

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

B583068549

FACILITY: AJAX METAL PROCESSING INC.		SRN / ID: B5830
LOCATION: 4651 BELLEVUE AVE, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Saranya Panneerselvam , Director of Quality		ACTIVITY DATE: 06/22/2023
STAFF: Samuel Liveson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection of a Title V source.		
RESOLVED COMPLAINTS:		

1.0 Introduction and Facility Overview

On June 22, 2023, EGLE-AQD staff Sam Liveson conducted an unannounced, scheduled inspection of Ajax Metal Processing, Inc. (AMPI) located on 4651 Bellevue Avenue in Detroit, Michigan. I also visited briefly for a follow-up visit on July 21, 2023. The purpose of the inspection was to determine the facility's compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Michigan Air Pollution Control Rules; the conditions of Renewable Operating Permit (ROP) No. MI-ROP-B5830-2015b; and Consent Order AQD No. 2023-04.

1.1. Arrival and Safety Overview

This inspection on June 22, 2023 was unannounced. I arrived at the facility at 9:05 AM and parked in visitor parking off of Bellevue Avenue near Gratiot Avenue. Weather was drizzly and the temperature was 69 °F.

From 9:07 AM to 9:10 AM, I observed what appeared to be the four stacks associated with the two heat treating lines at the facility, to the west of the visitor parking lot. No opacity was observed from these stacks during my observation.

I entered the administrative building on the east side of Bellevue Avenue and met Dave Krause, General Manager; Jim Denis, who is working with Dave; James Cushman, Vice President; and Saranya Panneerselvam, Ph.D., Director of Quality. I stated the purpose of my visit and showed my State-issued identification to Dave and Jim.

Personal protection equipment to have on site includes safety shoes and safety glasses. Hearing protection is necessary in the adhesive locking/sealing division.

On July 21, 2023, I visited the facility from 9:30 AM to 10:00 AM and met with Dave, Jim, and Saranya to observe the heat treat furnaces and EUENDO furnace, as well as to view EUWHEEL4.

1.2. General Facility Overview

AMPI occupies approximately 1 square city block (about 180,000 square feet according to the facility) off of Gratiot Avenue on the east side of Detroit, less than three miles from downtown Detroit. The company has three divisions: (1) electroplating with zinc and zinc alloy finishes (FGPLATINGLINES), (2) heat treating (FGBOILERMACT), and (3) adhesive locking and sealing (FGLOCKSEAL, FGMACT).

AMPI is a Title V major source due to its potential to emit (PTE) greater than 10 tons per year (tpy) of a single hazardous air pollutant (HAP), toluene, from its adhesive coating lines (FGLOCKSEAL, FGMACT).

The facility's coating operations under FGMACT are subject to federal standard 40 CFR Part 63, Subpart M - National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products. As stated within the Semiannual Compliance Report for July through December of 2023, AMPI chose the "emission rate without add-on controls option" per 40 CFR 63.3891 (b) to demonstrate compliance with the Subpart M emission limit.

The facility has one cold cleaner and one emergency generator.

1.3. Compliance Background

AMPI has no outstanding air quality violations.

AQD Consent Order No. 2023-04

AMPI received AQD Consent Order No. 2023-04 on February 22, 2023 to resolve a violation received April 12, 2022 for exceeding the FGMACT emission limit of 2.6 pounds organic HAP per gallon of coating solids over a 12-month rolling time period. Monthly values are provided below from September 2021 through May 2023. Calculations indicate the facility exceeded its emission limit from November 2021 through July of 2022.

12-month rolling HAP emission rate calculation (pounds organic HAP per gallon of coating solids)												
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2021	--	--	--	--	--	--	--	--	2.5	2.6	2.7	2.8
2022	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.6	2.5	2.4	2.3	2.2
2023	2.2	2.1	2.1	2.1	2.1	--	--	--	--	--	--	--

2.0 Facility Walkthrough: Process Overview and Compliance Status

2.1. Four Wheel Coating Lines, Three Loc-Tite Coating Lines, and Two Dip-Spin Coating Lines (FGLOCKSEAL, FGMACT, SOURCE-WIDE)

Four Wheel Coating Lines (EUWHEEL1-4)

I observed the four wheel coating lines onsite. They're all located in the same area. Lines EUWHEEL1 and EUWHEEL3 were operating during the inspection. Line EUWHEEL4 was purging its applicators via water recirculation during the walkthrough. Flow coating occurs on these lines. Coating is poured in a vertical laminar flow via gravity. Bolts, which are lined up on a large horizontal spinning wheel, pass under the coating. The final products are bolts with a coating over their threads. This coating provides adhesion so bolts won't come loose over time.

EUWHEEL4 is a nylon powder coating line. While the line was not operating, Dave lifted a panel along the line to show the path that nylon powder travels along until it drops onto bolts below. The bolts themselves are heated so that the nylon powder melts and adheres to the bolts. I observed the final product from wheel line 4, which is a bolt with a pink strip of hardened nylon powder coating along the threads.

