

**AIR EMISSION PERMIT NO. 05300247- 001
IS ISSUED TO**

HARD CHROME INC.
2631 Second Street Northeast
Minneapolis, Hennepin County, MN 55418

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	March 14, 2000

This permit authorizes the permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal ; Part 70

Issue Date: MARCH 27, 2001

Expiration: MARCH 27, 2006

All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Major Facilities Section
Metro District

for Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. Certain requirements which have been determined not to apply are listed in Table A of this permit.

FACILITY DESCRIPTION:

The Hard Chrome facility is a "job shop" plating facility. The facility electroplates chrome, as well as zinc, nickel, and copper. Facility emission sources include three boilers, five plating tanks (four hard chrome tanks and one decorative chrome tank), and six acid tanks.

Pollutants of concern at this facility are particulate matter (PM), particulate matter less than 10 microns (PM10), chromium compounds and hydrochloric acid.

This facility utilizes a mesh pad mist elimination system to meet the requirements of the Hard Chrome Electroplating NESHAP. The facility also incorporates a sludge dryer where sludge

from the plating tanks is dried prior to off-site disposal. The sludge dryer has a venturi scrubber to capture particulates coming off the drying process.

The Permittee has committed to participate in the Strategic Goals Program (Metal Finishers Initiative) to reduce human exposure and nuisance effects from air releases, and has agreed to conduct site specific Screen 3 modeling to determine the ambient impacts of hexavalent chrome and hydrochloric acid.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item:	Total Facility
What to do	Why to do it
AIR TOXICS	hdr
The potential emissions rates of air toxics as reported in the permit application and accompanying materials are above the Screening Emission Rates (SERs) for hexavalent chrome and hydrochloric acid. The Permittee may conduct any of the iterative screening or remediation techniques from Section 5 of the "Air Emission Permit Writers Guide to Air Toxic Risk Evaluation" to better characterize HAP emissions or reduce the risk below SER levels.	Minn. R. 7007.0800, Subp. 2; Minn. Stat. 116.07, subd. 4a
The Permittee shall join and participate in the National Metal Finishers Strategic Goals Program. The objective of this program is to decrease releases from, and increase efficiency of metal finishers by reducing the quantities of hazardous chemicals, water and electricity used per product, and to more efficiently recycle remaining waste.	Minn. R. 7007.0800, Subp. 2; Minn. Stat. 116.07, subd. 4a
OPERATIONAL REQUIREMENTS	hdr
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. 7017; 40 CFR 63.343(b)
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
MONITORING REQUIREMENTS	hdr
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
REPORTING	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
MISCELLANEOUS REQUIREMENTS	hdr
The owner or operator of an existing area source that increases actual or potential emissions of HAPs such that the area source becomes a major source must comply with the provisions for existing major sources, including the reporting provisions of 40 CFR 63.347(g) immediately upon becoming a major source.	40 CFR 63.343(a)(3)
Notification of New and Reconstructed Sources: Notify the Administrator as soon as practicable before construction or reconstruction commences for any hard or decorative chromium electroplating units or facilities.	40 CFR 63.345
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: GP 001 Hard Chrome Plating Tanks**Associated Items:** EU 004 Hard Chrome Plating Tank 1a

