

B5830

MAW/LA

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

B583045505

FACILITY: AJAX METAL PROCESSING INC.		SRN / ID: B5830
LOCATION: 4651 BELLEVUE AVE, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: FRANK BORNO, PRESIDENT		ACTIVITY DATE: 08/07/2018
STAFF: Todd Zynda	COMPLIANCE STATUS: Compliance	
SUBJECT: Scheduled Inspection		SOURCE CLASS: MAJOR
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection

INSPECTED BY: Todd Zynda, AQD

PERSONNEL PRESENT: Frank Buono, President; James Cushman, Director of Operations; Tina Sakalas, Executive Administrator; Rodney Burgess, Plant Manager; Steve Smith, Maintenance Manager

FACILITY PHONE NUMBER: (313) 267-2100

FACILITY WEBSITE: www.ajaxmetal.com

FACILITY BACKGROUND

Ajax Metal Processing Inc. (AMPI) is located at 4651 Bellevue, Detroit, Wayne County, Michigan. AMPI offers metal finishing services that include heat treating, plating, and application of locking and sealing materials onto metal fasteners, including nuts and bolts. The facility currently has 153 employees and operates three shifts, 24 hours a day, 7 days a week, depending on work load.

AMPI is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70 because the facility has a Potential to Emit (PTE) greater than 10 tons per year of Hazardous Air Pollutants (HAPs) from the coating lines. Pursuant to NESHAP regulations, AMPI is considered a Major Source. The facility does not have a PTE more than 100 tpy of criteria pollutants. AMPI operates equipment under the Renewable Operating Permit (ROP) No. MI-ROP-M5830-2015b.

PROCESS OVERVIEW

AMPI operates various processes including: a dip/spin paint line, an emergency generator (mothballed in place), flow coat process lines, zinc phosphating lines, plating lines, heat treating, boilers and hardening furnaces. Also, there are numerous plating tanks, solution-holding tanks and solid waste holding bins. The ROP for Ajax Metal Processing Inc. comprises 24 emission units (EU).

In ROP No. MI-ROP-B5380-2015b, the EUs are organized into five flexible groups (FG). FGLOCKSEAL and FGMACT contain the following EUs: EUL&OVENS, EULOCTITE1, EULOCKTITE2, EULOCKTITE3, EUWHEEL1, EUWHEEL2, EUWHEEL3, EUWHEEL4, EUDIPSPIN, EUDIPSPIN2. FGPLATINGLINES comprises 6 plating lines that consist of alkaline cleaning baths, hydrochloric acid pickling baths and zinc electroplating tanks (EUPLATING1, EUPLATING3, EUPLATING4, EUPLATING6, EUPLATING11, and EUPLATING12). FGBOILERMACT includes EUBOILER60HP, EUBOILER150HP, EUHARDENING1, EUHARDENING2, and EUENDO. FGRULE290 consists of any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290 (EUWAX, EUPHOS1, and EUPHOS2).

COMPLAINT/COMPLIANCE HISTORY

There are no complaints for this facility in Michigan Air Compliance and Enforcement System (MACES).

During September 18, 2008, August 27, 2010, July 29, 2013, and January 6, 2015 the facility was inspected and was determined to be in compliance permit conditions and applicable federal and state regulations. On November 22, 2016 the facility was determined to be in noncompliance for installing rain caps on stacks SVDIPSPIN2-01 and 02 and failure to install flow meters on scrubbers. A violation notice was not issued for these items. On March 30, 2017, permit to install (PTI) No. 47-16A was issued for the installation of SVDIPSPIN2-01 and 02 with rain caps. The installation of flow meters on the scrubbers was not addressed and does not appear to be required.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On August 7, 2018 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an inspection of AMPI at 4651 Bellevue, Detroit, Michigan. During the inspection, Frank Buono, President, James Cushman, Director of Operations, Tina Sakalas, Executive Administrator, Rodney Burgess, Plant Manager, Steve Smith, Maintenance Manager, provided information and a tour of facility operations relating to air quality permits. The inspection was conducted to determine the facility's compliance with Federal and State air quality regulations and ROP No. MI-ROP-B5830-2015b.

At 12:45 PM, Mr. Todd Zynda (AQD) arrived onsite and performed outside observations. No visible emissions were observed at the facility. Odors were not detected. At 1:00 PM Mr. Zynda entered the facility, stated the purpose for the inspection, and was greeted by Mr. Cushman.

