

217/785-1705

REVISED
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) -- NESHAP SOURCE

PERMITTEE

J & M Plating, Inc.
Attn: Mr. Brian Beasley
4500 Kishwaukee Street
Rockford, Illinois 61109

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| <u>Application No.:</u> 08090025 | <u>I.D. No.:</u> 201030BAP |
| <u>Applicant's Designation:</u> (HTF-5) | <u>Date Received:</u> August 5, 2014 |
| <u>Subject:</u> Job Shop Electroplating Facility | |
| <u>Date Issued:</u> September 3, 2014 | <u>Expiration Date:</u> January 29, 2024 |
| <u>Location:</u> 4500 Kishwaukee Street, Rockford, Winnebago County | |

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

Five (5) Natural Gas-Fired Heat Treating Furnaces (HT-1: 13.79 mmBtu/hour, HT-2: 13.79 mmBtu/hour, HT-3: 4.5 mmBtu/hour, HT-4: 5.0 mmBtu/hour, HTF-5: 14.95 mmBtu/hour);

Oil Quenching;

Three (3) Zinc Electroplating/Chromate Lines with Atmospheric Evaporator and Scrubbers;

Three (3) Chromate Plating Lines with Scrubbers;

Phosphate Conversion Coating Line with Scrubber;

Wastewater Pretreatment System;

Coating Line with a 9.10 mmBtu/hour Natural Gas-Fired Oven Controlled by a Regenerative Thermal Oxidizer (RTO)

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for Volatile Organic Material (VOM), 10 tons/year for any single Hazardous Air Pollutant (HAP) and 25 tons/year for any combination of such HAPs). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.
- b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) for this location.
- 2a. The Three (3) Zinc/Chromate Electroplating Lines are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Standards for Plating and Polishing Operations, 40 CFR 63 Subparts A and WWWW. The Illinois EPA is administering the NESHAP in Illinois on behalf of the United States EPA under a delegation

agreement. Pursuant to 40 CFR 63.11504(a), you are subject to this 40 CFR 63 Subpart WWWWWW if you own or operate a plating and polishing facility that is an area source of hazardous air pollutant (HAP) emissions and meets the criteria specified in 40 CFR 63.11504(a)(1) through (3).

- i. A plating and polishing facility is a plant site that is engaged in one or more of the processes listed in 40 CFR 63.11504(a)(1)(i) through (vi).
 - A. Electroplating other than chromium electroplating (i.e., non-chromium electroplating).
 - B. Electroless or non-electrolytic plating.
 - C. Other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.
 - D. Dry mechanical polishing of finished metals and formed products after plating or thermal spraying.
 - E. Electroforming.
 - F. Electropolishing.
 - ii. A plating or polishing facility is an area source of HAP emissions, where an area source is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/year) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/year (25 tpy) or more.
 - iii. Your plating and polishing facility uses or has emissions of compounds of one or more plating and polishing metal HAP, which means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, as defined in 40 CFR 63.11511, "What definitions apply to this subpart?" With the exception of lead, plating and polishing metal HAP also include any of these metals in the elemental form.
- b. Pursuant to 40 CFR 63.11505(a)(1), 40 CFR 63 Subpart WWWWWW applies to each new or existing affected source, as specified in 40 CFR 63.11505(a)(1) through (3), at all times. A new source is defined in 40 CFR 63.11511, "What definitions apply to this subpart?": Each tank that contains one or more of the plating and polishing metal HAP, as defined in 40 CFR 63.11511, "What definitions apply to this subpart?", and is used for non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal

coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

- c. Pursuant to 40 CFR 63.11505(b), an affected source is existing if you commenced construction or reconstruction of the affected source on or before March 14, 2008.
 - d. Pursuant to 40 CFR 63.11506(a), if you own or operate an existing affected source, you must achieve compliance with the applicable provisions of 40 CFR 63 Subpart WWWWWW no later than July 1, 2010.
- 3a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
 - c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
 - d. Pursuant to 35 Ill. Adm. Code 212.321(a), except as further provided in 35 Ill. Adm. Code Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
- 4a. Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- b. Pursuant to 35 Ill. Adm. Code 214.303(a), with the exception of fuel combustion emission sources and acid manufacturing, no person using sulfuric acid shall cause or allow the emission of sulfuric acid and/or sulfur trioxide from all other similar emission sources at a plant or

premises to exceed 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/year (100 percent acid basis) (0.10 lbs/hour up to 1300 T/year).