Coating is reduced to the desired viscosity. Three reducers used at the facility are toluene, butyl cellosolve, and isopropyl acetate. Toluene is a HAP, whereas butyl cellosolve and isopropyl acetate are not. Reducers are added by hand. I observed closed containers of reducer stored in the paint kitchen.

Below are the ovens and coating products applied at the four wheel lines, as provided by the facility.

Wheel Line	Oven Type	Product Type
1	Electric	3M
2	Natural gas	3M
3	Natural gas	3M
4	No Oven	Nylon

I observed fume hoods over the flow coat areas on wheel lines. According to the facility, these hoods operate under negative pressure to collect fumes associated with EUWHEEL1-4 and exhaust them to ambient air.

Three Loc-Tite Lines (EULOCTITE1-3)

I visited the three Loc-Tite coating lines on site. According to the facility and Loc-Tite MSDS received during the 2022 facility inspection, coatings used in EULOCTITE lines are water-based. Line 3 was operating during the inspection. From talking with staff, it appears water is added as needed as the

reducer on these lines. These Loc-Tite lines produce a thread coating onto bolts similar to the wheel coating lines, except that bolts are touching a cable line, which causes the bolts to rotate as the cable line moves, resulting in 360-degree coating application.

Below are the ovens and coating products applied at the Loc-Tite lines.

Loc-Tite Line	Oven Type	Product Type
1	Natural gas	Loc-Tite
2	Natural gas	Loc-Tite
3	Electric	Loc-Tite

Dip and Spin Coating Lines (EUDIPSPIN, EUDIPSPIN2)

I visited EUDIPSPIN2 (33C2) and saw its associated oven and oven stack. It was operating during the inspection. Dip and spin coating occurs in a tank. Dip and spin coating lines are top-coat lines. On site, dip spin lines are known as plating lines 2 and 5, and are located in the plating line area. They are the last optional step of the plating process, but since they are a coating process, they are part of FGLOCKSEAL and FGMACT instead of FGPLATINGLINES. No reducing occurs with the coatings used on these dip spin lines. The dip coating tanks do not have stacks, but the associated drying ovens have stacks.

SOURCE-WIDE Special Conditions and Compliance Status

Below is a summary of each Source-Wide special condition from MI-ROP-B5830-2015b, and an explanation of the facility’s compliance status.

<p>SC I.1 & VI.1: 12-month rolling VOC emissions less than 30.0 tpy; keep records in an acceptable format.</p> <p>COMPLIANCE. For the period from May 2022 through May of 2023, the highest 12-month rolling total VOC emissions were 22.0 tpy in March and May of 2023.</p> <p>SC V.1: Determine VOC content, water content, and density by Method 24 unless the permittee received prior written approval by the AQD District Supervisor.</p> <p>COMPLIANCE. Method 24 results for Precote 80 and 85 taken in 2018 were provided during the 2022 facility inspection. AQD approved AMPPI’s request to determine VOC content via formulation data via email on October 13, 2020, noting that additional samples may be requested or collected by the AQD during future inspections. I did not request or collect samples for Method 24 VOC testing as part of this inspection.</p> <p>SC VI.2: For all metal parts coating lines per Rule 621(10)(b), keep monthly records of: gallons or pounds of VOC coatings used and reclaimed; and monthly and 12-month rolling VOC emission calculations.</p> <p>COMPLIANCE. On July 17, 2023, Saranya provided coating usages, and VOC monthly and 12-month rolling emissions calculations for the period of May 2022 through May 2023. VOC records include emission units EUWAX and Tanks 26A&B. These EUs are considered exempt from obtaining a PTI per Rule 290, but are subject to Rule 621.</p>

FGLOCKSEAL Special Conditions and Compliance Status

Below is a summary of each FGLOCKSEAL special condition from MI-ROP-B5830-2015b, and an explanation of the facility’s compliance status.

<p>SC I.1 & 2, VI.1 & 3: Monthly VOC emissions shall not exceed 2,000 lb per coating line; 12-month rolling shall not exceed 10 tpy per coating line. Keep records.</p> <p>COMPLIANCE. Saranya provided VOC emission records on July 17, 2023 for the period of May 2022 through May 2023 for each line. The highest monthly VOC emissions were 0.94 tons, or 1,880 pounds of VOC, on EUWHEEL2 in January and February 2023. This is below the facility limit of 2,000 pounds. The highest 12-month rolling emissions were 8.1 tons VOC on EUWHEEL2 in May of 2023, below the facility limit of 10 tpy.</p>

The facility discussed how they track monthly coating usage. At the end of each month, managers take inventory of how many coatings are at the facility. This is compared to the previous month's inventory as well as to purchases to identify consumption. As part of the monthly inventory, the facility knows the gallons of coating in each 55 gallon drum based on how many inches of coating is in each drum.

