

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
NESHAP SOURCE -- RENEWAL

PERMITTEE

Nova Chrome, Inc.
Attn: Lynn Knoth
3200 North Wolf Road
Franklin Park, Illinois 60131

Application No.: 72100963 I.D. No.: 031096AIF
Applicant's Designation: IEPA-APR-011 Date Received: October 19, 2001
Subject: Hard Chrome Plating
Date Issued: Expiration Date:
Location: 3200 North Wolf Road, Franklin Park

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of 5 hard chrome plating tanks controlled by composite mesh pad/packed bed scrubber systems, oil dipping tank, solvent cleaning station, hydrogen embrittlement oven, and acid stripping tank controlled by scrubber pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This federally enforceable state operating permit is issued to limit the actual cumulative rectifier capacity from the hard chrome electroplating operation to less than 60 million Amp-hours per rolling 12 months. 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.
2. The 5 Hard Chrome Plating Tanks controlled by composite mesh pad/packed bed scrubber systems are subject to 40 CFR Part 63, Subpart N - National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement.
- 3a. Air pollution control equipment associated with a hard chrome electroplating tank(s) shall be operated at all times during tank operation, including periods of startup and shutdown.
- b. Hard chrome electroplating tank(s) shall not exceed the following limits, pursuant to 40 CFR 63.342(c)(1):

| Chromium Emissions | |
|--|------------------|
| <u>Hard Chromium Electroplating Tanks</u> | <u>(mg/dscm)</u> |
| 5 Existing Small Hard Chromium Electroplating Facility Tanks | 0.03 |

This limit is the National Emission Standards for Chromium Emissions from Hard Chromium Electroplating Tanks, 40 CFR Part 63, Subpart N and is based on the maximum cumulative actual rectifier capacity of the hard chrome electroplating tanks being LESS than 60 million ampere-hours per year. An electroplating tank(s) installed before December 16, 1993, is considered as existing tank(s). Compliance with this limit shall be determined from initial performance testing and ongoing compliance monitoring requirements.

- c. Failure to operate in accordance with the operating parameter value(s), determined during initial performance testing, shall be considered a violation of the above limit, pursuant to 40 CFR 63, Subpart N.
- 4. Emissions and operation of the solvent cleaning and oil dip tank shall not exceed the following limits:

| <u>Material</u> | <u>VOM Usage</u> | | <u>VOM Emissions</u> | |
|------------------|------------------|----------------|----------------------|------------------|
| | <u>(Lb/Mo)</u> | <u>(Lb/Yr)</u> | <u>(Lb/Mo)</u> | <u>(Tons/Yr)</u> |
| Clean-Up Solvent | 88 | 880 | 88 | 0.44 |

These limits are based on complete volatilization of the VOM and HAP contents of the materials, material VOM usage = material usage x material VOM content, and the information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 5. This permit is issued based on negligible emissions of particulate matter (PM) from the acid stripping tank with scrubber and hydrogen embrittlement oven. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- 6. This permit is issued based on negligible emissions of volatile organic material (VOM) from the oil dip tank. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
- 7. The operation and maintenance practices required by 40 CFR 63.342(f) shall be implemented for control systems used on hard chrome electroplating tanks, including:
 - a. A quarterly visual inspection of the composite mesh pad (CMP) system to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the devices.
 - b. A quarterly visual inspection of the back portion of the mesh pad closest to the fan to ensure that there is no breakthrough of chromic acid mist.

- c. A quarterly visual inspection of the duct work from the tank(s) to the control device(s) to ensure there are no leaks.
 - d. Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations.
- 8a. The Permittee shall develop and implement an operation and maintenance (O & M) plan for hard chrome electroplating tanks which shall include at least the following, pursuant to 40 CFR 63.342(f)(3):
- i. Description of the operation and maintenance criteria for the control device(s) and monitoring equipment.
 - ii. A checklist to document the operation and maintenance of the equipment.
 - iii. Required work practice standards, pursuant to 40 CFR 63.342(f) (Condition 2).
 - iv. Procedure to follow to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
 - v. Procedure for identifying malfunctions and for implementing corrective actions.
- b. The Permittee may use applicable Standard Operating Procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans or other existing plans as part of the operation and maintenance plan, provided the alternative plans meet the requirements of this Condition.
- 9a. Within 60 days of a written request from the Illinois EPA, the chromium emissions of the hard chrome electroplating tank(s) shall be tested to demonstrate compliance, pursuant to 40 CFR 63.343(b).
- b. The following test methods and procedures shall be used for performance testing, pursuant to 40 CFR 63.344(c): Refer to 40 CFR 63, Appendix A, for USEPA test methods.
- | | |
|---------------------------|--------------------------|
| Location of Sample Points | USEPA Method 1 |
| Gas Flow and Velocity | USEPA Method 2 |
| Chromium | USEPA Method 306 or 306A |
- c. At least thirty (30) days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review, pursuant to 40 CFR 63.344(a). This plan shall describe the specific procedures for testing, including as a minimum:
- i. The person(s) who will be performing sampling and analysis and their experience and qualifications with similar tests.

- ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum emissions, the levels of operating parameters at or within which compliance is intended to be shown, if applicable, and the means by which the operating parameters for the process and any control equipment will be determined.
 - iii. The specific determination of emissions and operations which are intended to be made, including sampling and monitoring locations.
 - iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods. The specific sampling, analytical, and quality control procedures which will be used, with an identification of the standard method upon which they are based.
 - v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - vi. Any proposed use of an alternative test method, with detailed justification.
 - vii. The format and content of the Source Test Report.
 - viii. A statement that the performance testing will be performed by a qualified independent testing service.
- d. Prior to carrying out these tests, the Illinois EPA shall be notified in writing a minimum of thirty (30) calendar days prior to the scheduled date of these tests with the exact date, time, and place of these tests, to enable the Illinois EPA to observe these tests, pursuant to 40 CFR 63.347(d)(1).

If the scheduled date for the test is changed for unforeseen reasons, the Permittee shall inform the Illinois EPA within five (5) working days of the originally scheduled test date and must specify the date of the rescheduled test. Observation of the performance test by the Illinois EPA is optional.

- e. The Permittee shall follow the procedures of 40 CFR 63.344(d) to establish site-specific operating parameter values.
- f. Three (3) copies of the Final Report(s) for performance tests and compliance status shall be submitted to the Illinois EPA within 90 calendar days after the performance test, pursuant to 40 CFR 63.347(f)(2) and 63.347(e)(3). The Final Report shall include, pursuant to 40 CFR 63.344(a):
 - i. General information, i.e., date of test, testing personnel and observers, if any.
 - ii. A summary of test results and compliance status.

- iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
 - iv. Detailed description of test conditions, including:
 - A. Process information, i.e., mode(s) of operation, process weight rate, e.g. raw material consumption, rectifier operating rate.
 - B. Sampling and analytical procedures and any modifications to standard procedures.
 - C. Control equipment record of:
 - 1. Pressure drop range across the system to demonstrate continuous compliance.
 - D. A discussion of any preparatory actions taken, i.e., standard preparation, inspections, maintenance, and repair.
 - E. A discussion of calibration procedures.
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
 - vi. An explanation of any discrepancies among individual tests or anomalous data.
 - vii. Quality assurance procedures and results.
 - viii. Any additional information required by the test method.
10. The Permittee shall keep the records required by 40 CFR 63.346(b) to demonstrate compliance, including the following:
- a. Records of monitoring data required by 40 CFR 63.343(c).
 - i. Pressure drop across the composite mesh-pad system, determined daily.
 - b. Inspection records for the control device and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of 40 CFR 63.342(f) have taken place. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection.

- c. Records of all maintenance performed on the hard chrome electroplating tanks, as related to emissions, the associated control system, and monitoring equipment.
- d. Records of the occurrence, duration, and cause (if known) of each malfunction of the hard chrome electroplating process, associated control system, and monitoring equipment.
- e. Records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan required by 40 CFR 63.342(f)(3), pursuant to 40 CFR 63.342(f)(3)(iv).
- f. Records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by 40 CFR 63.342(f)(3).
- g. Copies of test reports documenting results of all performance tests and all measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance with the special compliance procedures of 40 CFR 63.344(e).
- h. Records of monitoring data required by 40 CFR 63.343(c) that are used to demonstrate compliance with the standard including the date and time the data are collected.
- i. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data. Records of excess emissions that occurs during malfunction of the process, control, or monitoring equipment.
- j. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data. Records of excess emissions that occurs during periods other than malfunction of the hard chrome electroplating tanks and associated control device or monitoring equipment.
- k. Records for the total process operating time of the hard chrome electroplating tank(s) during the reporting period.
- l. Records demonstrating the maximum cumulative potential rectifier capacity, if hard chrome electroplating is less than 60 million ampere-hours per year, or of the actual cumulative rectifier capacity of hard chromium electroplating tank(s) at a facility expended during each month and the total capacity expended semiannually.

- m. Copies of the notifications and reports required by 40 CFR Parts 63.9, 63.10, and 63.347 (Conditions 9, 10, and 11), with supporting documentation.
 - n. All records shall be retained for a period of five years, pursuant to 40 CFR 63.10(b)(1).
11. The Permittee shall also maintain the following records:
- a. Name, Usage (gal/mo and gal/yr), VOM and HAP content (lb/gal or %wt), and VOM and HAP Emissions for the following materials:
 - i. Clean-up Solvents; and
 - ii. dip oil.
 - b. Name and amount of Acid Used in the stripping tank (gal/mo and gal/yr).
12. The Permittee shall comply with the compliance reporting requirements of 40 CFR 63.347(e), including the following:
- a. A notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the hard chrome electroplating tank(s) has complied with Subpart N, pursuant to 40 CFR 63.347(e)(2). The notification shall list the following:
 - i. The applicable emission limitation and the methods that were used to determine compliance with this limitation.
 - ii. The performance test report documenting the results of the performance test, which contains the elements required by 40 CFR 63.344(a), including measurements and calculations to support the special compliance provisions of 40 CFR 63.344(e) if these are being followed, pursuant to 40 CFR 63.344(e)(5).
 - iii. The type and quantity of hazardous air pollutants emitted by the source reported in mg/dscm or mg/hr if the source is using the special provisions of 40 CFR 63.344(e) to comply with the standards.
 - iv. The specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit, pursuant to 40 CFR 63.343(c).
 - v. The methods that will be used to determine continuous compliance.
 - vi. A description of the air pollution control technique for each emission point.

