C. VI.6, the facility provided material VOC content, material usage, and VOC emission calculations. From January 2021 through December 2022, the highest monthly VOC emissions for FGCOATING were 1,261.84 lbs in August 2022, which is below the limit. The highest 12-month rolling VOC emissions were 4.82 tons as calculated in April 2021, in compliance with S.C. I.1.

S.C. I.3 sets a xylene emission limit of 56.54 lbs/day. S.C. I.4 sets a p-chlorobenzotrifluoride emission limit of 39.57 lbs/day.

Recordkeeping requirement VI.5 requires that the facility maintain, on a daily basis, the xylene and p-chlorobenzotrifluoride content and usage of materials containing these compounds, and emission calculations for both compounds. When I received the facility's recordkeeping spreadsheet, I noticed that these daily calculations were in place for the first day of each month, but calculations did not carry down for the remainder of the month. I informed the facility, and they corrected this error and provided me with an updated spreadsheet. Similar to the calculations for VOCs and HAPs, the xylene and p-chlorobenzotrifluoride emissions are calculated from mass balance and the calculations were consistent with the information in the SDS sheets provided. From January 2021 through December 2022, the highest monthly xylene emissions were 0.0920 tons (184 lbs) in August 2022. The highest daily xylene emissions in this month were 31.05 lbs on August 23, 24, 30, and 31. From January 2021 through December 2022, the highest monthly p-chlorobenzotrifluoride emissions were 0.0108 tons (21.6 lbs) in January 2021. This is below the daily limit.

Material Limits

Per S.C. II.1, the melamine resin content of any coating shall not exceed 4% by weight, and the free formaldehyde content of any coating shall not exceed 0.2% by weight.

Recordkeeping condition VI.2 requires that the facility maintain chemical composition information for each coating, adhesive, reducer, and purge and clean-up solvent. The facility maintains this information in the form of material safety data sheets (MSDS's) and keeps them in binders on-site. I reviewed the composition information for all materials as provided in the MSDS's, and no coatings contained melamine resins or formaldehyde.

S.C. II.2 requires that use of any coating containing free formaldehyde and/or melamine resins shall not exceed 1,000 gallons per 12-month rolling time period. No coatings containing free formaldehyde or melamine resins are used, based on my review of the MSDS's and the usage and emissions records provided in accordance with S.C. VI.4.

Process/Operational Restrictions

As required by S.C. III.1, I observed materials stored in closed containers, including waste coatings, purge solvents, and waste adhesives. Waste is collected by a disposal company.

S.C. III.2 requires that spent filters are disposed in a manner to minimize the introduction of contaminants to outer air. As discussed above, Patricia told me that filters are disposed of in the garbage, which I determined satisfies this requirement.

S.C. III.3 requires that all VOC and HAP containing materials be handled in a manner to minimize the generation of fugitive emissions. During my walkthrough, I observed that material containers were kept covered.

S.C. III.4 requires compliance with 40 CFR Part 63, Subpart A and HHHHHH for spray application of coatings to a plastic and/or metal substrate. Currently, the AQD has not accepted delegation to implement and enforce Subpart HHHHHH for area sources, so I did not evaluate compliance with this requirement.

Monitoring/Recordkeeping

S.C. VI.3.a requires records to be maintained for monthly purchase orders and invoices for all coatings, reducers, and clean-up/purge solvents. While I was on-site, Total Door staff showed me how this information is maintained electronically. Staff showed me how purchase information including the item ID, vendor, and cost can be pulled up for a requested period of time, including any specific month.

S.C. VI.3.f requires recordkeeping for the date and description of any modification or new installation of process or control equipment. Patricia informed me that a recycling process (consisting of MEK lines directed to a 5-gallon Safety-Kleen recycler) was installed in May 2023. MEK is used as a purge solvent in the coating lines. The facility is currently working on adjusting recordkeeping to reflect the amount of MEK recycled. According to Patricia, no other processes have been installed.

S.C. VI.3.g requires the date and description of any coating change or replacement on the coating line to be recorded. The coatings used at the facility are listed in the recordkeeping spreadsheet provided. Patricia told me that any coatings added to production processes are added to the sheet by Michael Iacopelli, who was previously a consultant for Total Door and created the facility's recordkeeping spreadsheet.

Other Requirements

S.C. IX.1-IX.5 pertain to operation of a thermal oxidizer. I did not observe a thermal oxidizer during my walkthrough, and Patricia confirmed that the facility does not have one. These requirements do not apply at this time.

FG-FACILITY

Emission Limits

S.C. I.1 sets an individual HAP emission limit of less than 9.0 tpy based on a 12-month rolling time period as determined each calendar month. S.C. I.2 sets an aggregate HAPs emission limit of less than 22.5 tpy based on a 12-month rolling time period as determined each calendar month. The facility determines HAP content based on manufacturer formulation data, as required by S.C. V.1.

The facility's recordkeeping spreadsheet contains the information required by S.C. VI.2, including the usage and content of HAP-containing materials, monthly individual and aggregate HAPs emissions calculations, and 12-month rolling individual and aggregate HAPs emissions calculations. As discussed, these calculations are based on mass balance using manufacturer data in the form of material SDS sheets. From January 2021 through December 2022, all monthly values for 12-month rolling emissions for each individual HAP were below 3.0 tons. The highest 12-month rolling emissions for an individual HAP were 2.1196 tons of MEK as calculated in December 2022. The facility's aggregate HAP emissions for calendar year 2022 were 3.8948 tons. The facility operates below the HAP emission limits.

Based on my observations during my inspection and review of the facility's records, Total Door is operating in compliance with the above rules and regulations.

NAME Nashir Khan

DATE 10/02/2023

SUPERVISOR K. Kelly