SC III.1-3: Recover, reclaim, or dispose of coatings and solvents acceptably in accordance with rules; cover containers when possible; minimize fugitive emissions.

COMPLIANCE. I observed the coating storage room. All containers appeared to be closed. No waste containers were stored in the coating storage room. Staff explained that coatings are generally able to be completely used. Paints that aren't able to be completely used appear to be properly disposed of. AMPI provided a Manifest of Disposal for "waste paint" dated December 2022.

SC IV.1: Use HVLP or equivalent applicator.

COMPLIANCE. HVLP applicators don't appear to be used on FGLOCKSEAL lines. Flow coating, cable coating, and dip spin coatings are collected and reused so there is no overspray.

SC V.1: Determine VOC content via Method 24. Upon prior approval of AQD, determine VOC content via formulation data.

COMPLIANCE. Method 24 results for Precote 80 and 85 taken in 2018 were provided during the 2022 facility inspection. AQD approved AMPI's request to determine VOC content via formulation data via email on October 13, 2020, noting that additional samples may be requested or collected by the AQD during future inspections. I did not request or collect samples for Method 24 VOC testing as part of this inspection.

SC VI.2: Maintain safety datasheets (SDS), manufacturer's formulation data, or both.

COMPLIANCE. AQD did not request SDSs during this inspection. During the 2022 inspection, AQD requested and received SDSs for MacDermid Torque'N'Tension 12, Loctite Dri-Loc 201 20lb Part A, Toluene, and MacDermid Torque'N'Tension F103.

SC VIII.1-16: Stack parameters.

COMPLIANCE. During the inspection, from inside the facility, I observed that EUWHEEL2 had two stacks, when none were listed in the facility ROP. A facility review discovered a discrepancy in the number of stacks along EUWHEEL1-3 and EUDIPSPIN2 as compared with the number of stacks in the facility ROP, as shown in the table below.

Emission Unit	Stack ID	Oven & Vent Stack Quantity from Facility Review	Stack Count in permit MI-ROP-B5830-2015b
EUWHEEL1	SVWHEEL1-01 (Application), SVWHEEL1-02 (Oven end), & SVWHEEL1-03 (Oven middle)	2	3
EUWHEEL2	Not applicable	3	0
EUWHEEL3	SVWHEEL3-01 (Application), SVWHEEL3-02 (Oven end), & SVWHEEL3-03 (Oven middle)	2	3
DIPSPIN2	SVDIPSPIN2-01 (Application) & SVDIPSPIN2-02 (Oven)	3	2

Facility permit history indicates that stack parameters were not used in modeling when the facility permits were issued. Except for EUDIPSPIN2, the coating lines in FGLOCKSEAL were installed under general permit 197-15, which did not include stack parameters. PTI 47-16 and 47-16A replaced 197-15, and included stack parameters and permitted EUDIPSPIN2. According to the evaluation form for PTI 47-16A, when evaluating EUDIPSPIN2, "Ajax met Rule 225 requirement via Rule 227(1)(a) analysis." A Rule 227(1)(a) analysis does not factor in stack dimensions.

I requested that the facility submit a permit application within the next year to update the stack parameters in FGLOCKSEAL, and requested that while stacks are not yet corrected, stack discrepancies should be reported as deviations in the facility’s semiannual and annual ROP deviation reports. Because modeling with stack parameters did not occur, AQD will not issue a violation notice for stack discrepancies.

SC IX.1: Comply with 40 CFR Part 63 Subpart A and MMMM

COMPLIANCE. Please see the discussion of FGMACT SCs for more information.

SC IX.2: May change or replace coatings without applying for a new general permit.

COMPLIANCE. I did not request a list of coating changes made at the facility.

FGMACT Special Conditions and Compliance Status

Below is a summary of each FGMACT special condition from MI-ROP-B5830-2015b, and an explanation of the facility’s compliance status.

SC I.1: Use one of three options to determine compliance with the organic HAP emission rate.

COMPLIANCE. The facility has chosen the “emission rate without add-on controls option” to comply with 40 CFR Part 63 Subpart MMMM.

SC I.2: Comply with the emission limit of 2.6 pounds organic HAP per gallon of coating solids at all times.

COMPLIANCE. Records provided by API on July 17, 2023 include 12-month rolling pounds organic HAP per gallon of coating solids for May 2022 through May 2023. 12-month rolling records appear to show the facility is in compliance with its emission limit of 2.6 lbs HAP per gallon of coating solids based on a 12-month rolling time period beginning in August 2022. The facility received AQD Consent Order No. 2023-04 to resolve prior exceedances of this emission limit. Values are shown below.