EU 005 Hard Chrome Plating Tank 2a

EU 006 Hard Chrome Plating Tank 3a

EU 007 Hard Chrome Plating Tank 4a

What to do	Why to do it
PART 63 GENERAL PROVISIONS	hdr
General provisions of Part 63 applicable to Subpart N are provided in Table 1 to Subpart N of Part 63.	40 CFR 63
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies to each hard chrome plating tank individually.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Chromium compounds: less than or equal to 0.015 milligrams/DSCM of total chromium in the exhaust gas stream discharged to the atmosphere. This limit applies to each hard chrome plating tank individually.	40 CFR 63.342(c)(1)(i)
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
The Permittee shall operate the mesh pad mist elimination system at all times that the hard chrome plating tanks, EU004 to EU007 are operating.	40 CFR 63.342(c)(1)(i)
MONITORING TO DEMONSTRATE CONTINUOUS COMPLIANCE	hdr
The permittee shall monitor and record the mesh pad mist elimination system pressure drop at the mesh pad mist elimination system inlet at least once each day of operation.	40 CFR 63.343(c)(1)(ii)
Pressure Drop: greater than or equal to 4 inches of water column and less than or equal to 6 inches of water column measured at the mesh pad mist elimination system inlet.	40 CFR 63.343(c)(1)(ii)
WORK PRACTICE STANDARDS	hdr
The permittee is subject to the Work Practice Standards of 40 CFR Part 63.342(f). The Work Practice Standards of 40 CFR Part 63.342(f), current as of permit issuance, are included below.	40 CFR 63.342 (f)
At all times, including periods of startup, shutdown, and malfunction, owners and operators 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 (O&M) plan required by 40 CFR 63.342(f)(3).	40 CFR 63.342(f)(1)(i)
Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the O&M plan required by 40 CFR 63.342(f)(3).	40 CFR 63.342(f)(1)(ii)
Operation and maintenance requirements established pursuant to to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.	40 CFR 63.342(f)(1)(iii)
Determination of whether acceptable O&M procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.	40 CFR 63.342(f)(2)(i)
Based on the results of a determination made under 40 CFR 63.342(f)(2)(i), the Administrator may require that the permittee make changes to the operation and maintenance plan required by 40 CFR 63.342(f)(3). Revisions may be required if the Administrator finds that the plan: (A) does not address a malfunction that has occurred; (B) fails to provide for the operation of the source, the air pollution control techniques, or the control system or the process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or (C) does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as possible.	40 CFR 63.342(f)(2)(ii)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Prepare an O&M plan within 30 days if not completed at the time of permit issuance. The plan shall include the following elements: (A) the plan shall specify the O&M criteria for the unit, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the O&M of the unit; (B) the plan shall incorporate the work practice standards for any air pollution control or monitoring equipment; (C) proposed work practice standards for any air pollution control device or monitoring equipment not listed in 40 CFR 63.342 Table 1; (D) procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and (E) a systematic procedure for identifying malfunctions of process equipment, air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.	40 CFR 63.342(f)(3)(i)
If the O&M plan fails to address an event that meets the characteristics of a malfunction at the time the plan is developed, the permittee shall revise the O&M plan within 45 days after such an event occurs.	40 CFR 63.342(f)(3)(ii)
Recordkeeping associated with the O&M plan is identified in 40 CFR 63.346(b). Reporting associated with the O&M plan is identified in 40 CFR 63.347(g) and (h) and 40 CFR 63.342(f)(3)(iv).	40 CFR 63.342(f)(3)(iii)
If action taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the O&M plan, the permittee shall record the actions taken for that event and shall report by phone such actions within two working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within seven working days after the end of the event, unless the permittee makes alternate reporting arrangements with the Administrator in advance.	40 CFR 63.342(f)(3)(iv)
