

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

N081462653

FACILITY: PPG INDUSTRIES INC		SRN / ID: N0814
LOCATION: 3601 JAMES P COLE BLVD, FLINT		DISTRICT: Lansing
CITY: FLINT		COUNTY: GENESEE
CONTACT: Austin Christy , Process Engineer (ATSEL)		ACTIVITY DATE: 04/19/2022
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection by EPA Region 5 Air Compliance and Enforcement Assurance Branch and AQD.		
RESOLVED COMPLAINTS:		

On 4/19/2022, the United States Environmental Protection Agency (EPA), Region 5 Air Compliance and Enforcement Assurance Branch and the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of PPG Industries Inc (PPG Industries). This was done as part of EPA's recent community initiative to inspect facilities within the vicinity of Flint.

Facility description:

PPG is a test and development center for coatings and coating processes for various automakers.

Facility environmental contact:

- Austin Christy, Process Engineer (ATSEL); 810-406-4702; a.christy@ppg.com

EPA Region 5 Air Enforcement and Compliance Assurance Branch contacts:

- Tess Russell, Environmental Engineer; 312-886-1532; russell.tess@epa.gov
- Emma Leeds; Environmental Engineer; 312-886-7436; leeds.emma@epa.gov

EGLE, AQD Lansing District Office (LDO) contact:

- Dan McGeen (myself), inspector; 517-648-7547; mcgeend@michigan.gov

Emission units:

No.	Building Location	Emission Unit*	Comp. Status
1	ADC	Spray Booths North, South and APAD	C
2	ADC	Training Booth	C
3	ADC	Powder Spray Booth	C
4	ADC	Curing Oven	C
5	ADC	Hand Spray Booth	C
6	ADC	Flame Treatment	C
7	EDC	(2) Dip Tanks	C
8	EDC	Curing Oven	C
9	EDC	(2) Small Dip Tanks	C

10	BDC	Small Spray Booth	C
11	BDC	Large Spray Booth	C
12	Various	(4) Cold Cleaners	C
13	Various	Boilers	C

***An emission unit is a process or process equipment which emits or has the potential to emit an air contaminant.**

Regulatory overview:

PPG Industries is considered a minor source of air emissions. A major source has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. Criteria pollutants are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns.

PPG Industries is also considered a minor area source for Hazardous Air Pollutants (HAPs), because it is not considered to have a PTE of 10 TPY or more for a single HAP, nor to have PTE of 25 TPY or more for combined HAPs.

PPG Industries has no air permits, aka permits to install. It operates processes which it considers to be exempt from the requirement of Michigan Air Pollution Control (MAPC) Rule 201 to obtain a permit to install. There are a number of exemption rules which apply, including:

- MAPC Rule 281(2)(h), which exempts cold cleaners that have an air/vapor interface of not more than 10 square feet.
- MAPC Rule 282(b)(i), which exempts certain fuel burning equipment burning sweet natural gas when the equipment has a rated heat input capacity of not more than 50,000,000 Btu/hr.
- MAPC Rule 287(2)(c), which exempts coating lines, such as their paint spray booths, where coating use rate is not more than 200 gallons, minus water, per month, any exhaust system that serves only coating spray equipment is controlled by dry filter or water wash control, and monthly coating use records are maintained on file.
- MAPC Rule 287(2)(d), which exempts a powder coating booth and associated ovens, where the booth is equipped with fabric filter control.
- MAPC Rule 290, for emission units with limited emissions.

Fee status:

This facility is not considered fee-subject, as it is not known to be a major source for criteria air pollutants, or for HAPs, nor is it subject to a federal New Source Performance Standard or a Maximum Achievable Control technology standard.

This facility is not required to report annual emissions through the Michigan Air Emission Reporting System (MAERS). Criteria for those facilities which must report to MAERS on an annual basis are identified in AQD-013: Criteria Pollutant Threshold Levels for the Point Source Emissions Inventory.

Location:

PPG Industries is in a known Environmental Justice area, in the City of Flint. It is located in an industrial park west of 475. To the west is a rail line and the former Buick City site. To the north and east are industries. To the south was a closed commercial business being renovated. The nearest residences are slightly under 1,400 feet to the east southeast, as measured by me in Google Maps.

History:

PPG Industries is said to have been in this location since 1985. It was most recently inspected by AQD on 9/5/2018, and no instances of noncompliance were identified. There have been no complaints about this facility in the Michigan Air Compliance Enforcement System database, which dates back to 2007.