Month - Year	12-Month Rolling Lbs HAP/Gal Solid	In Compliance < 2.6 lbs HAP/Gal Solid?
May-23	2.1	Yes
Apr-23	2.1	Yes
Mar-23	2.1	Yes
Feb-23	2.1	Yes
Jan-23	2.2	Yes
Dec-22	2.2	Yes
Nov-22	2.3	Yes
Oct-22	2.4	Yes
Sep-22	2.5	Yes
Aug-22	2.6	Yes
Jul-22	2.8	No
Jun-22	2.8	No
May-22	2.8	No

SC I.3: Emission limit considerations if your coating line has more than one emission limit.

NOT APPLICABLE. All surface coating operations at AMPI are subject to one subcategory emission limit which is 2.6 pounds organic HAP per gallon of coating solids per 40 CFR 63.3890(b)(1).

SC II, VI.4, VII.4: Requirements when using the Compliant Material Option

NOT APPLICABLE. The facility doesn’t use the Compliant Material Option per SC I.1.

SC VI.1: Initial compliance demonstration under MACT MMMM.

COMPLIANCE. The initial compliance demonstration was submitted February 27, 2008. Emissions appear to be calculated correctly.

SC VI.2, 3, 5: For each compliance period, maintain each notification and report; current copies of MSDSs; calculations of total mass of organic HAP emissions used each month; calculations of the volume of coating solids used each month; and calculation of each 12-month rolling organic HAP emission rate.

COMPLIANCE. Coating solids and HAP content were provided, as well as monthly gallons used for May 2022 through May 2023, and the calculated 12-month rolling organic HAP emission rate per gallon of coating solids for May 2022 through May 2023. AQD did not request SDSs during this inspection.

SC VII.5-7: Deviation and notification requirements.

COMPLIANCE. Semiannual MACT MMMM reports have been received March 15, 2023 and September 20, 2022.

SC IX.1: Comply with applicable provisions of 40 CFR Part 63 Subpart MMMM.

As discussed above, the facility has been in compliance with its emission limit of 2.6 lbs HAP per gallon of coating solids based on a 12-month rolling time period beginning in August 2022. The facility received AQD Consent Order No. 2023-04 to resolve prior exceedances of this emission limit.

AQD Consent Order 2023-04 Paragraphs and Compliance Status

Below is a summary of compliance program paragraphs from ACO 2023-04, and an explanation of the facility's compliance status.

Paragraph 9: Comply with the 12-month rolling OHAP emission limit in condition I.2 of FGMACT in MI-ROP-B5830-2015b.

COMPLIANCE. 12-month rolling records appear to show the facility is in compliance with its emission limit of 2.6 lbs HAP per gallon of coating solids based on a 12-month rolling time period beginning in August 2022.

Paragraph 10: Submit quarterly certified records specified in 40 CFR 63.3920(a) and condition VII.7 of FGMACT in MI-ROP-B5830-2015b.

COMPLIANCE. AQD No. 2023-14 was effective February 21, 2023. The semiannual certified report was received March 15, 2023, and a quarterly certified report was received on May 2, 2023.

Paragraph 11.A and B: Implement the facility's Solvent Usage and Training Plan, attached to the ACO as Exhibit A.

COMPLIANCE. According to the Solvent Usage and Training Plan, existing staff will be retrained on the training plan within 7 days of the execution of the ACO, and AMPI will keep records of all employees trained under the plan. The facility provided me a record indicating a training of facility staff took place on February 24, 2023, which is within 7 days of the ACO's effective date of February 21, 2023.

Paragraph 12.A-F: Supplemental Environmental Project "Electric Oven Upgrade"

ON TRACK. The project is to replace the existing natural gas oven on EULOCTITE1 with an electric oven. Paragraph 12.B discusses how the company shall fully implement all aspects of the SEP within the specified schedules in Exhibit B of AQD No. 2023-04. AMPI provides quarterly updates of its SEP to the AQD. Below are the project steps in Exhibit B of the ACO, and progress based on the facility's quarterly update received May 2, 2023.

Project Step	Schedule in ACO Exhibit B	Progress
Engineering Design Approved	30 days after the Effective date of the consent order	Oven design was approved on 3/10/23.
Oven Purchase Order Completed	7 days after engineering design approved	Oven purchase order was completed on 3/10/23.
Arrival of oven		

	300 days after completion of oven purchase Order	Oven expected delivery is prior to 9/18/23 (120 to 150 days per proposal).
Complete installation of new oven	14 days after arrival of oven	Not started.

2.2. Plating Lines (FGPLATINGLINES; FGRULE290; Rule 291)

AMPI has eight total plating lines. Six are permitted under FGPLATINGLINES in the facility ROP. These six permitted lines are EUPLATINGLINE1, EUPLATINGLINE3, EUPLATINGLINE4, EUPLATINGLINE6, EUPLATINGLINE11, and EUPLATINGLINE12. Additionally, Line 7 is a phosphate line known as EUPHOS1 and operates under FGRULE290 of the facility ROP. Lastly, Line 8 is a new zinc nickel plating line installed in 2020 and considered exempt under Rule 291. Line 8 replaces EUPHOS2, which is no longer at the facility.

