217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
NESHAP SOURCE

PERMITTEE

P & H Plating Company
Attn: Jeff Pytlarz
3416 West Belmont Avenue
Chicago, Illinois 60618

Application No.: 73060369 I.D. No.: 031600DDW
Applicant's Designation: Date Received: March 11, 2002
Subject: Vapor Degreaser and Electroplating
Date Issued: Expiration Date:
Location: 3416 West Belmont Avenue, Chicago, 60618

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of 2 trivalent chromium electroplating tanks, an open top batch vapor degreaser, two copper, 6 nickel, 6 zinc and 1 black oxide electroplating lines, 12 caustic cleaning tanks and 9 HCl acid cleaning tanks, 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., 10 tons per year for each single hazardous air pollutant (HAP) and 25 tons per year for all HAPs combined). 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.

2a. Emissions and operation of the open top batch vapor degreaser, including all clean-up operations at the plant shall not exceed the following limits:

Trichloroethylene Usage		Volatile Organic Material (VOM) and HAP Emissions	
(Tons/Month)	(Tons/Year)	(Tons/Month)	(Tons/Year)
0.6	5.5	0.6	5.5

These limits are based on maximum solvent usage (trichloroethylene), operating hours and material balance. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Emissions and operation of 9 HCL cleaning tanks shall not exceed the following limits:

HCL Usage (Tons/Month)	HCL Usage (Tons/Year)	Concentration (Wt. %)	HAP Emissions (Tons/Month)	HAP Emissions (Tons/Year)
30	360	31.5	0.6	5.7

These limits are based on emission factor of 5%. Compliance with annual limits shall be determined from a running total of 12 months of data.

c. This permit is issued based on negligible emissions of hazardous air pollutants (HAPs) from 6 nickel electroplating tanks and 2 trivalent chromium electroplating tanks. For this reason, emissions from each tank shall not exceed nominal rates of 0.1 lb/hour and 0.44 tons/year for a total of 3.5 tons/year.

d. This permit is issued based on negligible emissions of particulate matter (PM) from 12 caustic cleaning tanks, 2 copper and 1 black oxide electroplating tanks. For this purpose emissions from tank, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr for a total of 6.6 tons/year.

3a. The halogenated solvent cleaning machine(s) are subject to 40 CFR part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement. The United States EPA issued this final rule on December 2, 1994.

b. The Permittee must be in compliance with 40 CFR Part 63, Subpart T - National Emissions Standards for Halogenated Solvent Cleaning on or before December 2, 1994 or immediately upon startup whichever is later.

4a. For determination of compliance with the limits of this permit, solvent usage shall be determined by the following equation:

$$U = V - (W \times P)$$

Where:

U = Solvent usage for compliance determinations (gallons).

V = Virgin solvent[A] added to the solvent cleaning machines (gallons), as determined by daily addition log sheets.

W = Waste solvent[B] removed from the solvent cleaning machines and sent off-site for reclamation or disposal, as determined by monthly manifests.

P = Percent concentration of solvent in waste, as determined by analysis/testing[C].

[A] For purposes of this permit, virgin solvent is defined as unused solvent.

[B] For purposes of this permit, waste solvent is defined as used solvent.

[C] The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

Emissions = Solvent Usage (U) x Solvent Density
(lbs/month) = (gallon/month) x (lbs/gallon)

5. Each solvent cleaning machine must meet the following base design requirements, pursuant to 40 CFR, Part 63.463.

a. Each solvent cleaning machine must be equipped with an idling or downtime mode cover that completely covers the machine openings. The cover must be periodically inspected to ensure that it remains free of cracks, holes, and other defects. The cover must be closed at all times except during the cleaning, solvent removal, maintenance and monitoring of the degreasers.

b. A freeboard ratio of 0.75 or greater must be maintained for each solvent cleaning machine.

c. Each solvent cleaning machine must have an automated parts handling system that handles parts from initial loading to removal of cleaned parts. If the Permittee wants to use manual hoist, the Permittee must demonstrate to the Illinois EPA that the hoist can never exceed 11 feet per minute.

d. Each solvent cleaning machine must be equipped with a liquid and vapor level control device(s) that shuts off the sump heat if the sump liquid level drops to the sump heater coils or the vapor level rises above the height of the primary condenser and such device(s) must be operational at all times.

e. Each solvent cleaning machine must be equipped with a primary condenser to provide continuous condensation or rising solvent vapors and to create a controlled vapor zone.

f. Each solvent cleaning machine with lip exhaust control must be controlled by a carbon adsorption unit.