The permittee shall keep the written O&M plan on record after it is developed to be made available for inspection, upon request, for the life of the unit or until the unit is no longer subject to the provisions of this subpart. If the O&M plan is revised, the permittee shall keep previous versions of the O&M plan on record for a period of five years after each revision to the plan.	40 CFR 63.342(f)(3)(v)
The permittee may use applicable standard operating procedures manuals, OSHA plans, or other existing plans to satisfy the O&M plan requirement, provided the alternative plans meet the requirements of this section.	40 CFR 63.342(f)(3)(vi)
The Operation and Maintenance Plan, including all elements of 40 CFR 63.342(f)(3) (A) to (E), is included as an appendix to the permit.	40 CFR 63.342(f)(3)
RECORDKEEPING REQUIREMENTS	hdr
Maintain the following records for EU004 to EU007: (1) inspection records for any air pollution control device and monitoring equipment, (2) records of all maintenance performed on EU004 to EU007 or pollution control or monitoring device, (3) records of the occurrence, duration, and cause of each malfunction of EU004 to EU007 or pollution control or monitoring device, (4) actions taken during periods of malfunction, (5) other records or checklists necessary to demonstrate consistency with the O&M plan, (6) test reports, (7) performance test conditions, (8) monitoring data, (9) all periods of excess emissions that occur during malfunction, (10) all periods of excess emissions that occur during periods other than malfunctions, (11) operating time, (12) cumulative rectifier capacity, (13) date and time of fume suppressant addition	40 CFR 63.346
ONGOING COMPLIANCE STATUS REPORTS FOR AREA SOURCES	hdr
The permittee shall prepare a summary report to document the ongoing compliance status of the source annually and retained on-site except when: the Administrator determines that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on-site, if these measures are necessary to accurately assess the compliance status of the source. The report shall include the information identified in 40 CFR 63.347(g)(3) and made available to the Administrator upon request.	40 CFR 63.347(h)(1)
Reports of exceedances: If the following conditions are met, semiannual reports shall be prepared and submitted to the Administrator A. The total duration of excess emissions is 1% or greater of the total operating time for the operating period, and B. The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is 5% or greater of the total operating time	40 CFR 63.347(h)(2)(i)
Once the permittee reports an exceedance as defined in 40 CFR 63.347(h)(2)(i), ongoing compliance status reports shall be submitted semiannually until a request to reduce the reporting frequency under 40 CFR 63.347(h)(3) is approved.	40 CFR 63.347(h)(2)(ii)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Contents of Ongoing Compliance Status Reports. The summary report to document the ongoing compliance status of the source must contain the following information: (i) The company name and address; (ii) An identification of the operating parameter that is monitored for compliance determination, as required by 40 CFR 63.343(c); (iii) The relevant emission limitation for the affected 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 required by 40 CFR 63.347(e); (iv) The beginning and ending dates of the reporting period; (v) A description of the type of process performed in the affected source; (vi) The total operating time of the affected source during the reporting period;	40 CFR 63.347(g)(3)
Contents of Ongoing Compliance Status Reports (Continued) (vii) If the affected source is a hard chromium electroplating tank and the owner or operator is limiting the maximum cumulative rectifier capacity in accordance with 63.342(c)(2), the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis; (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;	40 CFR 63.347(g)(3) (continued)
Contents of Ongoing Compliance Status Reports (Continued) (ix) A certification by a responsible official that the work practice standards in 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; and (xiii) The date of the report.	40 CFR 63.347(g)(3) (continued)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 001 Boiler #1**Associated Items:** SV 001

