

mailed
4/6/99



Air Pollution Control Board

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Air Pollution Control District

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NOTICE OF WORKSHOP

TO DISCUSS THE REPEAL OF DISTRICT RULE 1201 - HEXAVALENT CHROMIUM - CHROME PLATING AND CHROMIC ACID ANODIZING

AND

IMPLEMENTATION OF THE STATEWIDE HEXAVALENT CHROMIUM AIRBORNE TOXIC CONTROL MEASURE FOR CHROME PLATING AND CHROMIC ACID ANODIZING FACILITIES

The San Diego County Air Pollution Control District (District) will hold a public meeting to discuss implementation of the state Airborne Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Facilities and repeal of District Rule 1201 (Hexavalent Chromium - Chrome Plating and Chromic Acid Anodizing). Comments concerning this proposal may be submitted in writing before, or made at, the workshop which is scheduled as follows:

DATE: MAY 4, 1999
TIME: 1:00 p.m. to 3:00 p.m.
PLACE: Air Pollution Control District
Conference Room 139
9150 Chesapeake Drive
San Diego, CA 92123

Emissions from chrome plating and chromic acid anodizing operations in California have been regulated by a state ATCM since 1988. The District implemented these requirements by adopting Rule 1201.

Since that time, the Environmental Protection Agency (EPA) has promulgated nationwide emission standards and operating requirements for these same chrome plating and chromic acid anodizing facilities. The federal regulation is known as a National Emission Standards for Hazardous Air Pollutants (NESHAP). It is in the District Rules and Regulations Appendices as Appendix B, Subpart N. Although chrome plating and chromic acid anodizing facilities in California are regulated by the state ATCM (and in San Diego County by District Rule 1201), they are also required to comply with federal requirements.

The national program differed substantially from the state program. Therefore, the state ATCM has now been revised to be "equivalent" to the federal standards. It was expanded to include additional requirements. In particular, facilities with chrome plating and chromic acid anodizing operations will be required to do more monitoring, reporting and recordkeeping.

The amended ATCM has been accepted by EPA as an equivalent replacement for the federal regulation. Therefore, facilities in California are no longer required to comply with the federal

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NESHAP, and to avoid duplicating requirements, the District is proposing to repeal Rule 1201, delete Subpart N from Appendix B of the Rules and Regulations Appendices, and implement and enforce the amended ATCM directly.

The amended ATCM applies to new and existing facilities that perform

- Hard chromium electroplating,
- Decorative chromium electroplating,
- Chromic acid anodizing, or
- Trivalent chrome operations,

but does not apply to:

- Rinsing, etching, or cleaning tanks associated with a chrome plating or chromic acid anodizing process, provided no chromium electroplating or chromic acid anodizing is taking place, or
- Chrome conversion coating tanks or other tanks where no electrical current is applied.

A summary of the amended ATCM has been prepared by the District and sent to affected facilities. The summary has been divided into two parts:

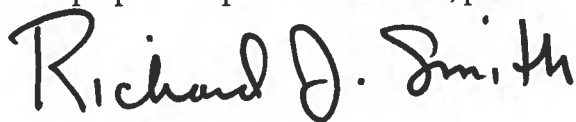
Part A Requirements For Decorative Chrome Plating Operations,

Part B Requirements For Hard Chrome Plating And Chromic Acid Anodizing Operations.

The amended ATCM also specifies requirements for plating operations involving only trivalent chrome. The District has not identified any trivalent chrome plating operations in San Diego County. A summary of these requirements can be provided by the District upon request.

The summary and/or the full text of the amended ATCM may be obtained from the District by accessing the District's Web Site at www.sdapcd.co.san-diego.ca.us, or by calling Juanita Ogata at (619) 694-8851. The amended ATCM will also be provided in the next update to Appendix A of the District Rules and Regulations.

For questions regarding the requirements of the amended ATCM or its implementation, please call Archi dela Cruz at (619) 694-3399 or Debbie Ryan at (619) 694-3838. For questions concerning the proposed repeal of Rule 1201, please call Angela Durr at (619) 694-3413.