- 5a. Pursuant to 35 Ill. Adm. Code 215.204(j), no owner or operator of a coating line shall cause or allow the emission of volatile organic material to exceed the following limitations on coating materials, excluding water and any compounds which are specifically exempted from the definition of volatile organic material pursuant to 35 Ill. Adm. Code Part 215, delivered to the coating applicator:

| | <u>kg/l</u> | <u>lb/gal</u> |
|---|-------------|---|
| Miscellaneous Metal Parts and Products Coating | | |
| i. Clear coating | 0.52 | (4.3) |
| ii. Air dried coating | 0.42 | (3.5) |
| iii. Extreme performance coating | 0.42 | (3.5) |
| iv. Power driven fastener coating | | |
| A. Nail Coating | | Refer to limits in 35 Ill. Adm. Code 215.204(j) (1), (2), (3) and (5) |
| B. Staple, brad and finish nail unit fabrication bonding coating | 0.64 | (5.3) |
| C. Staple, brad and finish nail incremental fabrication lubricity coating | 0.64 | (5.3) |
| D. Staple, brad and finish nail incremental fabrication withdrawal resistance coating | 0.60 | (5.0) |
| E. Staple, brad and finish nail unit fabrication coating | 0.64 | (5.3) |
| v. All other coatings | 0.36 | (3.0) |

- b. Pursuant to 35 Ill. Adm. Code 215.205, owners or operators of coating lines subject to 35 Ill. Adm. Code 215.204 may comply with 35 Ill. Adm. Code 215.205, rather than with 35 Ill. Adm. Code 215.204. The methods or procedures used to determine emissions of organic material under 35 Ill. Adm. Code 215.205 shall be approved by the Illinois EPA. Emissions of volatile organic material from emission units subject to 35 Ill. Adm. Code 215.204, are allowable, notwithstanding the limitations in 35 Ill. Adm. Code 215.204, if:

- i. For all other emission units subject to 35 Ill. Adm. Code 215.204, the emissions are controlled by an afterburner system which provides:
- A. 81% reduction in the overall emissions of volatile organic material from the coating line; and

- B. Oxidation to carbon dioxide and water of 90% of the non-methane volatile organic material (measured at total combustible carbon) which enters the afterburner.
 - ii. The system used to control such emissions is demonstrated to have control efficiency equivalent to or greater than that provided under the applicable provision of 35 Ill. Adm. Code 215.204 or 35 Ill. Adm. Code 215.205(a) or (b).
- 6a. Pursuant to 35 Ill. Adm. Code 215.141(a), no person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 liters/day (200 gallons/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subparagraph shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3 K (70°F).
- b. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K (Use of Organic Material) shall only apply to photochemically reactive material.
- 7a. This permit is issued based on the metal part coating line not being subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Surface Coating Of Miscellaneous Metal Parts And Products, 40 CFR 63 Subpart MMMM. This is a result of the federally enforceable production and operating limitations, which restrict the potential to emit to less than 10 tons/year for any individual Hazardous Air Pollutant (HAP) and 25 tons/year of any combination of such HAPs.
- b. This permit is issued based on the metal part coating line not being subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Paint Stripping And Miscellaneous Surface Coating Operations At Area Sources, 40 CFR 63 Subpart HHHHHH. Pursuant to 40 CFR 63.11170(a)(3), you are subject to 40 CFR 63 Subpart HHHHHH if you operate an area source of HAP as defined in 40 CFR 63.11170(b), including sources that are part of a tribal, local, State, or Federal facility and you perform spray application of coatings that contain the target HAP, as defined in 40 CFR 63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in 40 CFR 63.11180.
- 8a. Pursuant to 35 Ill. Adm. Code 215.206(b), the limitations of 35 Ill. Adm. Code 215 Subpart F shall not apply to touch-up and repair coatings