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity , except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.	Minn. R. 7011.0510, Subp. 2
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, Subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when burning propane.	Minn. R. 7011.0510, Subp. 1
The permittee shall burn only natural gas or propane and keep records of all fuel usage on-site.	Minn. R. 7011.0510, Subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 002 Boiler #2**Associated Items:** SV 002

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity , except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.	Minn. R. 7011.0510, Subp. 2
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, Subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when burning propane.	Minn. R. 7011.0510, Subp. 1
The permittee shall burn only natural gas or propane and keep records of all fuel usage on-site.	Minn. R. 7011.0510, Subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 003 Boiler #3**Associated Items:** SV 003

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity , except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.	Minn. R. 7011.0510, Subp. 2
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, Subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when burning propane.	Minn. R. 7011.0510, Subp. 1
The permittee shall burn only natural gas or propane and keep records of all fuel usage on-site.	Minn. R. 7011.0510, Subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 008 Decorative Chrome Plating Tank 24a

What to do	Why to do it
PART 63 GENERAL PROVISIONS	hdr
General provisions of Part 63 applicable to Subpart N are provided in Table 1 to Subpart N of Part 63.	40 CFR 63
STANDARDS FOR DECORATIVE CHROMIUM ELECTROPLATING TANKS USING A CHROMIC ACID BATH	hdr
Plating bath components shall include a chemical fume suppressant containing a wetting agent when purchased.	40 CFR Part 63.342(d)
If a chemical fume suppressant containing a wetting agent is purchased and used as a bath component, the permittee shall control chromium discharged to the atmosphere by not allowing the surface tension of the electroplating bath contained within the affected source to exceed 45 dynes per centimeter at any time during operation of the tank.	40 CFR Part 63.342(d)(2)
MONITORING TO DEMONSTRATE CONTINUOUS COMPLIANCE	hdr
The permittee shall monitor the surface tension of the electroplating bath. Operation of the affected source at a surface tension greater than 45 dynes/cm shall constitute noncompliance with the standards.	40 CFR 63.343(c)(5)(ii)
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, Part 63, Appendix A	40 CFR 63.343(c)(5)(ii)(A)
The time between monitoring can be increased if there have been no exceedances. The surface tension shall be measured once every 4 hours of operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 8 hours of tank operation. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subpart is once every 40 hours of operation.	40 CFR 63.343(c)(5)(ii)(B)
Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every 4 hours must be resumed. A subsequent decrease in frequency shall follow the schedule laid out in 40 CFR 63.343(c)(5)(ii)(B)	40 CFR 63.343(c)(5)(ii)(C)
Once a bath solution is drained from the tank and new solution added, the original monitoring schedule of once every 4 hours must be resumed, with a decrease in frequency allowed following the procedures of 40 CFR 63.343(c)(5)(ii)(B) and (C)	40 CFR 63.343(c)(5)(iii)
WORK PRACTICE STANDARDS	hdr
The permittee is subject to the Work Practice Standards of 40 CFR Part 63.342(f). The Work Practice Standards of 40 CFR Part 63.342(f), current as of permit issuance, are included below.	40 CFR Part 63.342(f)
At all times, including periods of startup, shutdown, and malfunction, owners and operators 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 (O&M) plan required by 40 CFR 63.342(f)(3).	40 CFR Part 63.342(f)(1)(i)
Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the O&M plan required by 40 CFR 63.342(f)(3).	40 CFR Part 63.342(f)(1)(ii)
Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.	40 CFR Part 63.342(f)(1)(iii)
Determination of whether acceptable O&M procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.	40 CFR Part 63.342(f)(2)(i)
Based on the results of a determination made under 40 CFR 63.342(f)(2)(i), the Administrator may require that the permittee make changes to the operation and maintenance plan required by 40 CFR 63.342(f)(3). Revisions may be required if the Administrator finds that the plan: (A) does not address a malfunction that has occurred; (B) fails to provide for the operation of the source, the air pollution control techniques, or the control system or the process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or (C) does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as possible.	40 CFR Part 63.342(f)(2)(ii)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Prepare an O&M plan within 30 days if not completed at the time of permit issuance. The plan shall include the following elements: (A) the plan shall specify the O&M criteria for the unit, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the O&M of the unit; (B) the plan shall incorporate the work practice standards for any air pollution control or monitoring equipment; (C) proposed work practice standards for any air pollution control device or monitoring equipment not listed in 40 CFR 63.342 Table 1; (D) procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and (E) a systematic procedure for identifying malfunctions of process equipment, air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.	40 CFR Part 63.342(f)(3)(i)
If the O&M plan fails to address an event that meets the characteristics of a malfunction at the time the plan is developed, the permittee shall revise the O&M plan within 45 days after such an event occurs.	40 CFR Part 63.342(f)(3)(ii)
Recordkeeping associated with the O&M plan is identified in 40 CFR 63.346(b). Reporting associated with the O&M plan is identified in 40 CFR 63.347(g) and (h) and 40 CFR 63.342(f)(3)(iv).	40 CFR Part 63.342(f)(3)(iii)
If action taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the O&M plan, the permittee shall record the actions taken for that event and shall report by phone such actions within two working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within seven working days after the end of the event, unless the permittee makes alternate reporting arrangements with the Administrator in advance.	40 CFR Part 63.342(f)(3)(iv)
The permittee shall keep the written O&M plan on record after it is developed to be made available for inspection, upon request, for the life of the unit or until the unit is no longer subject to the provisions of this subpart. If the O&M plan is revised, the permittee shall keep previous versions of the O&M plan on record for a period of five years after each revision to the plan.	40 CFR Part 63.342(f)(3)(v)
The permittee may use applicable standard operating procedures manuals, OSHA plans, or other existing plans to satisfy the O&M plan requirement, provided the alternative plans meet the requirements of this section.	40 CFR Part 63.342(f)(3)(vi)
The Operation and Maintenance Plan, including all elements of 40 CFR 63.342(f)(3) (A) to (E), shall be incorporated by reference and included as an appendix to the permit.	40 CFR Part 63.342(f)(3)
RECORDKEEPING REQUIREMENTS	hdr
Maintain the following records for EU008: (1) records of all maintenance performed on EU008 or monitoring device, (2) records of the occurrence, duration, and cause of each malfunction of EU008 or monitoring device, (3) actions taken during periods of malfunction, (4) other records or checklists necessary to demonstrate consistency with the O&M plan, (5) test reports, (6) performance test conditions, (7) monitoring data, (8) all periods of excess emissions that occur during malfunction, (9) all periods of excess emissions that occur during periods other than malfunctions, (10) operating time, (11) cumulative rectifier capacity, (12) date and time of fume suppressant addition	40 CFR 63.346