During the opening meeting the facility operations and MI-ROP-B5830-2015b conditions were discussed. During the opening meeting an inspection checklist outlining ROP requirements was discussed. AMPI stated that the records would be compiled and submitted by their consultant Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H), Stephanie Jarrett. Records were provided via email on August 17, 2018 (see attached).

The facility walk-through began with observation of the heat treat furnaces. The facility operates two lines that have two furnaces per line. The furnaces for each line operate at approximately 1650 °F and 700 to 900 °F. Both heat treatment lines include an oil quench. The safety data sheet for the oil quench was provided via email on August 29, 2018.

Following observation of the heat treatment lines, the lock and seal operations were observed. The facility operates four station wheels (EUWHEEL1 through EUWHEEL4) and 3

cable coaters (EUOCTITEL1 through3). During the inspection the waste materials appeared to be stored properly.

Following observation of the lock and seal operations, the plating lines were observed. The facility operates six plating lines: EUPLATINGLINE1 – Zinc Nickel, EUPLATINGLINE3 – Zinc Iron, EUPLATINGLINE 4 – Tin Zinc, EUPLATINGLINE6 – Zinc, EUPLATINGLINE11 – Zinc Nickel, and EUPLATINGLINE12 – Zinc. According to Mr. Burgess the hydrochloric acid (HCl) concentration is typically 25% to 40% by volume of 20° Baume HCl and is measured once per shift. The HCl tanks are maintained at approximately 80 to 100 °F. Each plating line is equipped with its own individual scrubber. According to Mr. Burgess, each scrubber is equipped with an alarm (warning light) for water recirculation tank less than 20 gallons per minute. The Malfunction Abatement Plant (MAP) also indicates that a warning occurs for low feed water flow and low recirculation flow. During the inspection, the scrubbers observed were not equipped with a flow meter with a reading output. According to Mr. Burgess, none of the units are equipped with flow meters with real time measurements.

Following observation of the plating lines, the facility boilers were observed. The following information was recorded: HP150 – 8,277,000 Btu/hr, installation date 03/29/1989, HP60 – 251,100 Btu/hr, installation date 7/14/1986. The facility generator is also located in the same area as the boilers. According to Mr. Buono, the generator is no longer used and is mothballed in place. During the inspection, the generator did not appear to have recent use as several items were stored near or on the generator.

Following observation of the boilers and generator, the stacks for facility operations were observed at roof level. Measurements of stack dimensions were not collected, but stacks appeared to meet permit specifications.

The inspection concluded with observation of the dip spin operations.

APPLICABLE RULES/PERMIT CONDITIONS

ROP No. MI-ROP-B5830-2015b

MI-ROP-B5830-2015b special conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

SOURCE-WIDE CONDITIONS

SC I.1, VI.1 and 2. **COMPLIANCE.** The 12-month rolling VOC emissions shall not exceed 30.0 tons per year. Shall keep all required calculations in an acceptable format. Shall keep the following for all metal parts coating lines operating per R 336.1621(10)(b): Gallons or pounds of each VOC containing coating used and reclaimed; VOC content in pounds per gallon or pounds per pound of each VOC containing coating used; monthly VOC emission calculations; and 12-month rolling VOC emission calculations.

The facility provided monthly, and 12-monthly rolling VOC emissions for January 2016 through July 2018. The highest 12-month rolling VOC emissions occurred at the end of May 2017 at 27.1 tons per year. The facility states that solvents are not reclaimed. On August 30, 2018, the spreadsheet for VOC emission calculations was provided via email. Emission calculations were spotted checked for accuracy. The facility maintains the required records.

SC V.1. **COMPLIANCE.** Shall determine the VOC content, water content and density of any coating, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine VOC content from manufacturer's formulation data.

The facility currently is using VOC content from manufacturer's formulation data. On September 7, 2018, the AQD has requested Method 24 analysis (see attached email) on four coatings: Precote 80, Precote 85, Scotch-Grip Brand Fastener Adhesive 2353 (Blue), Scotch-Grip Brand Fastener Adhesive EC2510 (Orange). The coatings were selected based on highest usage at EUWHEEL1, EUWHEEL2, and EUWHEEL3 (the three emission units with the highest VOC emissions) and the highest VOC content. It was assumed that constituents used in coating such as toluene, isopropyl acetate, and butyl cellosolve (2-Butoxyethanol) will not vary much from the manufacturers formulation as the material are in their pure form.

Following the Method 24 results it will be determined if additional Method 24 analysis will be required.