Recent violations:

None.

Safety apparel required:

Steel-toed boots and safety glasses. Out of personal preference, i wore a disposable paper mask, during the ongoing COVID-19 pandemic.

Operational schedule:

Mon.-Thurs., 6:00 AM-4:30 PM, and 3:00 PM-11:00 PM

Odor evaluation:

Prior to arrival, AQD and AQD staff conducted an odor evaluation in the surrounding area. Weather conditions were overcast, and 36 degrees F, with winds 10-15 miles per hour out of the northwest.

Odors were detected by AQD as follows:

Time	Location	Odor Level	Odor Description
8:56 AM	James P. Cole Blvd., east of PPG, northbound	1	Paint
8:57 AM	James P. Cole Blvd., south of intersection with Massachusetts Ave.	1	Wood smoke
9:03 AM	James P. Cole Blvd., east of PPG, southbound	1	Paint

The AQD 0 to 5 odor scale is as follows:

0 - Non-Detect

1 - Just barely detectable

2 - Distinct and definite odor

3 - Distinct and definite objectionable odor

4 - Odor strong enough to cause a person to attempt to avoid it completely

5 - Odor so strong as to be overpowering and intolerable for any length of time

The level 1 paint odors were determined to be insufficient to constitute a violation of MAPC Rule 901 (b), which prohibits unreasonable interference with the comfortable enjoyment of life and property. These paint odors did not match any odors which I detected inside the plant, during the subsequent inspection.

Note: I followed up on the wood smoke odor later this morning, which was found to not be associated with PPG Industries.

Arrival:

This was an unannounced inspection. EPA and AQD staff arrived in the parking lot immediately after the odor evaluation. There were no visible emissions detected from PPG Industries, nor could any odors be detected from our location in the parking lot.

EPA and AQD went to the guardhouse, presented credentials, and explained the reason for the visit. After watching a site safety video, staff met with Process Engineer (ATSEL) Austin Christy, who is the Environmental, Health, Safety & Facility Engineering Supervisor. He accompanied staff during the inspection.

inspection:

We were informed that this site is fairly unique. Its product is research and development (R&D), mainly on automotive paint, and they test and optimize the paint application process here.

Application Development Center (ADC) Building

1 & 2 – Spray Booths North, South and APAD and Training Booth; MAPC Rule 287(2)(c): APAD stands for Automotive Parts and Decorative. A. Christy indicated that all booths are designed to mimic the original equipment manufacturer's auto plant booths. They were all down draft booths using dry particulate control filters, located underneath the floor grates. The filters are said to be changed as needed, at least every 6 months, during two shutdown weeks, one in December, and one around the 4th of July. The booths are equipped with pressure drop gauges, which are used to help determine when to change filters, along with visual checks.

Three robotic spray booths apply both base coat and clear coat. Each booth has 1-3 exhaust fans, and each exhaust fan has its own stack; therefore, each booth has 1-3 stacks. No visible emissions were detectable from any of the stacks.

The fourth booth, or Training Booth, was installed around 2014. It is the newest booth, but is currently just used for storage.

3 – Powder Spray Booth; MAPC Rule 287(2)(d): This booth is only used on one shift for about one week out of the month. The powder is reclaimable. They vacuum the powder off the filters and then are able to reuse the powder and reuse the filters.

4 – Curing Oven; MAPC Rule 282(b)(i): Oven operates anywhere from 180-300 degrees F with an average of 285 degrees F. This oven is used to cure parts coming out of Spray Booths 1 and 2. A. Christy stated that it is not used on a regular basis; maybe only 1 or 2 weeks per month at most.

5 – Hand Spray Booth; MAPC Rule 287(2)(c): This booth is used very infrequently. It is used for applying an epox-basedy, fire-proof coating, robotically applied with a spray gun.

6 – Flame Treatment; MAPC Rule 282(2)(b)(i): This is a newer piece of equipment that has been installed. This is a natural gas burning flame treatment robot. It is used to heat plastic bumpers and other items to help paint adhere to the piece more effectively.

Electrocoat Development Center (EDC) Building

7, 8 & 9– Dip Tanks and Curing Ovens; MAPC Rule 290: A remodel of this building has just been completed, we were informed. A curing oven was removed, and replaced with 2 new curing ovens, each the same size as the original (10 feet high X 35 feet long).