- used by a coating source described in 35 Ill. Adm. Code 215.204(b), (d), (f), (g), (i), and (j); provided that the source-wide volume of such coatings does not exceed 0.95 liter (1 quart) per eight-hour period or exceed 209 liters/year (55 gallons/year) for any rolling twelve-month period. Recordkeeping and reporting for touch-up and repair coatings shall be consistent with 35 Ill. Adm. Code 215.206(c).
- b. Pursuant to 35 Ill. Adm. Code 215.206(d), "touch-up and repair coatings" means, for purposes of 35 Ill. Adm. Code 215.206, any coating used to cover minor scratches and nicks that occur during manufacturing and assembly processes.
 - c. Pursuant to 35 Ill. Adm. Code 215.209, no coating line subject to the limitations of 35 Ill. Adm. Code 215.204 is required to meet 35 Ill. Adm. Code 215.301 or 215.302 after the date by which the coating line is required to meet 35 Ill. Adm. Code 215.204.
9. Pursuant to 35 Ill. Adm. Code 215.106, the operation of any oil fired or natural gas fired after-burner and capture system used to comply with 35 Ill. Adm. Code Part 215 of any section thereof is not required during the period of November 1 of any year to April 1 of the following year provided that:
- i. The operation of such devices is not required for purposes of occupational safety or health, or for the control of toxic substances, odor nuisances or other regulated pollutants; and
 - ii. Such devices are operated for the duration of any period for which an ozone advisory, alert or emergency has been declared pursuant to 35 Ill. Adm. Code 244.
- 10a. This permit is issued based on the Chromate Plating Lines at this source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, 40 CFR 63 Subpart N because no electrical current is applied to the chromate tanks on the chromate plating line. Pursuant to 40 CFR 63.340(c), tanks that contain a chromium solution, but in which no electrolytic process occurs, are not subject to 40 CFR 63 Subpart N.
- b. This permit is issued based on the Heat Treating Furnaces not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD because this source is not or is part of, a major source of HAP as defined in 40 CFR 63.2.
11. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hour (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S.

Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.

- 12a. Pursuant to 40 CFR 63.11507(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 40 CFR 63.11507(g)(1) through (12), as practicable.
- i. Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
 - ii. 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.
 - iii. 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.
 - iv. Use tank covers, if already owned and available at the facility, whenever practicable.
 - v. Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
 - vi. Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
 - vii. 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.
 - viii. Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
 - ix. Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
 - x. Minimize spills and overflow of tanks, as practicable.

- xi. Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
- xii. Perform regular inspections to identify leaks and other opportunities for pollution prevention.
- b. Pursuant to 40 CFR 63.11508(a), if you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with 40 CFR 63.11509(b) of "What are my notification, reporting, and recordkeeping requirements?"
- c. Pursuant to 40 CFR 63.11508(b), you must be in compliance with the applicable management practices and equipment standards in 40 CFR 63 Subpart WWWWWW at all times.
- d. Pursuant to 40 CFR 63.11508(c)(8), to demonstrate initial compliance, you must satisfy the requirements specified in 40 CFR 63.11508(c)(1) through (11): If you own or operate an affected tank or other operation that is subject to the management practices specified in 40 CFR 63.11507(g), "What are my standards and management practices?", you must demonstrate continuous compliance according to 40 CFR 63.11508(d)(8)(i) and (ii).
 - i. You must implement the applicable management practices during all times that the affected tank or process is in operation.
 - ii. You must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.
- e. Pursuant to 40 CFR 63.11510, if you own or operate a new or existing affected source, you must comply with the requirements of the General Provisions (40 CFR part 63, Subpart A) according to Table 1 of 40 CFR 63 Subpart WWWWWW (see Attachment B).
- 13a. The Permanent Total Enclosure for the flow coating lines and curing oven shall be constructed to comply with requirements of the Procedure T and meet the criteria of a Permanent Total Enclosure (as defined in 35 Ill. Adm. Code Part 218, Appendix B, Procedure T).
- b. The Regenerative Thermal Oxidizer's (RTO) combustion chamber shall be preheated to at least the manufacturer's recommended temperature, but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test. This temperature shall be maintained during operation.
- c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform maintenance on the capture system and Regenerative Thermal Oxidizer (RTO) such that the capture system and Regenerative Thermal Oxidizer(RTO) are kept in proper working

condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.

- d. This permit is issued based on the metal part coating line using coatings that do not contain chromium, lead, manganese, nickel or cadmium.
 - e. This permit is issued based on utilization of clean-up solvents associated with the metal part coating line being applied only within the permanent total enclosure and being controlled by the RTO.
 - f. The oven and the Regenerative Thermal Oxidizer (RTO) associated with the metal part coating line shall only be operated with natural gas as the fuel. The use of any other fuel in the oven or the Regenerative Thermal Oxidizer (RTO) associated with the metal part coating line requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- 14a. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the equipment in this permit such that the equipment is kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.
 - c. The scrubbers shall be operated at all times when the associated plating lines or the phosphate conversion line are in operation.
 - d. This permit is issued based on no electric current applied to any Chromate Plating Process.
 - e. This permit is also issued based upon the facility conducting only zinc and chromate plating. Any other type of plating other than previously permitted will require a construction permit from the Illinois EPA.
 - f. This permit is issued based on the HCL concentration in the 3 Zinc/Chromate Electroplating Lines and Phosphate Conversion Coating Line not exceeding 15% by weight.
 - g. The heat treating furnaces shall only be operated with natural gas as the fuel. The use of any other fuel in the heat treating furnaces requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- 15a. Emissions and operation of the coating line, and clean-up solvents, all controlled by the RTO, shall not exceed the following limits:

i. Volatile Organic Material (VOM) Usage and Emissions:

| VOM Usage | | VOM Emissions | |
|---------------------|--------------------|---------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 8.47 | 84.74 | 1.6 | 16.1 |

ii. Single Hazardous Air Pollutant (HAP) Usage and Emissions:

| Single HAP Usage | | Single HAP Emissions | |
|---------------------|--------------------|----------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 2.16 | 21.58 | 0.41 | 4.1 |

iii. Combined Hazardous Air Pollutants (HAP) Usage and Emissions:

| Combined HAPs Usage | | Combined HAPs Emissions | |
|---------------------|--------------------|-------------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 4.31 | 43.1 | 0.82 | 8.19 |

iv. These limits are based on the maximum operating rates and an overall reduction of VOM emissions by at least 81% pursuant to 35 Ill. Adm. 215.205(b). VOM and HAP emissions from the metal part coating line shall be calculated as follows:

$$E = \sum [(C_i \times V_{Ci}) \times (1 - (CE \times DE))] + \sum [(S_j \times V_{Sj}) \times (1 - (CE \times DE))]$$

Where:

E = VOM or HAP emissions (tons);

C_i = Coating usage (tons);

V_{Ci} = VOM or HAP content of coatings (% by weight);

S_j = Clean Solvent usage (tons);

V_{Sj} = VOM or HAP content of Clean Solvent (% by weight);

CE = Capture efficiency (fraction) demonstrated during the most recent stack test; and

DE = Destruction efficiency (fraction) demonstrated during the most recent stack test.