FGLOCKSEAL

SC I.1 and 2, VI.1 and 3. **COMPLIANCE.** Monthly VOC emissions shall not exceed 2,000 lb per month per coating line. The 12-month rolling VOC emissions shall not exceed the 10.0 tpy per coating line. Shall keep records in an acceptable format. Shall keep the following: Gallons (with water) coating used and reclaimed; VOC content (with water); monthly VOC emission calculations; and 12-month rolling VOC emission calculations. The facility provided both monthly and 12-month rolling VOC emissions on a per coating line basis for January 2016 through July 2018. The emissions reported for all coating lines are reported as less than 2,000 lb per month and 10.0 tpy (12-month rolling).

SC III.1 through 3. **COMPLIANCE.** Shall recover, reclaim, or dispose of coatings, paints, purge, and cleanup solvents, etc in accordance with applicable regulations. Shall capture all waste materials and store them in closed containers. Shall dispose of waste in an acceptable manner. Shall handle all VOC/and or HAP containing materials in a manner to minimize fugitive emissions. Shall keep containers covered at all times except when operator access is necessary. During the inspection, the facility appeared to meet the above requirements.

SC IV. 1. **COMPLIANCE.** Shall equip and maintain each application portion of FGLOCKSEAL with HVLP applicator or comparable technology with equivalent transfer efficiency. The facility appears to be meeting this requirement.

SC V.1. **COMPLIANCE.** Shall determine the VOC content, water content and density of any coating, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine VOC content from manufacturer's formulation data.

The facility currently is using VOC content from manufacturer's formulation data. On September 7, 2018, the AQD has requested Method 24 analysis (see attached email) on four coatings: Precote 80, Precote 85, Scotch-Grip Brand Fastener Adhesive 2353 (Blue), Scotch-Grip Brand Fastener Adhesive EC2510 (Orange). The coatings were selected based on highest usage at EUWHEEL1, EUWHEEL2, and EUWHEEL3 (the three emission units with the highest VOC emissions) and the highest VOC content. It was assumed that constituents used in coating such as toluene, isopropyl acetate, and butyl cellosolve (2-Butoxyethanol) will not vary much from the manufacturers formulation as the material are in their pure form.

Following the Method 24 results it will be determined if additional Method 24 analysis will be required.

SC VIII. 1 through 16. **COMPLIANCE.** The facility appeared to me the stack dimensions for the stack IDs listed in SC VIII. Stacks were observed at roof level during the inspection. Measurements were not collected.

SC IX.1. **COMPLIANCE.** Shall comply with 40 CFR Part 63, Subpart A and Subpart M. Evaluation with the Subpart M is evaluated below in FGMACT.

SC IX.2. **COMPLIANCE.** May change or replace any coating used without applying for a new general permit. The facility is compliance with this condition.

FGMACT

The facility utilizes the emission rate without add-on controls option – general use coating. Therefore, the conditions pertaining to emission rate with add-on control or compliant material option were not evaluated.

SC I. 1 through 3. **COMPLIANCE.** Organic HAP not to exceed 2.6 lb per gallon of coating solid on a 12-month rolling time period. The facility utilizes the emission rate without add-on controls option – general use coating. The facility provided records for January 2016 through July 2018 demonstrating compliance with the above list emission limit. The highest organic HAP reported occurred February 2017 through April 2017 at 2.4 lb HAP per gallon coating solid.

SC II. **NOT APPLICABLE.** Thinner and/or additive, and cleaning material restrictions apply to the compliant material option.

SC VI. 1 through 5. **COMPLIANCE.** Initial compliance demonstration and record keeping requirements under MACT M. The facility appears to be meeting the record keeping requirements as demonstrated with emission records under SC I. through 3 and semiannual MACT M reports received on March 14, 2018, September 13, 2017, and March 14, 2017. According to the previous inspection, the initial compliance demonstration was submitted February 27, 2008. The facility utilizes the emission rate without add-on controls option, therefore the compliant materials option and emission rate with add-on controls options conditions are not applicable.

SC VII.4. **NOT APPLICABLE.** The facility does not utilize the compliant material option.

SC VII. 5, 6, 7 and IX. 1. **COMPLIANCE.** The facility appears to be in compliance with deviation reporting requirements under SC VII. 5. There have not been any deviations reported in regard to MACT M since the last inspection. The facility submits the applicable notifications and submits semiannual reports. The facility appears to be in compliance with MACT M.

FGPLATINGLINES

The pickling tanks are not subject to 40 CFR Part 63, Subpart CCC, per §63.1155(1) and §63.1156.