RICHARD J. SMITH
Assistant Director

RJS:DR:AD:ls
3/25/99

PROPOSED REPEAL OF RULE 1201 IN ITS ENTIRETY.

RULE 1201. HEXAVALENT CHROMIUM - CHROME PLATING AND CHROMIC ACID ANODIZING (Rev. Effective 5/28/91)

(a) APPLICABILITY

This rule shall apply to any stationary source which operates chrome plating or chromic acid anodizing equipment using hexavalent chromium compounds.

(b) EXEMPTIONS

The provisions of Sections (d) and (e) of this rule shall not apply to non-immersion plating or anodizing operations in which the plating or anodizing solution is applied to the part being plated or anodized by use of a brush or stylus for the purposes of touch-up or repair.

(c) DEFINITIONS (Rev. Effective 5/28/91)

For the purposes of this rule the following definitions shall apply:

- (1) "**Ampere-Hour**" means the integral of electrical current applied to a plating tank (amperes) over a period of time (hours).
- (2) "**Anti-Mist Additive**" means a chemical which reduces the emission rate of hexavalent chromium when added to and maintained in a chrome plating tank.
- (3) "**Chrome Plating**" means hard chrome plating or decorative chrome plating.
- (4) "**Chromic Acid**" means an aqueous solution of chromium trioxide (CrO_3) or a commercial solution containing chromium trioxide, dichromic acid ($\text{H}_2\text{Cr}_2\text{O}_7$) or trichromic acid ($\text{H}_2\text{Cr}_3\text{O}_{10}$).
- (5) "**Chromic Acid Anodizing**" means the electrolytic process by which a metal surface is converted to an oxide surface coating by the action of a solution containing chromic acid.
- (6) "**Chromium**" means hexavalent chromium. Hexavalent chromium refers to the valence state of +6 for the chromium in the aqueous solution.
- (7) "**Control Equipment**" means any device which reduces chromium air contaminant emissions from an emissions collection system and which has been approved by the Air Pollution Control Officer.
- (8) "**Decorative Chrome Plating**" means the process by which chromium is electrodeposited from a solution containing compounds of chromium onto an object resulting in a metallic chromium layer less than or equal to 1 micron (0.00004 inch).
- (9) "**Emission Factor**" means the mass of chromium emitted to the atmosphere during a test conducted on an emissions collection system and any associated control equipment, as determined in accordance with ARB Method 425, divided by the ampere-hours consumed during the testing by the tanks being served by the tested emissions collection system.

(10) **"Emissions Collection System"** means a device or apparatus, approved by the Air Pollution Control Officer, used to gather the chromium emissions from the surface of a chrome plating or chromic acid anodizing tank or tanks. An emissions collection system typically consists of hoods, ducting and fan and may collect emissions from one or more plating or anodizing tanks.

(11) **"Facility-Wide Emissions from Hard Chrome Plating or Chromic Acid Anodizing"** means the total chromium emissions from all hard chrome plating or chromic acid anodizing at the stationary source over a calendar year. Emissions shall be calculated as the sum of emissions from all hard chrome plating and chromic acid anodizing at the stationary source. The emissions from each emissions collection system and associated control equipment shall be calculated by multiplying the emission factor for that emissions collection system and associated control equipment by the sum of ampere-hours consumed during that year for all of the tanks served by the emissions collection system.

(12) **"Hard Chrome Plating"** means the process by which chromium is electrodeposited from a solution containing compounds of chromium onto an object resulting in a chrome layer greater than 1 micron (0.00004 inch) thick.

(13) **"New Hard Chrome Plating and Chromic Acid Anodizing Equipment"** means any equipment installed after February 14, 1989 and used to conduct either hard chrome plating or chromic acid anodizing.

(14) **"Plating Tank"** means any container used to hold a chromium or chromic acid solution for the purposes of chrome plating or chromic acid anodizing.

(15) **"Stationary Source"** means a unit or an aggregation of units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate, and all of which are determined by the Air Pollution Control Officer to be related to one another through a similar product, raw material or function. This includes units or aggregation of units in the California Coastal Waters off San Diego County.