Plating lines are used to treat fasteners such as bolts, nuts, and brackets. Each line has several tanks, including one hydrochloric acid (HCl) tank whose emissions are controlled by a packed bed water scrubber. Fasteners are loaded into a mesh bin which is dipped into each tank sequentially as needed.

Talking with facility staff, generally the parts undergo the following processes:

1. Alkaline soap cleaning (to remove any oils on the fasteners)
2. Alkaline rinse
3. Electrical current
4. Rinses
5. HCl acid tank with a packed bed scrubber with water as the control device.
6. Rinses
7. Plate tank
8. Rinses
9. Chromate conversion on nickel lines
10. Top coat or wax

According to the facility, plating lines 1, 3, 4, 6, 8, 11, and 12 utilize chromate conversion. Chromate conversion is a dye tank for appearance (gold instead of purple for example). The facility does not appear to be subject to 40 CFR Part 63 Subpart N per 40 CFR 63.340(c). Plating lines are not subject to 40 CFR Part 63 Subpart WWWWWWW because they are located at a major source of HAPs and therefore not subject per 40 CFR 63.11504(a).

On the HCl tank for each plating line, there appeared to be slots on one side of the tank with the scrubber, and piping on the opposite side of the tank. During the 2022 inspection, AMPI staff explained that air is pushed from the opposite side of the tank towards the scrubber, and pulled from the side of the tank with the scrubber.

FGPLATINGLINES Special Conditions and Compliance Status

Below is a summary of each FGPLATINGLINES SC from MI-ROP-B5830-2015b, and an explanation of the facility's compliance status.

<p>SC III.1-2: Install, maintain, and operate packed bed scrubber properly, including maintenance recommended by the manufacturer, and submitting and operating in conjunction with a malfunction abatement plan (MAP).</p> <p>COMPLIANCE. I observed a scrubber operating along each plating line.</p> <p>Operation of the plating lines is subject to the facility MAP. According to the MAP, a warning light will flash if the scrubber recirculation tank meter reads less than 20 gallons per minute (gpm). During the inspection, I read the following from displays located at each scrubber. Unit of measurement are not indicated on the displays; staff explained the unit is gallons per minute (gpm).</p>

Line No.	Work Center	Description	Recirculation Flow Rate (gpm)
1	23A	Zinc Nickel	23.77
3	23B	Zinc	28.91
4	23I	Tin Zinc	26.14
6	23D1	Nickel	34.4
7	23F/43A	Zinc Phosphate	20.54
8	23C	Zinc Nickel	32.15
11	23A1	Zinc Nickel	61.41
12	23E	Zinc	47.36

The MAP indicates that the facility will keep the following records, numbered V.1-V.3 in the MAP. The facility appears to keep these records as discussed below.

MAP Record V.1: Monthly visual inspection of the scrubbers

Preventative maintenance (PM) work orders provided by the facility for all eight scrubbers indicate that scrubber inspections occur monthly. Scrubber PM work orders provided for June 2023 indicate PM also occurred in May 2023, and PM work orders provided for February 2023 indicate PM also occurred in January 2023.

MAP Record V.2: All significant unscheduled maintenance activities performed on the scrubbers.

I requested a record of any significant unscheduled maintenance activity performed on the scrubbers in the last year. According to the facility, "No significant unscheduled maintenance activity was performed."

MAP Record V.3: Annual routine maintenance of the scrubbers.

During the inspection, Dave let me know that maintenance on the scrubbers occurs monthly, and the most-recent maintenance had occurred on June 11, 2023. He provided completed PM work orders for each of the eight scrubbers on the plating lines. The PM work orders indicated that work had been completed on June 11, 2023, and that the last PM had occurred on May 11, 2023. Additionally, in records provided by Saranya on July 17, 2023, PM work orders were provided for each of the eight scrubbers. These PM work orders indicated that their work had been completed on February 6, 2023, and that the last PM previous to that had occurred on January 9, 2023.

In the June 11, 2023 PM work order for scrubber 23A1, under "Corrective Action", the water meter reading is provided as 14.8 gallons per minute. I followed up regarding this reading below 20 gallons per minute. Saranya explained that the maintenance technician responsible for performing the monthly scrubber PMs came down from the roof to perform the checks on the remote scrubber tanks and noticed the red flashing beacon on the control panel due to the low water flow. Upon inspecting the flow, he noticed it was too low and realized that he had adjusted the sprayers on the scrubber to a low setting. To remind himself to re-adjust the sprayer, he made a note of the flow rate and never updated the flow rate in the final report after completing his tasks. AQD considers this to be a reasonable resolution to the low flow indicated in the PM work order.