§63.1155(a)(1) - All new and existing steel pickling facilities that pickle carbon steel using hydrochloric acid solution that contains 6 percent or more by weight HCl and is at a temperature of 100 °F or higher;

§63.1156 - *Steel pickling* means the chemical removal of iron oxide mill scale that is formed on steel surfaces during hot rolling or hot forming of semi-finished steel products through contact with an aqueous solution of acid where such contact occurs prior to shaping or coating of the finished steel product. This definition does not include removal of light rust or scale from finished steel products or activation of the metal surface prior to plating or coating.

SC III. 1 and 2. **COMPLIANCE.** Shall not operate any plating line unless associated scrubber is installed, maintained and operating properly. Shall submit a Malfunction Abatement Plant (MAP) for review and approval. Shall not operate any plating line unless MAP is implemented and maintained. During the inspection the scrubbers for the plating lines appeared to be installed and operating properly. The MAP dated March 2013 appears to satisfy the requirements listed in SC III. 2.

SC III. 3. **COMPLIANCE.** HCl concentration shall not exceed 17% by weight hydrochloric acid (this is equivalent to 50% by volume of 20° Baume HCl). Maximum temperature of 120° F. Maximum surface area of 39.1 square feet. The facility provided HCl concentration and solution temperature records for August 15, 2016 through June 11 or August 13, 2018. Measure values of HCl are 50% by volume of 20° Baume HCl or less. There is a typo on the table header (table reads HCl % vol of 32 Baume, versus 20 Baume as listed in permit condition). The consultant and facility both confirmed that the table should read 20 Baume (see attached correspondence). The facility also provided the SDS indicating 5.5 to 23 Baume HCl. Solution temperatures indicate values below 120 °F. Surface areas provide indicate compliance with the 39 square feet requirement.

SC VI. 1 and 2. **COMPLIANCE.** Shall complete all calculations in an acceptable format. Shall keep the following monthly records: Monthly concentration, area of tank in square feet, temperature of acid solution, log of hours of operation, corrective action taken upon failure of the following: fans drawing vacuum and pumps circulating the scrubber water. The facility provided the required records. The facility also provided the area of tanks and reports no failure of fans or pumps serving the scrubbers.

SC VIII. 1 through 11. **COMPLIANCE.** The facility appeared to me the stack dimensions for the stack IDs listed in SC VIII. Stacks were observed at roof level during the inspection. Measurements were not collected.

FGBOILERMACT

SC II.1. **COMPLIANCE.** Shall only combust gas 1 fuels. The furnaces and boilers are natural gas fired.

SC III. 1 through 6, SC VI 2 and 3. **COMPLIANCE.** Shall perform one-time energy assessment, initial tune up, and tunes ups as required. The previous inspection indicates that a one-time energy assessment was conducted January 2016 and initial tune up of each affected boiler performed on January 31, 2016 and March 2016. As part of the August 7, 2018 inspection, the facility provided the tune up schedule (Exhibit 23) and supporting documentation. The most recent tune ups were conducted February 26, 2018. The facility provided tune up records demonstrating compliance with SC VI. 2 and 3.

SC VI. 1 and SC VII. 4. **COMPLIANCE.** Shall keep records of each notification and report submitted and all supporting documentation to comply with 40 CFR Part 63, Subpart A and DDDDD. Shall submit a signed certification in the Notification of Compliance Status that the energy assessment was completed. The facility appears to be meeting the requirement of SC VI. 1 as confirmed during the inspection. As discussed in the previous inspection the signed Notification of Compliance was submitted March 2016.

SC IX. 1 through 3. **COMPLIANCE.** The facility appears to be in compliance with Subpart DDDDD.

FGRULE290

The facility claims Rule 290 for three emission units (EUPHOS1, EUPHOS2, and EUWAX).

R 336.1290 exempts from R 336.1201 those sources with limited emissions. The rule is divided into three general sections and further divided into subsections, depending on the type of emission (VOC, particulate, etc.), the carcinogenicity of the emissions, and the health-based screening level(s) of the emissions. Only those rules applicable to the Rule 290 emission units at the stationary source will be addressed. Rule 290 was recently revised on December 20, 2016. The citations listed below coincide with the existing ROP conditions and the former Rule 290 (prior to Rule revision). Each of emission units where installed prior to the rule revision and have not been modified.