There are two large (28,000 gallons each) electrocoating dip tanks at the facility. The object being coated gets hosed down with ionized water, then dipped into the e-coat, then rinsed again and finally it is sent to the curing oven. E-coat bath is a water and resin blend. The prior formulation had tin, we were told, but there are no heavy metals in this one. Two small (500 gallons each) dip tanks are portable, but are not currently used. The electrocoating is for rustproofing purposes, and is applied before primer.

Bedliner Development Center (BDC) Building (formally Transplant Building)

10 – Small Spray Booth; MAPC Rule 287(2)(c): This is rarely used, we were informed. It is actually a side draft booth, rather than a down draft booth. Filters are changed as needed, since it runs so infrequently. The air in the building is used to vent the booth.

11 – Large Spray Booth; MAPC Rule 287(2)(c): A. Christy explained that the bedliner spraying equipment has been removed, and sent to their site in Springale, Pennsylvania. The booth is still here, but is only used for caulking of seams.

Various Buildings

12 – Cold Cleaners; MAPC Rule 707: There are four cold cleaners total. In the ADC Building there are two in the North mix room and one in the South mix room. There is one additional unit in the BDC Building. All operate under MAPC Rule 281(h). We observed all four. They looked to have been installed on or after 7/1/1979, meaning they would be new units, subject to MAPC Rule 707, rather than Rule 611. None of the cleaners reportedly use halogenated solvents. Details on each unit are provided below.

-- North paint mix room cold cleaners; Two of the cleaners were here; one was for removing water-based paints, and one for removing solvent-based paints. Lids were closed. It was stated that the lids automatically close, unless an operator is standing on a foot pedal. An orange DEQ cold cleaner sticker was on each lid. Each cleaner had a bucket sitting underneath, with grounding cables. The bucket under the solvent-based cleaner had a transparent but dirty liquid in it, and AQD drew the attention of A. Christy to this. He confirmed that the buckets were for draining solvent. AQD indicated that solvent should not be stored in an open container, and he said they would address this, with operator training.

The bucket underneath the solvent-based cleaner, which had solvent in it, did not meet the requirement of MAPC Rule 707(3)(c), which states:

*(3) It is unlawful for a person to operate a new cold cleaner unless all of the following conditions are met:
(c) Waste solvent shall be stored only in closed containers, unless demonstrated to be a safety hazard and disposed of in a manner such that not more than 20% by weight is allowed to evaporate into the atmosphere.*

Under AQD enforcement policy, for violations that are non-recurrent, do not pose an immediate risk to human health or the environment, are administrative or operational in nature, and that can be immediately corrected by the regulated entity, a verbal warning can be given in lieu of a violation notice (VN), provided the violation is corrected while AQD is still on-site. Because of the company's stated commitment to address this through operator training, a VN was not sent.

-- South paint mix room cold cleaner: Lid was closed, and an orange DEQ cold cleaner sticker was on each lid.

-- BDC building cold cleaner: Lid was closed, and an orange DEQ cold cleaner sticker was on each lid.

13 – Boilers; MAPC Rule 282(2)(b)(i): There are two steam boilers located in the upstairs of the ADC Building. The purpose of these boilers is to provide steam humidity for the spray booths, and they typically run more in the winter. They undergo an annual inspection by Michigan Licensing and Regulatory Affairs, AQD was informed.

The two boilers alternate which one runs, based on steam demand. Boiler A was installed in 1997 and has a BTU of 10,000,000. Boiler B was installed in 1989 and has a BTU of 6,000,000. There is also a 2950M BTU hot water heater that was built in 2000. It is in the EDC Building and is used to heat the water in the E-coat tanks. All boilers run off natural gas and operate under MAPC Rule 282(b)(i), or the newer version of the exemption, MAPC Rule 282(2)(b)(i), which became effective on 12/20/2016 and has the same criteria.

Post-inspection follow up:

Copies of facility recordkeeping were requested, along with Safety Data Sheets. These were received by EPA staff, who forwarded them to AQD. Please see attached.