SC III.3, VI.1, VI.2.a-c: HCl concentration below 17% (50% by volume of 20° Baume HCl); max tank surface area of 39.1 square feet; max temperature of 120 °F; keep monthly records.

COMPLIANCE. The facility measures the HCl concentration and temperature at least daily. Records of these measurements were provided for May 2022 through May 2023 through for plating lines 1, 3, 4, 6, 7, 8, 11, and 12. HCl concentration is measured by providing a sample to a lab on site to test the pH. The maximum HCl concentration was 50% by volume of 20° Baume HCl for several measurements on each line (except for line 4). Saranya confirmed that the facility uses 20 degree Baume HCl, so that 50% by volume is the facility's maximum permitted concentration of HCl.

Temperature is measured via a probe that is always in the HCl tanks. The maximum temperature was 120 degrees F during several measurements on plating line 8. On site, I observed the following HCl tank temperatures from the screens at the front of the lines.

Line No.	Work Center	Description	HCl Tank Temperature (°F)
11	23A1	Zinc Nickel	110
12	23E	Zinc	104

Previous inspections indicated compliance with the 39 square feet requirement. I did not request tank square footage.

SC VI.2.d-e: Record plating tank hours of operation and corrective action upon scrubber failure.

NOT EVALUATED. I did not request hours of operation. According to the facility, no significant unscheduled maintenance activity was performed within the past year.

SC VIII.1-11: Stack parameters.

COMPLIANCE. I did not observe stacks at roof level. Stacks observed from ground level were unobstructed.

Plating Line 8 – Zinc Nickel Plating Line – Rule 291

The facility claims that the tanks in plating line 8, installed in 2020, are exempt from obtaining a PTI per Rule 290 (discussed in the next section) and Rule 291. Rule 291 was promulgated in 2016. During the 2022 facility inspection, AMPI provided their exemption analysis for zinc nickel plating line 8.

The facility asserts that each tank in the plating line can be considered a separate emission unit. This is the case in other plating facilities in permits such as PTI 120-17 and 269-06C.

Page 8 of the facility’s exemption analysis discusses Rule 278 exclusions from exemptions. The facility explained that potential emissions from the proposed plating line are less than the significance thresholds, so that the activity’s actual emissions appear to be below significance levels per Rule 278(1) (b), and its potential emissions don’t appear to be subject to PSD regulations or nonattainment NSR regulations per Rule 278(1)(a).

Tanks 26A&B of the new Plating Line 8 include Torque’N’Tension coatings. These tanks appear to be coating operations subject to MACT MMMM per 40 CFR 63.3882(b)(1). (Plating tanks don’t appear to be coating operations per 40 CFR 63.3981.) Page 3 of the exemption analysis discusses how Torque’N’Tension dip coating tanks are affected sources under a NESHAP. Although tanks 26A&B are subject to MACT MMMM, the facility claims the tanks are not construction or reconstruction of a major source of HAPs per Rule 278(2), because affected source is defined in Part 63.2 as “the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act...” AMPI is an existing major source of HAPs, and has been and will continue to be subject to 40 CFR Part 63 Subpart MMMM.

Three methods of analysis were provided for estimating emissions: (1) Equation 4 in AP-42 Chapter 12.20; (2) the *Metal Finishing Facility Risk Screening Tool (MFFRST): Technical Documentation and User’s Guide* (USEPA/600/R-01-057 July 2001); and (3) *Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form*, USEPA 560/4 888 002 (also used in MDEQ Emission Calculation Fact Sheet #9840 “Electroplating Operations” (Rev. 11/05). Table 7 in the facility’s analysis provides the maximum emissions for each of the three methods used. Emissions appear to be within Rule 291(2) emission limits. The applicable tanks appear to be exempt from obtaining a PTI per Rule 291(2) for emission units with “de minimis” emissions.

Rule 291 Requirements and Compliance Status

Below is a summary of requirements of permit to install exemption Rule 291, and an explanation of plating line 8’s compliance status.

Rule 291(2): Potential emissions less than Table 23 and parts (a)-(f).

COMPLIANCE. Potential emissions of each tank are less than emission limits in Table 23. In 2022, the facility provided updated HCl emissions for partial pressures at 120 degrees F instead of 109 degrees F. Emissions are 0.53 tpy HCl instead of 0.149 HCl in Table 5 of the facility analysis. Potential emissions of Toxic air contaminants not listed in table 23 with any screening level appear to be below 5 tons per year per Rule 291(2).

Rule 291(2)(a): Combined PTE < 0.12 tpy for contaminants with SL < 2 ug/m3 and ≥ 0.04 ug/m3.

COMPLIANCE. PTE of these contaminants is 0.0033 tpy.

Rule 291(2)(b): Combined PTE < 0.06 tpy for contaminants with SL < 0.04 ug/m3 and ≥ 0.005 ug/m3.