(16) **"Uncontrolled Chromium Emissions"** means the chromium emissions from the emissions collection systems at the stationary source calculated as if no control equipment is in use. The uncontrolled chromium emissions shall be calculated using an emission factor based on tests conducted in accordance with ARB Method 425, or an emission factor of 14 milligrams per ampere-hour, whichever is less.

(d) **STANDARDS** (Rev. Effective 5/28/91)

(1) Requirements for Decorative Chrome Plating Operations. No person shall operate a decorative chrome plating tank unless one of the following control techniques is applied:

(i) An anti-mist additive is continuously maintained in the plating tank in a manner which has been demonstrated, to the satisfaction of the Air Pollution Control Officer, as reducing chromium emissions by at least 95% when compared to emissions when the anti-mist additive is not used; or,

(ii) An equivalent method approved by the Air Pollution Control Officer.

(2) Requirements for Hard Chrome Plating and Chromic Acid Anodizing Operations. No person shall operate a hard chrome plating tank or chromic acid anodizing tank unless:

(i) The tank has an emissions collection system which is designed and operated to capture and contain the chromium emissions discharged to the air from the tank; and

(ii) The chromium emissions from the emissions collection system serving the tank have been reduced as follows:

(A) if facility-wide chromium emissions from hard chrome plating and chromic acid anodizing are less than or equal to 2 pounds per year, chromium emissions shall be reduced by at least 95% when compared to uncontrolled chromium emissions from the emissions collection system or reduced to less than 0.15 milligrams of chromium per ampere-hour of electrical charge applied to the tank(s) served by the emissions collection system;

(B) if facility-wide chromium emissions from hard chrome plating and chromic acid anodizing are greater than 2 pounds per year, but less than 10 pounds per year, emissions shall be reduced by at least 99% when compared to uncontrolled chromium emissions from the emissions collection system or reduced to less than 0.03 milligrams of chromium per ampere-hour of electrical charge applied to the tank(s) served by the emissions collection system; or

(C) if facility-wide chromium emissions from hard chrome plating and chromic acid anodizing are greater than or equal to 10 pounds per year, emissions shall be reduced by at least 99.8% when compared to uncontrolled chromium emissions from the emissions collection system or reduced to less than 0.006 milligrams of chromium per ampere-hour of electric current applied to the tank(s) served by the emissions collection system.

(3) Usage Records. Any person subject to Subsection (d)(2) of this rule shall keep written records of the total monthly usage of electricity in units of ampere-hours for all plating tanks served by each emissions collection system. These records shall be maintained at the stationary source for at least two years and shall be made available to the Air Pollution Control Officer upon request.

(4) Reporting. Electricity usage information shall be submitted to the District on an annual basis. The reports shall contain that information determined by the Air Pollution Control Officer to be necessary and sufficient to allow a separate determination of compliance for each emissions collection system. Reports shall be submitted in accordance with the format and schedule specified by the Air Pollution Control Officer.

(e) **COMPLIANCE SCHEDULE** (Rev. Effective 5/28/91)

Any person subject to this rule shall comply with the following increments of progress:

(1) For decorative chrome plating stationary sources:

(i) On or before June 6, 1990, any person subject to Subsection (d)(1) shall submit an application for an Authority to Construct and Permit to Operate with a detailed description of the methods to be used to achieve compliance. The description shall include operating parameters such as chemical concentrations, bath temperatures, additive depths, and any other information deemed necessary by the Air Pollution Control Officer; and

(ii) On or before September 6, 1990, any person subject to Subsection (d)(1) shall demonstrate compliance with the requirements of this rule.

(2) For hard chrome plating and/or chromic acid anodizing stationary sources having emissions less than or equal to 2 pounds per year:

(i) On or before September 6, 1990, any person subject to Subsection (d)(2)(ii)(A) shall submit an application for an Authority to Construct and Permit to Operate for equipment to meet the requirements of Subsections (d)(2)(i) and (d)(2)(ii)(A); and

(ii) On or before September 6, 1991, any person subject to Subsection (d)(2)(ii)(A) shall demonstrate compliance with the requirements of this rule.