6. The Permittee shall comply with the following work and operational practice, requirements and post in the work place a one page summary of work practices, pursuant to 40 CFR Part 63.463(d).

   a. Conduct maintenance as per manufacturer's recommendation to ensure that each solvent cleaning machine works properly. Any alternative maintenance practice must be approved by the USEPA.

   b. Each solvent cleaning machine shall be covered to minimize air disturbances in the machine and the room at all times except during the cleaning, removal of solvent, maintenance and monitoring. If a cover cannot be used, air disturbances shall be controlled by Reduced Room Draft. Room draft shall not exceed 50 feet/minute.

   c. i. A speed of 3 feet/minute or less shall be maintained between entry and removal of parts basket or parts.

      or

      ii. Parts basket or parts size shall be less or equal to 50% of the solvent air interface area.

   d. If cleaning operation involves spraying, spraying must be performed within the vapor zone (i.e., a baffled or enclosed area of the solvent cleaning machine).

   e. The Permittee must ensure that parts or parts basket are positioned so that solvent drains freely and parts basket or parts are not removed from the machine until parts are clean and solvent dripping has stopped.

   f. During the startup, the Permittee must turn on the primary condenser prior to turning on the sump pump and during shutdown, turn off the sump heater prior to turning off the primary condenser.

   g. The Permittee must add and remove solvent with leak-proof couplings. The end of the pipe or hose introducing or withdrawing the solvent be located beneath the liquid solvent surface (i.e., submerged filling) in the sump.

   h. The Permittee must collect and store the waste solvent, still bottoms, and sump bottoms in a closed container. Absorbent materials such as sponges, fabric, wood, and paper products shall not be cleaned.

   i. Each operator of a solvent cleaning operation must be ready to take and pass an Operator Test at any time during the normal operation of the plant.

7. Each machine must meet the following control combination (Dwell, Super Heated Vapor, Working-Mode Cover, Freeboard Ratio of 1.0 and Reduced Room Draft) requirements, pursuant to 40 CFR Part 63.463:

   a. For Reduced Room Draft (RRD), windspeed in room or within enclosure must be less than or equal to 50 feet/minute.

      i. If windspeed in room is maintained by controlling room conditions, an initial test and a quarterly test shall be conducted to establish room condition. Also, room condition must be reestablished immediately if condition change. The Permittee shall monitor room condition every week.

      ii. If windspeed in room is maintained by using a enclosure, an initial and a monthly test shall be conducted to measure windspeed in enclosure. Also, windspeed in the enclosure must be remeasured immediately if condition change. The Permittee shall inspect condition of enclosure every month.

   b. i. The Permittee shall ensure and obtain certification from the manufacturer that the freeboard height is greater than or equal to the width of the interior freeboard. Freeboard ratio shall be determined by dividing the height of freeboard to the smallest interior freeboard width. If the freeboard ratio is less than 1.0 , the Permittee shall immediately correct the freeboard ratio.

      ii. Record of Freeboard Ratio and any modification to the Freeboard Ratio.

   c. i. For Superheated Vapor System (SVS), solvent vapor at the center of the superheated vapor zone shall be heated to 198°F while using trichloroethylene.

      ii. The temperature measurement shall be conducted on weekly basis at the center of the superheated vapor zone while the machine is idling. The temperature at the center of the Super-heated vapor zone can be measured by attaching a thermometer or thermocouple to the hoist hook or parts basket and then introducing it into the center of the Super-heated vapor zone of the machine. The Permittee shall ensure that parts stay in the superheated vapor zone for the manufacturer's recommended dwell time.

      iii. Record the temperature measurement of the superheated vapor.

8a. The Permittee shall comply with the following monitoring procedures requirements, pursuant to 40 CFR Part 63.466.

i. The Permittee shall conduct an initial monitoring test of the windspeed and of room parameters, quarterly monitoring of windspeed, and weekly monitoring of room parameters as per following procedures, pursuant to 40 CFR Part 63.466(d).

A. Measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine using the following procedure.

1. Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.

2. Orient a velometer in the direction of the wind current at each of the four corners of the machine.

3. Record the reading for each corner.

4. Average the values obtained at each corner and record the average wind speed.

B. Monitor on a weekly basis the room parameters established during the initial compliance test that are used to achieve the reduced room draft.

C. If an enclosure (full or partial) is used to achieve a reduced room draft, the owner or operator shall conduct an initial monitoring test and thereafter, monthly monitoring tests of the windspeed within the enclosure using the procedure specified above and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

1. Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located.

2. Record the maximum wind speed.

ii. The Permittee shall conduct monitoring and record the results on a weekly basis for superheated vapor system, pursuant to 40 CFR Part 63.466(a)(2). A thermometer or thermo couple shall be used to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode.

b. The Permittee shall comply with the following monitoring procedures, pursuant to 40 CFR Part 63.466(c).

i. The Permittee shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).

ii. The monitoring shall be conducted monthly. If after the first year no exceedances of the hoist speed are measured the Permittee may begin monitoring the hoist speed quarterly.

iii. If an exceedance of the hoist speed occurs during quarterly monitoring the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.

iv. If the Permittee can demonstrate to the Illinois EPA's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 11 feet per minute, the required monitoring frequency is quarterly, including during the first year of compliance.

