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

A113342327

FACILITY: Mid-State Plating Co.		SRN / ID: A1133
LOCATION: 602 KELSO ST, FLINT		DISTRICT: Lansing
CITY: FLINT		COUNTY: GENESEE
CONTACT: David Stokes , President		ACTIVITY DATE: 10/30/2017
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced multi-media inspection, to follow up on PFAS detected in nearby Gilkey Creek.		
RESOLVED COMPLAINTS:		

On 10/30/2017, the Michigan Department of Environmental Quality (DEQ), Air Quality Division (AQD), participated in a multi-media inspection of Mid State Plating Co., along with staff of the Water Resources Division (WRD) and Remediation and Redevelopment Division (RRD). The purpose was to determine compliance with applicable state and federal regulations and to determine if this facility might be a contributor to the presence of poly- and perfluoroalkyl substances (PFAS), including perfluorooctane sulfonate (PFOS), in Gilkey Creek, nearby. These are perfluorinated compounds (PFCs), and are emerging contaminants of concern.

Environmental contacts:

David Stokes, President; 810-767-1622; dave@midstateplating.com

Dan Murdock; lab technician; 810-767-1622; dan@midstateplating.com

Facility description:

Mid-State Plating operates two anti-corrosion coating lines. They offer both zinc electroplating and zinc phosphating. A trivalent chromium conversion coating can also be applied in a choice of three colors: clear, yellow, or black.

Emission units:

Emission unit* ID	Description	Exemption rule, or applicable federal regulation	Compliance status
Horizontal barrel and rack zinc plating lines	Two zinc plating and/or zinc phosphating lines	Rule 285(r)(i) or (vii); 40 CFR Part 63, Subpart WWWWWWW	Compliance
2 natural gas boilers	2.0 and 3.3 million Btu/hr, for process and comfort heat	Rule 282(b)(i)	Compliance
Deburring machine	Stone tumbling de-burring process	Rule 285(l)(iv)(B)	Compliance
Pickling tanks	Metal pickling process	Rule 285(r)(ii)	Compliance
Cleaning tank(s)	Cleaning with caustic solution(s)	Rule 285(r)(iv)	Compliance

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

Regulatory overview:

This facility is considered a *minor source of criteria pollutants*, that is, those pollutants for which a National Ambient Air Quality Standard (NAAQS) exist. These include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns (PM10), and particulate matter smaller than 2.5 microns (PM2.5). A *major source of criteria pollutants* has the potential to emit (PTE) of 100 tons per year (TPY) or more of any one of the criteria pollutants, and would be subject to the Renewable Operating Permit program.

This facility is also considered to be a *minor or area source* for hazardous air Pollutants (HAPs), because it has a PTE of less than 10 TPY for any single HAP and less than 25 TPY for all HAPs combined.

This facility is considered exempt from the requirement of Michigan Air Pollution Control Rule 201 to have a permit to install. The following air pollution exemption rules apply.

- Rule 285(r)(i) or (vii); for metal treating processes, surface treatment or electrolytic plating, respectively, which exhaust into the general, in-plant environment. On 12/20/2016, this exemption rule was revised as Rule 285(2)(r), but the processes at this site pre-date 12/20/2016, and are exempt under the pre-12/20/2016 exemption.
- Rule 282(b)(i) for boilers used for space heating, service water heating, or indirect heating, which burn sweet natural gas and have a rated heat input capacity of less than 50,000,000 Btu/hr. On 12/20/2016, this exemption rule was revised as Rule 285(2)(r), but the processes at this site pre-date 12/20/2016, and are exempt under the pre-12/20/2016 exemption.
- Rule 285(l)(vi)(B) for metal machining processes which exhaust into the general, in-plant environment. On 12/20/2016, this exemption rule was revised as Rule 285(2)(r), but the processes at this site pre-date 12/20/2016, and are exempt under the pre-12/20/2016 exemption.
- Rule 285(r)(ii) for metal pickling processes which exhaust to the general, in-plant environment. On 12/20/2016, this exemption rule was revised as Rule 285(2)(r)(ii), but the processes at this site pre-date 12/20/2016, and are exempt under the pre-12/20/2016 exemption.
- Rule 285(r)(iv) for metal cleaning processes which exhaust to the general, in-plant environment. On 12/20/2016, this exemption rule was revised as Rule 285(2)(r)(iv), but the processes at this site pre-date 12/20/2016, and are exempt under the pre-12/20/2016 exemption.

This facility is not currently subject to 40 CFR Part 63, Subpart N, *National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks*, because there is neither chrome electroplating nor chrome anodizing occurring. The only electroplating taking place here involves zinc.

Mid State Plating may be subject to 40 CFR Part 63, Subpart W, *National Emissions Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*. Chromate conversion coats are considered plating activities and are regulated under this federal Maximum Achievable Control technology (MACT) standard. AQD has not been delegated authority for this MACT from the U.S. Environmental Protection Agency (EPA).

Fee status:

This facility is not considered a Category I fee-subject facility, because it is not a major source of criteria air pollutants. It is not considered a category II fee-subject source because it is neither a major source for hazardous air pollutants, nor is it subject to a federal New Source Performance Standard regulation. Lastly, it is not considered a Category III fee-subject facility, because it is not subject to a federal Maximum Achievable Control Technology standard which the AQD has delegation of authority for from EPA. This facility is not required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS), because it does not meet the criteria for reporting of having more than 10 TPY VOC emissions.