- vii. A statement that the Permittee has completed and has on file the operation and maintenance plan as required by the work practice standards of 40 CFR 63.342(f).
 - viii. If the Permittee is determining facility size based on actual cumulative rectifier capacity in accordance with 40 CFR 63.342(c)(2), records to support that the facility is small.
 - A. For existing sources, records from any 12-month period preceding the compliance date shall be used or a description of how operations will change to meet a small designation shall be provided.
- 13a. The Permittee shall prepare an ongoing compliance status report every year and retain the report on site, and make the report available to the Illinois EPA upon request, pursuant to 40 CFR 63.347(h). However, if both of the following conditions are met, semiannual reports shall be prepared and submitted to the Illinois EPA:
- i. The total duration of excess emissions (as indicated by the monitoring data) is 1 percent or greater of the total operating time for the reporting period; and
 - ii. The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is 5 percent or greater of the total operating time.
- b. The ongoing compliance status report shall contain the following:
- i. The company name and address of the source performing hard chrome electroplating.
 - ii. An identification of the operating parameter(s) that is monitored for compliance determination, as required by 40 CFR 63.343(c).
 - iii. The relevant emission limitation for the hard chrome electroplating tank(s), 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, as required by 40 CFR 63.347(e)(2).
 - iv. The beginning and ending dates of the reporting period.
 - v. A description of the type of process performed in the hard chrome electroplating tank(s).
 - vi. The total operating time of the hard chrome electroplating tank(s) during the reporting period.

- vii. The actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis, if the Permittee limits the maximum cumulative potential rectifier capacity less than 60 million amp-hr/yr.
 - viii. A summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes, and unknown causes.
 - ix. A certification by a responsible official that the work practice standards of 40 CFR 63.342(f) were followed in accordance with the operation and maintenance plan for the source.
 - x. If the operation and maintenance plan required by 40 CFR 63.342(f)(3) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission and/or parameter monitoring exceedances are believed to have occurred, and a copy of the report(s) required by 40 CFR 63.342(f)(3)(iv) documenting that the operation and maintenance plan was not followed.
 - xi. A description of any changes in monitoring, processes, or controls since the last reporting period.
 - xii. The name, title, and signature of the responsible official who is certifying the accuracy of the report.
 - xiii. The date of the report.
14. 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.
15. 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.

16. 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

17. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:
- a. Actual cumulative rectifier capacity for the previous 12 months (amp-hours).

It should be noted that the 2 heaters, buffing/polishing machine with cyclone, and glass bead blasting cabinet are exempt from state permitting pursuant to 35 Ill. Adm. Code 201.146(d), (aa), and (jj), respectively.

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

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

DES:EEJ:psj

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

Attachment A - Emission Summary

This attachment provides a summary of the emission limitations for the hard chrome plating 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. Actual emissions from this source will be less than predicted in this summary to the extent that chromium emissions is less than that required in this permit.

1. Hard chrome electroplating tank(s) shall not exceed the following limits, pursuant to 40 CFR 63.342(c)(1):

| Chromium Emissions | |
|--|------------------|
| <u>Hard Chromium Electroplating Tanks</u> | <u>(mg/dscm)</u> |
| 5 Existing Small Hard Chromium Electroplating Facility Tanks | 0.03 |

This limit is the National Emission Standards for Chromium Emissions from Hard Chromium Electroplating Tanks, 40 CFR Part 63, Subpart N and is based on the maximum cumulative actual rectifier capacity of the hard chrome electroplating tanks being LESS than 60 million ampere-hours per year. An electroplating tank(s) installed before December 16, 1993, is considered as existing tank(s). Compliance with this limit shall be determined from initial performance testing and ongoing compliance monitoring requirements.

2. Emissions and operation of the solvent cleaning and oil dip tank shall not exceed the following limits:

| <u>Material</u> | <u>VOM Usage</u> | | <u>VOM Emissions</u> | |
|------------------|------------------|----------------|----------------------|------------------|
| | <u>(Lb/Mo)</u> | <u>(Lb/Yr)</u> | <u>(Lb/Mo)</u> | <u>(Tons/Yr)</u> |
| Clean-Up Solvent | 88 | 880 | 88 | 0.44 |

These limits are based on complete volatilization of the VOM and HAP contents of the materials, material VOM usage = material usage x material VOM content, and the information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

3. This permit is issued based on negligible emissions of particulate matter (PM) from the acid stripping tank with scrubber and hydrogen embrittlement oven. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
4. This permit is issued based on negligible emissions of volatile organic material (VOM) from the oil dip tank. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.