COMPLIANCE. No contaminants on plating line 8 have a screening level in this range.

Rule 291(2)(c): Combined PTE < 0.006 tpy for contaminants with SL < 0.005 ug/m3.

COMPLIANCE. Cobalt compounds (CAS No. 7440-48-4) and nickel salts have initial risk screening levels of 0.00013 and 0.006 ug/m3 respectively. The combined PTE is 0.0005046 tpy.

Rule 291(2)(d): No potential emissions of asbestos of subtilisin proteolytic enzymes.

COMPLIANCE. Emission units on plating line 8 have no potential emissions of these contaminants.

Rule 290 – EUPHOS1, Plating Line 8 Tanks 26A&B, EUWAX, and HCl Tank

Plating Line 7 is a phosphate line known as EUPHOS1 under FGRULE290 of the facility ROP. EUPHOS1 was operating during the inspection. EUPHOS2 is no longer at the facility.

EUWAX was also operating during the inspection. EUWAX is a tank similar to EUDIPSPIN and EUDIPSPIN2. The wax can be applied as a last step in plating.

The facility HCl storage tank is also considered exempt under Rule 290.

Per Table 8 of the facility’s exemption analysis for Plating Line 8, tanks 26A and 26B of Plating Line 8 contain Torque’N’Tension coatings that are considered exempt from obtaining a PTI per Rule 290.

Emission units EUWAX and Tanks 26A and B are considered exempt from obtaining a PTI per Rule 290. However, they are still subject to Rules 621 and MACT MMMM. Because these emission units are subject to Rule 621, they are subject to the 30 TPY emission limit in the SOURCE-WIDE section of the facility ROP. The facility includes the VOC emissions from EUWAX and Tanks26A and B in their VOC recordkeeping. Similarly, Torque’N’Tension coatings used on EUWAX and Tanks 26A&B appear to be included in the facility’s MACT MMMM semiannual compliance reports.

The facility provided emissions for EUPHOS1, Tanks 26A&B, EUWAX, and the HCl storage tank per Rule 290(2)(d) and (e) for the last year. Emissions are shown in the table below. Maximum monthly emissions appear to be below the maximum allowable monthly emissions.

Emission Unit	Contaminant (CAS No.)	ITSL (ug/m3)/ IRSL (ug/m3)	Applicable 290 Part	Max Allowable Monthly Emissions	Max Monthly Emissions (month of occurrence)
EUWAX	VOCs	--/--	290(2)(a)(i)	1000 lbs	138 lbs (Feb 2023)
Tanks 26A&B	VOCs	--/--	290(2)(a)(i)	1000 lbs	180 lbs (March 2023)
EUPHOS1	HCl (7647010)	20/--	290(2)(a)(ii)	1000 lbs	0.45 lbs (June 2022)
HCl Tank	HCl (7647010)	20/--	290(2)(a)(ii)	500 lbs controlled; 1000 lbs uncontrolled	1.54 lbs/year via 99% scrubber control (153.78 lbs/year uncontrolled)

2.3. Facility Furnaces and Boilers - FGBOILERMACT

FGBOILERMACT at the facility includes two large heat treating lines at the facility (EUHARDENING1 and EUHARDENING2), an associated endothermic generator EUENDO, and two boilers EUBOILER60HP and EUBOILER150HP. Because AMPI is a major source of HAP, boilers and furnaces are subject to 40 CFR Part 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. Currently, all boilers and process heaters were installed prior to 2010 so that they are considered existing. Boilers and process heaters use natural gas. The facility has one dedicated natural gas meter. The facility determines natural gas usage through the monthly bill.

Two 11 MMBtu Heat Treating Furnaces and Endothermic Reactor – EUHARDENING1 & 2 and EUENDO

I visited the two large heat treating lines at the facility (EUHARDENING1 and EUHARDENING2) and related EUENDO on July 21, 2023. Neither furnace was operating. Quenching with oil occurs. Oil storage tanks are outside near the facility parking lot. Each heat treating line has flares and stacks. After heat treating, parts go through a post-wash. EUENDO is an endothermic generator used as part of the heat treat process. It involves a catalyst and positive pressure to create a protective atmosphere for heat treating.

The heat treating furnaces were installed in 1976, and EUENDO was installed in 1980. The equipment appears to be exempt from obtaining a PTI per Rule 282(a). Effective January 18, 1980, the exemption rule read as follows (note that the exemption at that time did not exclude oil quenching):

R336.1282(a) – The permit system does not apply to any of the following: (a) Natural gas-fired, liquefied petroleum gas-fired, or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials.