b. Emissions from and operation of the oven and the Regenerative Thermal Oxidizer (RTO) associated with the metal part coating line shall not exceed the following limits:

i. Natural Gas Usage:

| <u>Emission Units</u> | <u>Natural Gas Usage</u> | |
|--|--------------------------|---------------------|
| | <u>(mmscf/Month)</u> | <u>(mmscf/Year)</u> |
| Regenerative Thermal Oxidizer, and Coating Oven | 12 | 120 |

ii. Emissions from the combustion of natural gas:

| <u>Pollutant</u> | <u>Emission Factor (lbs/mmscf)</u> | <u>Emissions</u> | |
|------------------------------------|--|------------------|------------------|
| | | <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> |
| Carbon Monoxide (CO) | 84.0 | 0.50 | 5.04 |
| Nitrogen Oxides (NO _x) | 100.0 | 0.60 | 6.00 |
| Particulate Matter (PM) | 7.6 | 0.05 | 0.46 |
| Sulfur Dioxide (SO ₂) | 0.6 | 0.01 | 0.01 |
| Volatile Organic Material (VOM) | 5.5 | 0.03 | 0.33 |

These limits are based on maximum firing rates (9.10 mmBtu/hour for the coating oven and 4.60 mmBtu/hour for the RTO), 8,760 hours/year of operation and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

c. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

16a. Emissions from and operation of the 3 Zinc/Chromate Electroplating Lines controlled by atmospheric evaporator and scrubbers shall not exceed the following limits:

| <u>Parts Processed</u> | | <u>Emission Factor (lbs/Ton)</u> | <u>HCL Emissions</u> | |
|------------------------|--------------------|--------------------------------------|----------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 6,789 | 67,890 | 4 | 0.54 | 5.40 |

These limits are based on Potential Maximum Operating Rate, emission factor from Document EPA-745-B-99-014 December 1999 Table 6 Factors for Model Pickling Plants, 96% evaporator/scrubber efficiency, and continuous operation (8760 hour/year).

b. Emissions from and operation of the Phosphate Conversion Coating Line with scrubber shall not exceed the following limits:

| <u>Parts Processed</u> | | <u>Emission Factor (lbs/Ton)</u> | <u>HCl Emissions</u> | |
|------------------------|--------------------|--------------------------------------|----------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 4,380 | 43,800 | 4 | 0.35 | 3.50 |

These limits are based on Potential Maximum Operating Rate, emission factor from Document EPA-745-B-99-014 December 1999 Table 6 Factors for

Model Pickling Plants, 96% scrubber efficiency, continuous operation (8760 hour/year) and no Volatile Organic Material (VOM) or Hazardous Air Pollutants (HAPs) in any phosphate conversion coatings.

- c. Emissions from and operation of the five heat treating furnaces shall not exceed the following limits:
 - i. Natural Gas Usage: 42 mmscf/month, 420 mmscf/year.
 - ii. Emissions from the combustion of natural gas:

| <u>Pollutant</u> | <u>Emission Factor (lbs/mmscf)</u> | <u>Emissions</u> | |
|------------------------------------|--|------------------|------------------|
| | | <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> |
| Carbon Monoxide (CO) | 84.0 | 1.77 | 17.64 |
| Nitrogen Oxides (NO _x) | 100.0 | 2.10 | 21.00 |
| Particulate Matter (PM) | 7.6 | 0.16 | 1.60 |
| Sulfur Dioxide (SO ₂) | 0.6 | 0.01 | 0.13 |
| Volatile Organic Material (VOM) | 5.5 | 0.12 | 1.16 |

These limits are based on the maximum fuel usage and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- d. Emissions from and use of quench oil associated with the heat treating furnaces shall not exceed the following limits:

| <u>Quench Oil Used</u> | | <u>Emission Factor (Tons/Ton of Oil Used)</u> | <u>VOM Emissions</u> | |
|------------------------|------------------|---|----------------------|------------------|
| <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> | | <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> |
| 28.89 | 288.9 | 0.27 | 7.8 | 78.00 |

These limits define the potential emissions and are based on projected maximum oil usage, 19,820 gallons of oil used in 2004, 42.5 gallons of VOM reclaimed per 24 hours of normal operation quenching 36,000 ft² of parts, normal operating hours of 8,160 hours/year, a density of 7.17 lbs/gallon and mass balance.

