

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
RENEWAL

PERMITTEE

National Manufacturing Co.
Attn: Michael King
One First Avenue
Sterling, Illinois 61018

<u>Application No.:</u> 73021262	<u>I.D. No.:</u> 195050ABP
<u>Applicant's Designation:</u> PLATER4979	<u>Date Received:</u> October 29, 1999
<u>Subject:</u> Metal Parts Manufacturing and Finishing	
<u>Date Issued:</u> May 22, 2000	<u>Expiration Date:</u> May 22, 2005
<u>Location:</u> One First Avenue, Sterling	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of Nickel electroplating operations and associated equipment, brass electroplating operations and associated equipment, decorative chrome electroplating operations and associated equipment, bronze electroplating operations and associated equipment, copper plating operations and associated equipment, zinc plating operations and associated equipment, heat treat oven for zinc-plated components, two (2) paint hook burn-off ovens each controlled by afterburner, four (4) coatings lines, die casting operations, boiler, and tumbler controlled by filter 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., any single HAP to less than 10 tons/year and total HAPs to less than 25 tons/year). As a result the source is excluded from the requirement 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 issuance, a draft of this permit has undergone a public notice and comment period.
 - c. This permit supersedes all operating permits issued for this location.
2. This decorative chrome electroplating facility is subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) for chromium emissions from decorative chromium electroplating tanks, 40 CFR 63, Subparts A and N. The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

3. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
4. This permit is issued based on the Permittee not having to comply with the limitations of 35 Ill. Adm. Code 215.204, because of the exemption in 35 Ill. Adm. Code 215.206(a).
5. Emissions of VOM resulting from the usage of coatings, cleanup solvents, and lacquer shall not exceed the following limits:

<u>Material</u>	VOM Emissions	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Coatings	1.3	12.2
Cleanup Solvents	0.6	5.4
Lacquer	<u>0.8</u>	<u>7.3</u>
Total:	2.7	24.9

These limits are based on the maximum usage of coatings, cleanup solvents, and lacquers, and the compliance procedures described in Condition 6. Compliance with these annual VOM limits shall be determined from a running total of 12 months of data.

6. The VOM and HAP content of lacquer recovered and shipped offsite shall be determined by USEPA Method 24. Refer to 40 CFR 60, Appendix A for the test procedure. A representative sample shall be tested each time material is shipped offsite.
7. The emission limitations in Conditions 3 and 5 shall be determined by the recordkeeping requirements in Condition 12 and by the emission factors and formulas listed below:

- a. To determine VOM and HAP emissions resulting from the usage of coatings, the following formula shall be used:

$$Ec = \sum_{i=1}^n UC_i CC_i$$

Where:

Ec = Emissions resulting from the usage of coatings (tons).

i = Subscript denoting a specific coating applied.

n = Total number of coatings applied.

Uc_i = Usage of each coating applied (tons).

Cc_i = The VOM or HAP content of each coating as applied (% weight). This value shall be determined from manufacturers data.

- b. To determine VOM emissions resulting from the usage of cleanup solvents, the following formula shall be used:

$$Es = \sum_{i=1}^n Us_i Cs_i$$

Where:

Es = Emissions resulting from the usage of solvents (tons).

i = Subscript denoting a specific solvent.

n = Total number of solvents used.

Us_i = Usage of each solvent (tons).

Cs_i = The VOM or HAP content of each solvent (% weight). This value shall be determined from manufacturers data.

- c. To determine VOM emissions resulting from the usage of lacquer, the following formula shall be used:

$$El = \sum_{i=1}^n Ul_i Cl_i - \sum_{j=1}^m Rl_j Cr_j$$

Where:

El = Emissions resulting from the usage of lacquer (tons).

i = Subscript denoting a specific lacquer.

n = Total number of lacquers used.

Ul_i = Usage of each lacquer (tons).

Cl_i = The VOM or HAP content of each lacquer (% weight).

j = Subscript denoting a specific lacquer recovered and shipped offsite.

m = Total number of lacquers recovered and shipped offsite.

R_{lj} = Amount of each lacquer recovered and shipped offsite.

Cr_i = VOM or HAP content of each lacquer recovered and shipped offsite, as determined by the testing procedure described in Condition 6 (% weight).

8. The Permittee shall keep, store, and dispose all VOM containing materials in closed containers.
9. This permit is issued based on negligible emissions of particulate matter from the following units:

Process Tanks Used for Nickel Electroplating Operations
 Process Tanks Used for Brass Electroplating Operations
 Process Tanks Used for Bronze Electroplating Operations
 Process Tanks Used for Copper Plating Operations
 Process Tanks Used for Zinc Plating Operations
 Heat Treat Oven for Zinc-Plated Components
 Two (2) Paint Hook Burn-Off Ovens Each Controlled by Afterburner
 Each Unit Used for Die Casting Operations
 Boiler
 Tumbler Controlled by Filter

For this purpose, the emissions shall not exceed nominal emission rates of 0.2 lb/hr and 0.88 tons/yr.