R 336.1290(a) through (d) – **COMPLIANCE** – Emissions less than 1000 lbs. uncontrolled and 500 lbs. controlled with more restrictive limits for certain initial threshold screening levels (ITSL) and initial risk screening levels (IRSL); particulates limited to emissions of 0.01 lbs. particulate per 1000 lbs. gas, controlled by dust collector or equivalent installed and maintained, 5% opacity limit and monthly visible emission observation; description on file and records maintained. Required records are as follows for each emission unit: written description of the emission unit and control device, including the design control efficiency and exhaust gas flowrate; identify air contaminants emitted, carcinogenicity, screening level, and level of control; monthly emissions calculations; record of monthly visible emission readings.

The following emission units are listed as Rule 290 subject in the 2017 MAERS with their reported annual emissions in pounds:

2017 MAERS emissions reported (in pounds)

Emission Unit	HCl	VOC
EUPHOS1	80.63	-----
EUPHOS2	136.58	-----
EUWAX	-----	362

According to the MAERS submittal, the above reported emission units operate 12 months of the year. During a phone call with the facility's consultant on September 5, 2018, it was stated that EUWAX emissions are equal to the material usage. Scrubbers control HCl emissions from EUPHOS1 and EUPHOS2. EUPHOS1 and EUPHOS2 reported HCl emissions for 2017 are less than 500 pounds per year. EUWAX reported VOC emissions for 2017 are less than 500 pounds per year.

In the August 17, 2018 submittal, the facility also submitted monthly emission calculations for EUPHOS1, EUPHOS2, and EUWAX. The reported emissions are significantly less than 500 pounds per month.

Permit to Install Exempt Equipment

Hardening Furnaces

EUHARDENING1 and EUHARDENING2 appear to be exempt from PTI requirements per R336.1282(a) from the 1980 Air Quality Rules effective January 18, 1980. At that time the Rule read as follow.

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 involve molten materials.

As confirmed during the inspection, the facility does use quench oil on both EUHARDENING1 and EUHARDENING2, but the exclusion of quench oil from the exemption did not occur until after the installation of the furnaces. The subsequent Rule from 1992 (effective April 17, 1992) reads as follows.

R336.1282(a)(i) – The permit system does not apply to any of the following: (a) Any of the following processes or process equipment which are electrically heated or which fire sweet gas fuel or no. 1 or no. 2 fuel oil at maximum total heat input rate of not more than 10,000,000 Btu per hour: (i) Furnaces for heat treating glass or metals, the use of which does not involve molten materials, oil-coated parts, or oil quenching.

Boilers

The two boilers at the facility appear to be exempt from PTI requirements under R336.1282(2)(b)(i). The boilers ratings are as follows: HP150 – 8,277,000 Btu/hr and HP60 – 251,100 Btu/hr.

Emergency Generator (mothballed)

The emergency generator (which is currently mothballed) appears to be exempt from PTI requirements under R336.1282(2)(b)(i) and R336.1285(2)(g).

FEDERAL REGULATIONS

40 CFR Part 63, Subpart ZZZZ

Subpart ZZZZ applies to the EUCOGEN as it is located at a major source of HAPs. The emission unit was installed in 1987 and dated before December 19, 2002. The engine is considered existing RICE pursuant to 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [RICE MACT]). However, EUCOGEN is not subject to the RICE MACT pursuant to 63.6590(b)(3)(iii) which states in parts: -

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements: iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for

more than 15 hours per calendar year for the purposes specified in 63.6640(f)(2)(ii) and (iii).

40 CFR Part 63, Subpart W

CHROMATELINES 1 & 2 located in the FGPLATINGLINES & CHROMATELINES were at a major source of HAPs, therefore the groups are not subject to 40 CFR 63.11504(a).

40 CFR Part 63, Subpart N

The CHROMATELINES 1 & 2 do not use electrodes or current control to deposit metals. Hence CHROMATELINES 1 & 2 are not subject to 40 CFR 63.340(c).

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

Not applicable. All lots are paved.

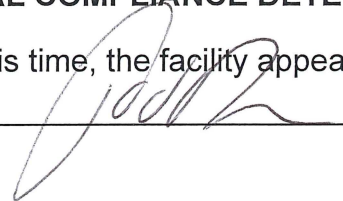
MAERS REPORT REVIEW:

The 2017 MAERS report was submitted on time. The audit was passed.

FINAL COMPLIANCE DETERMINATION:

At this time, the facility appears to be in compliance with MI-ROP-B5830-2015b.

NAME



DATE

9/7/18

SUPERVISOR