9a. The Permittee shall retain the following records on paper or computer disk for the lifetime of the solvent cleaning machine, pursuant to 40 CFR Part 63.467(a):

i. An owners manual or a written maintenance and operating procedure for each machine and each piece of control equipment.

ii. The installation date of each machine. If installation date isn't available, a letter certifying that machine was installed prior to or on or after November 29, 1993, to determine compliance option for existing or new source.

iii. Records of the halogenated HAP solvent content of each solvent used in each solvent cleaning machine.

iv. Record of the test to determine an appropriate dwell time for each part or parts basket.

b. The Permittee shall retain the following records in electronic or written form for a period of 5 years, pursuant to 40 CFR Part 63.467(b).

i. The results of control device monitoring required under 40 CFR Part 63.466.

A. The Permittee shall keep weekly record of room condition and windspeed.

B. The Permittee shall keep monthly enclosure inspection results and windspeed measurement.

C. Record of freeboard ratio and any modification to the freeboard ratio.

D. Record of weekly temperature measurement of the superheated vapor.

ii. Estimates of annual solvent consumption for each solvent cleaning machine.

10. The Permittee shall comply with the following reporting requirements, pursuant to 40 CFR Part 63.468:

a. An initial statement of compliance report demonstrating each machine is in compliance must be submitted no later than 150 days after startup. The initial compliance report shall include the following:

   i. Name and address.

   ii. Facility location address.

   iii. A list of control equipment (i.e., FRD, RRD) used on each machine to comply with the rule.

   iv. For each piece of control equipment required to be monitored, a list of the parameters that are monitored and the values of these parameters measured on or during the first month after the compliance date.

   v. For RRD, the weekly record of room temperature and windspeed or monthly enclosure inspection results and windspeed measurement.

b. An annual compliance report must be submitted by February 1, of the year following the year the report covers. The compliance report shall include the following:

   i. A statement, signed by the owner or operator or someone designate, stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required by 40 CFR 63.463(d)(10)."

   ii. Solvent consumption and HAP emissions for each machine in lb/month and ton/year, for the reporting period.

c. An exceedance report shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance. If an exceedance did not occur the report would consist of a statement certifying that there were no exceedances. The frequency of the exceedance report will increase to quarterly after an exceedance occurs. The quarterly exceedance report shall include the following:

   i. Information on the actions taken to comply with 40 CFR Part 63.463(e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.

   ii. If an exceedance has occurred, the reason for the exceedance and a description of the actions taken.

iii. If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

d. The Permittee shall submit an exceedance report 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.

11a. The 2 trivalent decorative chromium electroplating tanks are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for chromium emissions, Subpart N, 40 CFR 63.346(b)(14) and 63.347(i) for recordkeeping and reporting requirements. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement.

b. The Permittee shall incorporate a wetting agent as a trivalent chromium bath ingredient.

c. The Permittee shall retain the records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components, pursuant to 40 CFR 63.346(14).

12. This permit is issued based upon the facility conducting chromium, nickel, zinc, black oxide, and copper electroplating. Any additional metal other than previously permitted will require a revised permit.

13. The Permittee shall maintain records of the following items:

a. HCl acid and concentration (ton/mo, ton/yr, and wt. %); and

b. HCl emission calculations (ton/mo, ton/yr).

14. 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.

15. 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.

16. 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.

17. 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
9511 West Harrison
Des Plaines, Illinois 60016

18. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Solvent usage and density for vapor degreaser (gal/yr and lb/gal); and HCl usage and concentration (tons/yr and wt. %).

Please note that the 2 boilers, 2 air make-up units and drying oven are exempt from permitting requirements pursuant to 35 Ill. Adm. Code 201.146(d) and (fff), respectively.

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

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

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cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the 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. This is using 5.5 tons per year of trichloroethylene and 300 tons per year of HCl acid. The resulting maximum emissions are well below the levels, e.g., 10 tons per year for a single HAP and 25 tons per year for combined HAPs 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.

1a. Emissions and operation of the open top batch vapor degreaser, including all clean-up operations at the plant shall not exceed the following limits:

Trichloroethylene Usage		Volatile Organic Material (VOM) and HAP Emissions	
(Tons/Month)	(Tons/Year)	(Tons/Month)	(Tons/Year)
0.6	5.5	0.6	5.5

These limits are based on maximum solvent usage (trichloroethylene), operating hours and material balance. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Emissions and operation of 9 HCL cleaning tanks shall not exceed the following limits:

HCL Usage		Concentration	HAP Emissions	
(Tons/Month)	(Tons/Year)	(Wt. %)	(Tons/Month)	(Tons/Year)
30	360	31.5	0.6	5.7

These limits are based on emission factor of 5%. Compliance with annual limits shall be determined from a running total of 12 months of data.

c. This permit is issued based on negligible emissions of hazardous air pollutants (HAPs) from 6 nickel electroplating tanks and 2 trivalent chromium electroplating tanks. For this reason, emissions from each tank shall not exceed nominal rates of 0.1 lb/hour and 0.44 tons/year for a total of 3.5 tons/year.

d. This permit is issued based on negligible emissions of particulate matter (PM) from 12 caustic cleaning tanks, 2 copper and 1 black oxide electroplating tanks. For this purpose emissions from tank, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr for a total of 6.6 tons/year.

2. 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.

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