- e. This Permit is issued based on negligible process emissions of particulate matter (PM) from each of the five natural gas-fired heat treating furnaces and the associated oil quench. For this purpose, PM emissions from each furnace and associated oil quench shall not exceed nominal rates of 0.1 lbs/hour and 0.44 tons/year.
- f. This permit is issued based on negligible emissions of chromium compounds from the 3 zinc/chromate electroplating lines and the three chromate plating lines controlled by scrubber. For this purpose, chromium compound emissions from each group of plating lines shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
- g. This permit is issued based on negligible emissions of chromium compounds and Hydrogen Chloride (HCl) from the wastewater pretreatment

system. This is based on HCl entering the pretreatment system being neutralized above a pH of 6. For this reason, emissions of each pollutant shall not exceed nominal rates of 0.1 lbs/hour and 0.44 tons/year.

- h. This permit is issued based on negligible emissions of particulate matter (PM) from the 3 zinc/chromate electroplating, 3 chromate plating, and Phosphate Conversion Coating Lines. For this reason, PM emissions from each line shall not exceed nominal rates of 0.1 lb/hour and 0.44 tons/year.
 - i. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 17a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
 - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Conditions 18 and 19 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
18. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter

emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.

- 19a. Pursuant to 35 Ill. Adm. Code 215.208(a), the VOM content of coatings shall be determined by Method 24, 40 CFR Part 60, Appendix A, except for glues and adhesive coatings, two component reactive coatings forming volatile reaction products, coatings requiring energy other than heat to initiate curing, and coatings requiring high temperature catalysis for curing, providing the person proposing testing of the material submits to the Illinois EPA proof that the Method 24 results would not be representative and proof that a proposed alternative test method gives representative, accurate test results. For printing inks, the volatile organic material content shall be determined by Method 24A, 40 CFR Part 60, Appendix A. Any alternate test method must be approved by the Illinois EPA which shall consider data comparing the performance of the proposed alternative to the performance of the approved test method(s). If the Illinois EPA determines that such data demonstrates that the proposed alternative will achieve results equivalent to the approved test method(s), the Illinois EPA shall approve the proposed alternative.
- b. Pursuant to 35 Ill. Adm. Code 215.208(b), transfer efficiency shall be determined by a method, procedure or standard approved by the USEPA, under the applicable new source performance standard or until such time as USEPA has approved and published such a method, procedure or standard, by any appropriate method, procedure or standard approved by the Illinois EPA.
- 20a. The Permittee shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the regenerative thermal oxidizer (RTO) is in use. The continuous monitoring equipment must monitor for the regenerative thermal oxidizer (RTO), the combustion chamber temperature of each afterburner.
- b. The Permittee shall install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of ± 1 percent of the temperature measured in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater.
21. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established

under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

- 22a. Pursuant to 40 CFR 63.11509(e), you must keep the records specified in 40 CFR 63.11509(e)(1) through (3).
- i. A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications.
 - ii. The records specified in 40 CFR 63.10(b)(2)(i) through (iii) and (xiv) of the General Provisions.
 - iii. The records required to show continuous compliance with each management practice and equipment standard that applies to you, as specified in 40 CFR 63.11508(d), "What are my compliance requirements?"
- b. Pursuant to 40 CFR 63.11509(f), you must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1) of the General Provisions. You may keep the records offsite for the remaining 3 years.
23. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.