EUBOILER60HP and EUBOILER150HP

The facility has two boilers EUBOILER60HP and EUBOILER150HP. These are used to heat various parts of the facility processes. I did not visit the boilers during this inspection. The following information was obtained from the boiler nameplates during the 2022 facility inspection:

EUBOILER60HP	2.5 MMBtu/hr	7/14/1980
EUBOILER150HP	2.7 MMBtu/hr	8/29/1989

FGBOILERMACT Special Conditions and Compliance Status

Below is a summary of each FGBOILERMACT special condition from MI-ROP-B5830-2015b, and an explanation of the facility’s compliance status.

<p>SC II.1: Combust only gas 1 fuels as defined in 40 CFR 63.7575 such as natural gas. COMPLIANCE. The furnaces and boilers are natural gas-fired.</p>		
<p>SC III.1-6, VI.2-3: Perform one-time energy assessment, initial tune-up, and subsequent tune-ups as required; keep records. COMPLIANCE. The facility’s Notification of Compliance status, received by AQD on March 31, 2016, indicates that the facility had an energy assessment performed, and that initial tune-ups were completed in March 2016.</p> <p>The facility’s annual compliance report for NESHAP 40 CFR Part 63 Subpart DDDDD was received March 15, 2023. It indicated the boiler tune-ups are being performed as required. The schedules and date of most-recent tuneup are below.</p>		
Emission Unit	Tune-Up Schedule	Date of Most-Recent Tuneup
EUHARDENING1	Annual	7/28/2022
EUHARDENING2	Annual	7/27/2022
EUBOILER150HP	Biennial	12/29/2021
EUBOILER60HP	5 years	3/11/2021

EUENDO	5 years	2/23/2022
<p>SC VI.1: Keep records of notifications submitted. NOT EVALUATED. I did not request submitted notifications from the facility.</p> <p>SC VII.4: Submit a signed certification in the Notification of Compliance Status that the energy assessment was completed. COMPLIANCE. The signed notification of compliance status was received by AQD on March 31, 2016.</p> <p>SC IX.1-3: Comply with 40 CFR Part 63, Subpart DDDDD. COMPLIANCE. The facility appears to be in compliance with Subpart DDDDD.</p>		

2.4. Miscellaneous Equipment

Natural Gas Emergency Engine – 40 CFR Part 60 Subpart JJJJ – Rule 285(2)(g)

I visited the 150 kilowatt (KW) natural gas-fired Kohler emergency generator on site. It was installed on December 17, 2021. The engine appears to be exempt from obtaining a PTI per Rule 285(2)(g) for internal combustion engines with a maximum heat input below 10 MMBtu/hr. (KW and MMBtu/hr are both units of power. 1 W is equal to 3.41 BTU/h. 150 KW to MMBtu/hr is $150 \text{ KW} * [3.41 \text{ BTU}/1 \text{ W} * \text{hr}] * [1 \text{ MMBtu}/1000000 \text{ Btu}] * [1000 \text{ KW} / 1000 \text{ W}] = 0.51 \text{ MMBtu/hr}$.) The engine appears to be subject to federal regulation 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines per 40 CFR 60.4230(a)(4)(iv) for emergency engines with a maximum engine power greater than 19 KW.

CFR Part 60 Subpart JJJJ Sections and Compliance Status

Below is a summary of 40 CFR Part 60 Subpart JJJJ requirements for the facility’s emergency engine, and an explanation of the facility’s compliance status.

<p>60.4233(e), 40 CFR Part 60, Subpart JJJJ, Table 1: Owner/operator must comply with emission standards specified in this subpart. COMPLIANCE. During the 2022 facility inspection, AMPI provided the USEPA Certificate of Conformity for the emergency engine.</p>
<p>60.4237(b): Install a non-resettable hour meter. COMPLIANCE. The facility provided an image of the engine’s non-resettable hours meter on July 17, 2023.</p>
<p>60.4243(a)(1): Keep records of conducted maintenance. COMPLIANCE. AMPI provided records of generator work orders.</p>
<p>60.4243(d): Limit maintenance checks and readiness testing to 100 hours per year. COMPLIANCE. Maintenance and readiness testing operation is below 100 hours because the non-resettable hours meter reads 19.5 hours total.</p>

Cold Cleaner in Administrative Building

I visited the facility’s cold cleaner in the administrative building. The cold cleaner is manufactured by Graymills. The air/vapor interface surface area appears to be less than ten square feet. The lid was closed. Emissions from the cold cleaner are released into the in-plant environment. I observed that Cold Cleaner Operating Procedures were posted conspicuously on the wall above the cold cleaner. The cold cleaner appears to use K-1 Kerosene. The MSDS was provided during the 2022 facility inspection. From emails with the facility in 2022, the facility considers the cold cleaner exempt from obtaining a Permit to Install per Rule 285(2)(r)(iv) for metal cleaning released into the in-plant environment.

Water Treatment – Rule 285(2)(m)

I did not visit the water treatment process at the facility. The facility has wastewater treatment tanks to treat water with acids and rinse waters from the plating process. The treatment is pH-based. Water isn’t