10. Pursuant to 35 Ill. Adm. Code 214.303, emissions of sulfuric acid from any process shall not exceed 0.1 lb/hr.
11. Emissions and operations of the following natural gas combustion equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Maximum Firing Rate (mmBtu/Hr)</u>	<u>NO_x Emissions</u>		<u>CO Emissions</u>	
		<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
Boiler	15.0	1.48	6.49	1.24	5.43
Heat Treat Oven for Zinc Plated Components	0.4	0.04	0.18	0.04	0.18

These limits are based on the maximum firing rate of the fuel combustion equipment and AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

12. Compliance with Condition 11 is assumed to be achieved by the normal work practices and maintenance activities inherent in operation of the natural gas combustion equipment.

- 13a. Material insulated with polyvinyl chloride or asbestos, or scrap containing the fuming metals tin, zinc, or lead shall not be charged to either of the paint hook burn-off ovens controlled by afterburner.
- b. The afterburner shall be heated to an operating temperature of 1400EF before charging and this temperature shall be maintained during operation.
- c. The oven shall be equipped with afterburner temperature indicators.
14. The Permittee shall maintain monthly records of the following items:
 - a. Usage of coatings (ton/mo and ton/yr).
 - b. VOM and HAP content of all coatings used (% weight).
 - c. Emissions of VOM resulting from coatings usage (ton/mo and ton/yr).
 - d. Usage of cleanup solvents (ton/mo and ton/yr).
 - e. VOM and HAP content of all cleanup solvents used (% weight).
 - f. Emissions of VOM resulting from cleanup solvent usage (ton/mo and ton/yr).
 - g. Usage of lacquer (ton/mo and ton/yr).
 - h. VOM and HAP content of all lacquers used (% weight).
 - i. Amount of lacquer recovered and shipped offsite (ton/mo and ton/yr).
 - j. VOM and HAP content of any lacquers recovered and shipped offsite (% weight).
 - k. Emissions of VOM resulting from lacquer usage (ton/mo and ton/yr).
 - l. Emissions of each HAP (ton/mo and ton/yr).
 - m. Emissions of total HAPs (ton/mo and ton/yr).

Conditions 15 - 20 apply to the decorative chrome plating operations.

15. This permit is issued based upon the facility using a fume suppressant wetting agent at all times while conducting decorative chromium electroplating. Surface tension during chromium tank operation shall not exceed 45 dynes/cm pursuant to 40 CFR 63.342. This limit is based on Maximum Achievable Control Technology (MACT) control performance

standard for decorative chromium electroplating tank(s). Compliance with this limit shall be determined from ongoing compliance monitoring requirements pursuant to 40 CFR 63.342 and 63.343, as required by conditions of this permit.

16. Pursuant to 40 CFR 63.342(f), the Permittee shall implement the work practice requirements for the decorative chrome electroplating tanks(s). The work practice standard shall address at least the following:
 - a. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment in a manner consistent with good air pollution control practices, consistent with the operation and maintenance plan.
 - b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.
 - c. Operation and maintenance requirements established pursuant to section 112 of the Clean Air Act are enforceable independent of emissions limitations or other requirements in relevant standards.
 - d. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Illinois EPA, which may include, but is not limited to, monitoring results (taken with a stalagmometer or equivalent instrument); review of the operation and maintenance plan; procedures; records; and inspection of the source.
17. Pursuant to 40 CFR 63.342(f)(3), the Permittee shall develop and implement an operation and maintenance (O & M) Plan.
 - a. The plan shall specify the operation and maintenance criteria for the affected source, the process and control system monitoring equipment (stalagmometer or equivalent unit), and shall include a standardized checklist to document the operation and maintenance of this equipment.
 - b. For sources using monitoring equipment to comply with the O and M plan the plan shall incorporate the work practice standards for the monitoring equipment.
 - c. The plan shall specify procedures to be followed to ensure that fume suppressant wetting agent malfunctions due to poor maintenance or other preventable conditions do not occur.

- d. The plan shall include a systematic procedure for identifying malfunctions of process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.
 - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
 - f. The description of the fume suppressant wetting agent in use.
 - g. Purchase records listing the type, amount and dates the fume suppressant wetting agent was purchased.
 - h. The operating information for fume suppressant wetting agent listing the date, time, and amount used, the hours of operation including startup and shutdown times.
18. The decorative chrome electroplating tank shall have the surface tension monitored according to the following schedule:
- a. The surface tension shall be measured once every four hours during operation of the tank with a stalagmometer or a tensiometer as specified in Method 306B.
 - b. If there are no exceedances of the maximum surface tension after 40 hours of continuous operation, then the monitoring frequency can be decreased to once every 8 hours. If there are no exceedances for the next 40 hours of continuous operation, then the frequency can be decreased to once every 40 hours. If an exceedance or shutdown occurs after that, then the initial monitoring schedule (every four hours) must be resumed.
- 19a. The Permittee shall prepare an ongoing compliance status report every year which is retained on site and made available to the Illinois EPA upon request.
- b. The ongoing compliance report shall contain the following:
 - i. The company name and address of the affected source.
 - ii. An identification of the operating parameter that is monitored for compliance determination.