- 24a. Pursuant to 35 Ill. Adm. Code 215.206(c), the owner or operator of a coating line or a group of coating lines using touch-up and repair coatings that are exempted from the limitations of 35 Ill. Adm. Code 215.204(b), (d), (f), (g), (i), and (j) because of the provisions of 35 Ill. Adm. Code 215.206(b) shall:
- i. Collect and record the name, identification number, and volume of each touch-up and repair coating, as applied on each coating line, per eight-hour period and per month;
 - ii. Perform calculations on a daily basis, and maintain at the source, records of such calculations of the combined volume of touch-up and repair coatings used source-wide for each eight-hour period;
 - iii. Perform calculations on a monthly basis, and maintain at the source, records of such calculations of the combined volume of touch-up and repair coatings used source-wide for the month and the rolling twelve-month period;
 - iv. Prepare and maintain at the source an annual summary of the information required to be compiled pursuant to 35 Ill. Adm. Code 215.206(b) on or before January 31 of the following year; and
 - v. Maintain at the source for a minimum of three years all records required to be kept under this subsection (c) and make such records available to the Illinois EPA upon request.
- 25a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
- i. Records addressing use of good operating practices for the RTO and srcubbers, associated with the plating lines and the phosphate conversion line:
 - A. Records for periodic inspection of the RTO and srcubbers associated with the plating lines and the phosphate conversion line with date, individual performing the inspection, and nature of inspection; and
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - ii. The Permittee shall maintain records of control device monitoring data and equipment operation.
 - iii. The name and identification of each coating, thinner and cleanup solvent used;
 - iv. Usage of each coating, thinner and cleanup solvent (gallons/month and gallons/year);

- v. The VOM and HAP content of each coating, thinner and cleanup solvent as applied (% by weight);
 - vi. Density of each applied coating, thinner and cleanup solvent (lbs/gallon);
 - vii. RTO temperature data;
 - viii. Natural gas consumption (mmscf/month and mmscf/year);
 - ix. Quench oil used (gallons/month and gallons/year);
 - x. Quench oil density (lbs/gallon);
 - xi. VOM and HAP content of the quench oil (% weight);
 - xii. Parts processed in the 3 Zinc/Chromate Electroplating Lines and Phosphate Conversion Coating Line (tons/month and tons/year); and
 - xiii. Monthly and annual emissions of CO₂e, CO, NO_x, PM, PM₁₀, SO₂, VOM and HAPs from the source with supporting calculations (tons/month and tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 26a. Pursuant to 40 CFR 63.11509(b), if you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with 40 CFR 63.11509(b)(1) through (3).
- i. The Notification of Compliance Status must be submitted before the close of business on the compliance date specified in 40 CFR 63.11506, "What are my compliance dates?"
 - ii. The Notification of Compliance Status must include the items specified in 40 CFR 63.11509(b)(2)(i) through (iv).
 - A. List of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.
 - B. Methods used to comply with the applicable management practices and equipment standards.
 - C. Description of the capture and emission control systems used to comply with the applicable equipment standards.

- D. Statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards or other requirements.
- iii. If a facility makes a change to any items in 40 CFR 63.11509(b)(2)(i), iii, and (iv) that does not result in a deviation, an amended Notification of Compliance Status should be submitted within 30 days of the change.
- b. Pursuant to 40 CFR 63.11509(c), if you own or operate an affected source, you must prepare an annual certification of compliance report according to 40 CFR 63.11509(c)(1) through (7). These reports do not need to be submitted unless a deviation from the requirements of 40 CFR 63 Subpart WWWWWW has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.
 - i. If you own or operate an affected tank or other affected plating and polishing operation that is subject to the management practices specified in 40 CFR 63.11507(g), "What are my standards and management practices?" you must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.
 - ii. Each annual compliance report must be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.
- c. Pursuant to 40 CFR 63.11509(d), if you own or operate an affected source, and any deviations from the compliance requirements specified in 40 CFR 63 Subpart WWWWWW occurred during the year, you must report the deviations, along with the corrective action taken, and submit this report to the Illinois EPA.
- 27. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- 28. Pursuant to 35 Ill. Adm. Code 215.206(c), the owner or operator of a coating line or a group of coating lines using touch-up and repair coatings that are exempted from the limitations of 35 Ill. Adm. Code 215.204(b), (d), (f), (g), (i), and (j) because of the provisions of 35 Ill. Adm. Code 215.206(b) shall Notify the Illinois EPA in writing if

the use of touch-up and repair coatings at the source ever exceeds a volume of 0.95 liter (1 quart) per eight-hour period or exceeds 209 liters/year (55 gallons/year) for any rolling twelve-month period within 30 days after any such exceedence. Such notification shall include a copy of any records of such exceedence.