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 009 Hydrochloric Acid Tanks**Associated Items:** SV 006

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: EU 010 Sludge Dryer**Associated Items:** CE 002 Venturi Scrubber

SV 007

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity , except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.	Minn. R. 7011.0510, Subp. 2
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, Subp. 1
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input when burning propane.	Minn. R. 7011.0510, Subp. 1
The permittee shall burn only natural gas or propane in EU 010 and keep records of all fuel usage on-site.	Minn. R. 7011.0510, Subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: CE 001 Mist Eliminator - High Velocity, i.e., V>250 Ft/Min**Associated Items:** EU 004 Hard Chrome Plating Tank 1a

EU 005 Hard Chrome Plating Tank 2a

EU 006 Hard Chrome Plating Tank 3a

EU 007 Hard Chrome Plating Tank 4a

What to do	Why to do it
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
The Permittee shall operate the mesh pad mist elimination system at all times that the hard chrome plating tanks, EU004 to EU007 are operating.	40 CFR 63.342(c)(1)(i)
MONITORING TO DEMONSTRATE CONTINUOUS COMPLIANCE	hdr
Pressure Drop: greater than or equal to 4 inches of water column and less than or equal to 6 inches of water column measured at the mesh pad mist elimination system inlet.	40 CFR 63.343(c)(1)(ii)
The permittee shall monitor and record the mist eliminator pressure drop at the mist eliminator inlet at least once each day of operation.	40 CFR 63.343(c)(1)(ii)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

Subject Item: CE 002 Venturi Scrubber**Associated Items:** EU 010 Sludge Dryer

What to do	Why to do it
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
The Permittee shall operate the wet scrubber within a range established by the manufacturers specifications at all times that the scrubber is operating.	40 CFR 63.342(c)(1)(i)

TABLE B: SUBMITTALS

03/27/01

Facility Name: Hard Chrome Inc
Permit Number: 05300247 - 001

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Anticipated Date of Initial Startup	due 30 days after Initial Startup	EU007

TABLE B: RECURRENT SUBMITTALS

03/27/01

Facility Name: Hard Chrome Inc

Permit Number: 05300247 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner <, both to the Commissioner, and to the U.S. EPA regional office in Chicago>. This report covers all deviations experienced during the calendar year. < The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604>	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 05300247-001

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 3471)
Hard Chrome Inc. 2631 Second Street Northeast Minneapolis, MN 55418 (612) 788-9451	2631 Second Street Northeast Minneapolis, MN 55418 Hennepin County

1.2. Description of the Facility

The Hard Chrome facility is a “job shop” plating facility. The facility electroplates chrome, as well as zinc, nickel, and copper. Facility emission sources include three boilers, five plating tanks (four hard chrome tanks and one decorative chrome tank), six acid tanks, and a sludge dryer.

Pollutants of concern at this facility are particulate matter (PM), particulate matter less than 10 microns (PM10), chromium compounds and hydrochloric acid.

This facility utilizes a mesh pad mist elimination system to meet the requirements of the Hard Chrome Electroplating NESHAP. The facility also incorporates a sludge dryer where sludge from the plating tanks is dried prior to off-site disposal. Emissions from the sludge dryer are controlled in a venturi scrubber. There is no pollution control equipment on the portion of the facility containing the two zinc lines and the decorative chrome tank.

1.3. Description of any changes allowed with this permit issuance.

This is the first total facility permit issued to this facility. Hard chrome plating tank 4a, EU007, was installed when the ductwork for the scrubbing system was installed in 1996. This unit is not operational because the rectifier and heat source were not hooked up at the time of installation. This permit includes EU007 and allows the facility to start-up and operate the unit during the life of this permit.