MAPC Rule 287(2)(c) compliance check:

Coating usage records were provided in the form of a spreadsheet, "Emission Calculations-Spray Booths" (attached), which showed monthly coating usage for each paint booth over a 2 year period, from April 2020 to April 2022. The highest single monthly throughput for each spray booth over that 2-year period is identified below:

- North booth: 14.157 gal, January 2021
- APAD booth: 14.157 gal, July 2021
- South booth: 16.632 gal, March 2021

Based upon the above values, PPG Industries appeared to be far below the MAPC Rule 287 (2)(c) monthly threshold of 200 gallons of coatings, for each coating line.

MAPC Rule 290 compliance check:

PPG Industries was able to demonstrate that they are exempt under MAPC Rule 290. EPA's T. Russell promptly reviewed these calculations and determined that they were within the emission threshold, i.e., satisfying the exemption criteria. Facility data indicated the following:

- Operation: 5 days/week, 4 weeks/month
- Dips per month: 300
- Emission per dip process and oven: 0.44 lbs
- Monthly emissions from dip process and oven: 132 lbs

For the air toxic Bis(butoxyethoxyethoxy)methane, T. Russell assume a 5% composition from the SDS sheet. This compound has an ITSL of 0.1 ug/m³, so 6.6 lbs would be evaporated/month. This is well below the 20 lbs/month uncontrolled limit in MAPC Rule 290.

Butyl carbitol, butoxy ethanol, butoxy propanol, phenoxy propanol, and methoxy propanol each make up less than 5% of the formulation for the dip tank, so each of them would fall well below the 20 lb/month uncontrolled limit in MAPC Rule 290. Their ITSLs are each above 0.04 ug/m³.

T. Russell checked the emissions against the exemption criteria of MAPC Rule 290(2)(a), and shared her work with AQD, as follows, with her comments italicized and underlined.

(2)(a) An emission unit which meets any of the following criteria:

(i) Any emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials that are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively.

T. Russell: Bis(butoxyethoxyethoxy)methane not listed in R 336.1122(f).

(ii) Any emission unit for which the CO₂ equivalent emissions are not more than 6,250 tons per months, the uncontrolled or controlled emissions of all other air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all of the following criteria are met:

T. Russell: CO₂ is probably true, uncontrolled are below 1,000 at 132 lb/mo.

(A) For toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials that are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the total uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.

T. Russell: Uncontrolled should not be above 20 lbs/month. We are at 132 lb/month. When using the 5% Bis(butoxyethoxyethoxy)methane composition, maybe we get to 6.6 lbs/month, so then we'd be ok.

(B) For toxic air contaminants with initial risk screening levels greater than or equal to 0.04 micrograms per cubic meter, the total uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.

T. Russell: Uncontrolled should not be above 20 lbs/month. We are at 132 lb/month. When using the 5% Bis(butoxyethoxyethoxy)methane composition, maybe we get to 6.6 lbs/month, so then we'd be ok.

(C) The emission unit shall not emit any toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials that are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 micrograms per cubic meter.

T. Russell: fine - Bis(butoxyethoxyethoxy)methane has IRSL of 0.1 ug/m³.

(D) For total mercury, the uncontrolled or controlled emissions shall not exceed 0.01 pounds per month.

T. Russell: fine

(E) For lead, the uncontrolled or controlled emissions shall not exceed 16.7 pounds per month.

T. Russell: fine

(iii) Any emission unit that emits only particulate air contaminants without initial risk screening levels and other air contaminants that are exempted under paragraph (i) or (ii) of this subdivision if all of the following provisions are met:

(A) The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system that is designed to control particulate matter to a concentration of less than or equal to 0.01 pounds of particulate per 1,000 pounds of exhaust gases and that do not have an exhaust gas flow rate more than 30,000 actual cubic feet per minute.

(B) The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in R 336.1303.

(C) The initial threshold screening level for each particulate toxic air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter.

T. Russell: Bis(butoxyethoxy)methane emitted, so not (iii)

Conclusion:

The facility was in compliance, overall, with the MAPC Rules. An open bucket contained a small amount of waste solvent, underneath a cold cleaner in the north paint mix room. This did not meet MAPC Rule 707(3)(c), but AQD was assured that this would be corrected via training. Under AQD enforcement policy, for violations that are non-recurrent, do not pose an immediate risk to human health or the environment, are administrative or operational in nature, and that can be immediately corrected by the regulated entity, a verbal warning can be given in lieu of a VN, provided the violation is corrected while AQD is still on-site. Therefore, a VN was not sent.

NAME 

DATE 3/25/2023

SUPERVISOR 