29a. If there is an exceedence of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedence or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedence or deviation and efforts to reduce emissions and future occurrences.

b. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
412 SW Washington Street
Suite D
Peoria, Illinois 61602

In response to the request for authorization to continue operation of the metal part coating line in violation of the applicable requirements of 35 Ill. Adm. Code 215.204 and 215.205(b) or 215.205(c) in the event of a malfunction or breakdown of the regenerative thermal oxidizer, the Illinois EPA has determined that this request did not meet the Standards for Granting Permission to Operate During a Malfunction, Breakdown or Startup pursuant to 35 Ill. Adm. Code 201.262. The request for such authorization did not contain proof to the Illinois EPA that: such continued operation is necessary to prevent injury to persons or severe damage to equipment; or that such continued operation is required to provide essential services; provided, however, that continued operation solely for the economic benefit of the owner or operator shall not be a sufficient reason for granting of permission.

Please note, the heat treating furnace from Construction Permit No. 14080006 has been added to this FESOP as requested by the Permittee.

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If you have any questions on this, please call Randy Solomon at 217/785-1705.

Raymond E. Pilapil
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

REP:RBS:psj

cc: Illinois EPA Region 2
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the Job Shop Electroplating Facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, (e.g., 100 tons/year for VOM, 10 tons/year for any single HAP, and 25 tons/year for any combination of such HAP) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

| <u>Emission Unit</u> | E M I S S I O N S (Tons/Year) | | | | | | <u>Single HAP</u> | <u>Combined HAPs</u> |
|---|-------------------------------|-----------------------|-----------|-----------------------|------------|--|-------------------|----------------------|
| | <u>CO</u> | <u>NO_x</u> | <u>PM</u> | <u>SO₂</u> | <u>VOM</u> | | | |
| Coating Line with a 9.10 mmBtu/hour Natural Gas-Fired Oven controlled by a Regenerative Thermal Oxidizer (RTO) | 5.04 | 6.0 | 0.46 | | 0.33 | | 4.1 | 8.19 |
| 3 Zinc/Chromate Electroplating Lines | | | 1.32 | | | | 5.40* | 5.84*, ** |
| Phosphate Conversion Coating Line | | | 0.44 | | | | 3.50* | 5.40 |
| Five Heat Treating Furnaces (Combustion) Quench Oil/Heat Treating Process | 17.64 | 21 | 1.6 | 0.13 | 1.16 | | | |
| Wastewater Pretreatment System | | | 1.76 | | 78.00 | | 0.44* | 0.88*, ** |
| 3 Chromate Plating Lines | ---- | ---- | 1.32 | ---- | ---- | | 0.44** | 0.44 |
| Totals | 22.68 | 27 | 6.90 | 0.13 | 95.59 | | 9.34 | 20.75 |

* Hydrogen Chloride (HCl)

** Chromium Compounds

Attachment B - Table 1 to Subpart W of Part 63—Applicability of General Provisions to Plating and Polishing Area Sources

As required in 40 CFR 63.11510, "What General Provisions apply to this subpart?", you must meet each requirement in the following table that applies to you.

| Citation | Subject |
|---|---|
| 63.1 ¹ | Applicability. |
| 63.2 | Definitions. |
| 63.3 | Units and abbreviations. |
| 63.4 | Prohibited activities. |
| 63.6(a), (b)(1)-(b)(5), (c)(1), (c)(2), (c)(5), and (j) | Compliance with standards and maintenance requirements. |
| 63.10(a), (b)(1), (b)(2)(i)-(iii), (xiv), (b)(3), (d)(1), (f) | Recordkeeping and reporting. |
| 63.12 | State authority and delegations. |
| 63.13 | Addresses of State air pollution control agencies and EPA regional offices. |
| 63.14 | Incorporation by reference. |
| 63.15 | Availability of information and confidentiality. |

¹ 40 CFR 63.11505(e), "What parts of my plant does this subpart cover?", exempts affected sources from the obligation to obtain Title V operating permits.