- iii. The relevant emission limitation (i.e. surface tension in dynes/cm for the source), and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of compliance status.
 - iv. The beginning and ending dates of the reporting period.
 - v. A description of the type of process performed in the source.
 - vi. The total operating time of the affected source during the reporting period.
 - vii. A certification by a responsible official that the work practice standards were followed in accordance with the operation and maintenance plan for the source.
 - viii. If the operation and maintenance plan was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any parameter monitoring exceedances are believed to have occurred, and a copy of the report(s) documenting that the operation and maintenance plan was not followed.
 - ix. A description of any changes in monitoring processes, or controls since the last reporting period.
 - x. The name, title, and signature of the responsible official who is certifying the accuracy of the report.
 - xi. The date of the report.
- c. The Permittee may use applicable standard operating procedure (SOP) manuals, or Occupational Safety and Health Administration (OSHA) plans, provided the alternative plans meet the requirements of this section.
 - d. If there is an exceedance of the requirements of this permit as determined by the record required by this permit, the Permittee shall submit a report to the Illinois EPA Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
 - e. The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Illinois EPA for the life of the affected source or until the source is no longer subject to the provisions of this Subpart. In addition, if the operation and

maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the Illinois EPA for a period of 5 years after each revision to the plan.

20. The Permittee shall keep the following records, pursuant to 40 CFR 63.346, to demonstrate continuous compliance monitoring requirement for the chrome plating process:
 - a. Records of all maintenance performed on the affected source, the fume suppressant wetting agent and monitoring equipment.
 - b. Records of the occurrence, duration, and cause (if known) of each malfunction of process, fume suppressant wetting agent and monitoring equipment.
 - c. Records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan.
 - d. Records, which may take the form of checklists, necessary to demonstrate consistency with the operation and maintenance plan required by 40 CFR 63.342(f)(3).
 - e. Records of monitoring data required by 40 CFR 63.343 that are used to demonstrate compliance with the standard including the date and time the data are collected.
 - f. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process or monitoring equipment.
 - g. The specific identification (i.e., the date and time of commencement).
 - h. The total process operating time of the affected chrome plating tank(s) during the reporting period;
 - i. Records of the date and time that fume suppressant wetting agents are added to the bath.
 - j. All documentation supporting the notifications and reports required by 40 CFR 63.9, 63.10 and 63.347.
 - k. These records shall be maintained for a period of five years, pursuant to 63.10(b)(1).

21. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three 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) 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.
22. If there is an exceedance of 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 exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
23. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system 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
5415 North University
Peoria, Illinois 61614

24. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: usage of all VOM containing material.

It should be noted that the following equipment is exempt from state permitting requirements:

Indirect Fuel Combustion Emission Sources Less than 10 mmBtu/hr	35 Ill. Adm. Code 201.146(d)
Drying Ovens and Parts Washers Less than 10 mmBtu/hr	35 Ill. Adm. Code 201.146(fff)

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Equipment Used for Buffing, Surface
Grinding, or Sawing Plastic, Metal,
or Wood Controlled by Filters

35 Ill. Adm. Code 201.146(aa)

It should also be noted that this permit has been revised to show the removal
of the following equipment:

Zinc Rack I
Cyclemaster Plating Machine
Waste Treatment Sludge Dryer
Nickel Stripping
Galvanize Oven
Incinerator
Nickle-Brass Machine

If you have any questions on this, please call Nathan Frank at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:NAF:jar

cc: Illinois EPA, FOS Region 2
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from metal parts manufacturing plant 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 well below the levels, e.g., 10 tons per year of any single HAP or 25 tons per year of all HAPs combined 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.

1. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
2. Emissions of VOM resulting from the usage of coatings, cleanup solvents, and lacquer shall not exceed the following limits:

<u>Material</u>	<u>VOM Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Coatings	1.3	12.2
Cleanup Solvents	0.6	5.4
Lacquer	<u>0.8</u>	<u>7.3</u>
Total:	2.7	24.9

3. This permit is issued based on negligible emissions of particulate matter from the following units:

- Each Process Tank Used for Nickel Electroplating Operations
- Each Process Tank Used for Brass Electroplating Operations
- Each Process Tank Used for Bronze Electroplating Operations
- Each Process Tank Used for Copper Plating Operations
- Each Process Tank Used for Zinc Plating Operations
- Heat Treat Oven for Zinc-Plated Components
- Two (2) Paint Hook Burn-Off Ovens Each Controlled by Afterburner
- Each Unit Used for Die Casting Operations
- Boiler
- Tumbler Controlled by Filter

For this purpose, the emissions shall not exceed nominal emission rates of 0.2 lb/hr and 0.88 tons/yr.

4. Emissions and operations of the following natural gas combustion equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Maximum Firing Rate (mmBtu/Hr)</u>	<u>NO_x Emissions</u>		<u>CO Emissions</u>	
		<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
Boiler	15.0	1.48	6.49	1.24	5.43
Heat Treat Oven	0.4	0.04	0.18	0.04	0.18

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