The Permittee has committed to participate in the Strategic Goals Program (Metal Finishers Initiative) to reduce human exposure and nuisance effects from air releases, and has agreed to conduct site specific Screen 3 modeling to determine the ambient impacts of hexavalent chrome and hydrochloric acid.

- 1.4. Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
	This is the first total facility permit issued for this facility

- 1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU #	SV #	Emission Unit Description	PM tpy	PM10 tpy	SO2 Tpy	NOx tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
001	001	Boiler #1	0.28	0.28	0.04	7.62	3.08	0.20	-	-
002	002	Boiler #2	0.09	0.09	0.01	2.33	0.94	0.06	-	-
003	003	Boiler #3	0.05	0.05	0.01	1.31	0.53	0.03	-	-
004	004	Hard Chrome Tank 1a	.0081	.0081	-	-	-	-	.0038	.0038
005	004	Hard Chrome Tank 2a	.0049	.0049	-	-	-	-	.0023	.0023
006	004	Hard Chrome Tank 3a	.0098	.0098	-	-	-	-	.0045	.0045
007	004	Hard Chrome Tank 4a	.0049	.0049	-	-	-	-	.0023	.0023
008		Decorative Chrome Plating Tank			-	-	-	-	0.1	0.1
009	006	Hydrochloric Acid Tanks	-	-	-	-	-	-	5.67	5.67
010	007	Sludge Dryer	2.2	2.2	-	0.18	0.07	-	-	-
Total Facility Limited Potential Emissions			2.4	2.4	0.06	11.44	4.62	0.29	5.78	7.07
Total Facility Actual Emissions			2.4	2.4	0.06	11.44	4.62	0.29	5.78	5.67

Table 2. Facility (TF) and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	Minor
PSD			X
NAAR			X
Part 70 Permit Program	X (Subpart N, Chrome Plating NESHAP)		

* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or Operational Limit

In working with metal finishing facilities in the metropolitan area over the last several years it has been noted that there are several factors that they have in common that cause potential environmental concerns. One is that they seem to be located in close proximity to residential areas. Second, they handle a wide variety of hazardous materials. Third, their air emissions have odors and irritating characteristics associated with them. Fourth, most have had multimedia environmental concerns including hazardous waste, wastewater, ground water, and air. Fifth, metal finishing facilities have had a history of complaints from the public.

For these reasons, the Minnesota Pollution Control Agency (MPCA) has required the Permittee to join and participate in the National Metal Finishers Strategic Goals Program. The objective of this program is to decrease releases from, and increase efficiency of metal finishers by reducing the quantities of hazardous chemicals, water and electricity used per product, and to more efficiently recycle remaining waste.

The potential emissions rates of air toxics as reported in the Hard Chrome March 2000 permit application and accompanying materials are above the Screening Emission Rates (SERs) for hexavalent chrome and hydrochloric acid. The Permittee may conduct any of the iterative screening or remediation techniques from Section 5 of the "Air Emission Permit Writers Guide to Air Toxic Risk Evaluation" to better characterize hazardous air pollutant emissions or reduce the risk below SER levels through pollution prevention, stack modifications or the addition of control equipment.

Regulatory Overview of Facility

EU, GRP, or SV #	Applicable Regulations	Comments:
EU001 to EU003 and EU010	Minn. R. 7007.0510	Standards of Performance for Existing Indirect Heating Equipment
EU004 to EU007	40 CFR 63 Subp. N; Minn. R. 7011.0715	Hard Chrome Plating NESHAP; Standards of performance for post-1969 industrial process equipment
EU008	40 CFR 63 Subp. N	Decorative Chrome Plating NESHAP

3. Technical Information

Sample Emission Calculations:

Boilers (natural gas or propane): $PM\ PTE = 7.6\ E^{-6}\ lb/cf\ (em.\ Factor) \times 8375\ cf/hr$
(fuel burning capacity) $\times 8760\ hrs/yr \times$
 $1\ ton/2000\ lbs = 0.28\ tons/year$

Hard Chrome emissions: Calculations are attached

4. Conclusion

Based on the information provided by Hard Chrome Inc., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300247-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota rules.

Staff Members on Permit Team: Greg K. Kvaal, Robert Berg

Attachment: CD-01 Forms
Others specified in section 3