Location:

Mid-State Plating is located in an industrial park on the east side of Flint. Immediately west of it is Gilkey Creek, which runs from south to north. The nearest residences are in a large residential neighborhood, 790 feet west of the plant, as measured in Google Map. The next closest residences are about 2,800 feet to the southeast. The rest of the surrounding area is a mix of commercial and industrial.

History:

It is my understanding, from plant staff, that this factory building was built in 1967. Mid-State plating offered chrome plating about 4 decades ago, but that was discontinued.

This facility was last inspected by AQD on 3/19/2013, and was found to be in compliance at that time. AQD has no record of ever receiving any air pollution complaints about this facility.

Safety apparel required:

I am not aware of site requirements, but would strongly recommend safety glasses with side-shields, as well as steel-toed boots, at a minimum.

Arrival:

Multiple DEQ staff met up at Kelso Street, arriving at approximately 9:30 AM north of the site, in an unpaved lot. We met with Mr. Tom Hutchins of the City of Flint, from Flint Water Pollution Control (WPC). He is an industrial pretreatment program inspector. Government staff present were as follows:

- City of Flint, Water Pollution Control (WPC): Tom Hutchins
- DEQ, Water Resources Division (WRD): Carla Davidson, Charles Bennett, and Brian Zuber
- DEQ, Remediation & Redevelopment Division (RRD) staff: Paul Bucholtz and Jim Innes
- DEQ, Waste Management & Radiological Protection Division WMRPD): Nathan Hude
- DEQ, Air Quality Division (AQD): myself

We arrived at Mid State Plating at 9:46 AM. No visible emissions were present from exhaust stacks or from the roofline. Weather conditions were lightly raining and 45 degrees F, with winds out of the southwest at 5-10 miles per hour (mph). No odors from Mid State Plating could be detected.

We entered the facility lobby, and provided our identification and credentials. We met with Mr. David Stokes, President, and with Mr. Larry Miller, Doug Drury, and Dan Murdock. DEQ staff explained the reason for our visit, to conduct inspections on behalf of the various government agencies we represented, and to try to identify the source(s) of the PFOS and PFAS present in Gilkey Creek.

We were informed that they do not use any surfactants here, nor any demisters, defoamers, or wetting agents, and do not do any etching. We were informed they do use zinc, potash, brightener, acid, salt electro clean, dye, chromates, hydrochloric acid (HCl), and nitric acids. We were informed that they dewater non-hazardous filter cakes.

We were informed that this facility runs 3 shifts per day, 5 days per week. We were told that over the course of a day, they may run 2 lines or just 1.

Inspection:

Please see attached diagram of plant layout, and attached certificates of analysis which were provided to C. Davidson for some of the materials used onsite.

Horizontal barrel and rack zinc plating lines; Rule 285(r)(i) or (vii); ; 40 CFR Part 63, Subpart WWWWWW:

Zinc plating is done on carbon steel, we were informed. The rotating horizontal barrel plating line has two tanks which exhaust into the in-plant environment. It may be considered exempt for being a metal surface treating process exhausting into the general, in-plant environment, or a metal treating process which performs electrolytic coating and exhausts into the general, in-plant environment. A buss bar allows for an optional electroplating process. This electroplating, when performed, would add a zinc coat. A non-electrolytic trivalent chromate conversion coat may also be applied following the electroplating.

Zinc is not one of the regulated HAPs, under 40 CFR Part 63, Subpart WWWWWW. Therefore the zinc plating tank is not subject. However, any tanks containing chromium, such as the trivalent chromate conversion coating process, may be subject to Subpart WWWWWW requirements. A subject facility can apply by documenting appropriate work practices from Section 63.11507(g); please see below.

The requirements applicable under Section 63.11507(g) of WWWWWW are:

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.

- (1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
- (2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
- (3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
- (4) Use tank covers, if already owned and available at the facility, whenever practicable.
- (5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
- (6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
- (7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
- (8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
- (9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
- (10) Minimize spills and overflow of tanks, as practicable.
- (11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
- (12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

It is AQD's understanding that all chromium onsite has been replaced with trivalent chromium.

2 natural gas boilers; Rule 282(b)(i):

There are two natural gas-fired boilers, both smaller than the 50,000,000 million maximum size which can be considered exempt under Rule 282(b)(i). One unit is 2,000,000 Btu/hr, and the other is 2,300,000 btu/hr. There were no visible emissions from the boiler exhaust stacks that we could see when we were outside the building. Weather conditions were lightly raining and 45 degrees F, with winds out of the west southwest at 15-20 mph.

De-burring machine; Rule 285(l)(vi)(B):

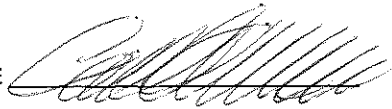
They conduct deburring of carbon steel, we were told. The de-burring machine uses a rounded stone topeen or polish parts. Rule 285(l)(vi)(B), exempts metal machining processes which exhaust into the general, in-plant environment, for processes installed prior to 12/20/2016. If this process was reconstructed or a new, similar process was installed, after 12/20/2016 it would fall under the current Rule 285(2)(l)(vi)(B).

Analytical results from water samples:

Analytical results from samples collected by WRD and RRD indicated that Mid-State Plating is not the source of the PFAS compounds detected in Gilkey Creek, in Flint. Please refer to WRD and RRD files for further details.

Conclusion:

No instances of noncompliance were found by AQD. We left the site at this time.

NAME 

DATE 9/29/2018

SUPERVISOR 