(3) For hard chrome plating and/or chromic acid anodizing stationary sources having emissions more than 2 pounds per year but less than 10 pounds per year.

(i) On or before March 6, 1991, any person subject to Subsection (d)(2)(ii)(B) shall submit an application for an Authority to Construct and Permit to Operate for equipment to meet the requirements of Subsections (d)(2)(i) and (d)(2)(ii)(B); and

(ii) On or before March 6, 1992, any person subject to Subsection (d)(2)(ii)(B) shall demonstrate compliance with the requirements of this rule.

(4) For hard chrome plating and/or chromic acid anodizing stationary sources having emissions greater than or equal to 10 pounds per year.

(i) On or before September 6, 1990, any person subject to Subsection (d)(2)(ii)(C) shall submit a compliance plan outlining the method of compliance with Subsection (d)(2)(ii)(C). The plan shall contain the following:

(A) a description of the steps the person intends to take to identify the process changes and emission control devices necessary to achieve compliance;

(B) a schedule for the steps identified above;

(C) an estimate of facility-wide emissions from hard chrome plating or chromic acid anodizing;

(D) the emission factor and annual ampere-hour values used to estimate facility-wide emissions; and

(E) any other information deemed necessary by the Air Pollution Control Officer to ensure compliance with the requirements of this rule.

In addition, any person subject to the requirements of Subsection (d)(2)(ii)(C) shall, on or before September 6, 1990, submit an application for an Authority to Construct and Permit to Operate for equipment to meet the requirements of Subsections (d)(2)(i) and (d)(2)(ii)(A); and,

(ii) On or before September 6, 1991, any person subject to Subsection (d)(2)(ii)(C) shall submit an application for an Authority to Construct and Permit to Operate for equipment to meet the requirements of Subsection (d)(2)(ii)(C) and shall

demonstrate compliance with the requirements of Subsections (d)(2)(i) and (d)(2)(ii)(A); and,

(iii) On or before March 6, 1994, any person subject to Subsection (d)(2)(ii)(C) shall demonstrate compliance with the requirements of Subsection (d)(2)(ii)(C).

(5) For new hard chrome plating and/or chromic acid anodizing equipment.

New hard chrome plating and chromic acid anodizing equipment shall demonstrate compliance with the provisions of Subsection (d)(2)(ii)(B) upon initial installation and startup. New equipment and associated emissions collection systems and control equipment shall be installed pursuant to a District Authority to Construct. If uncontrolled chromium emissions from the hard chrome plating or chromic acid anodizing stationary source are greater than or equal to 10 pounds per year, the stationary source shall also comply with the requirements of Subsections (d)(2)(ii)(C) and (e)(4)(iii).

(f) **TEST METHODS** (Effective 5/28/91)

Measurements of chromium emissions subject to Subsection (d)(2) of this rule shall be conducted in accordance with ARB Method 425 as it exists on May 28, 1991.

SUMMARY OF REQUIREMENTS

HEXAVALENT CHROMIUM AIRBORNE TOXIC CONTROL MEASURE FOR CHROME PLATING AND CHROMIC ACID ANODIZING FACILITIES (Amended 1998)

PART A:

REQUIREMENTS FOR DECORATIVE CHROME PLATING OPERATIONS

COMPLIANCE DATE	Decorative chrome plating operations have been subject to federal NESHAP requirements since January 25, 1996.
CONTROL METHODS	<p>The ATCM provides various options for controlling hexavalent chromium emissions. Operators can either use a chemical fume suppressant containing a wetting agent, install add-on controls, or use a chemical or mechanical fume suppressant.</p> <p><u>Chemical fume suppressants</u> are also known as mist suppressants. Wetting agents are a type of mist suppressant that reduce the surface tension of the plating solution so gases escape at the surface of the solution with less of a "bursting" effect, therefore, forming less mist.</p> <p><u>Add-on control</u> includes composite mesh-pad system, packed-bed scrubber, fiber-bed mist eliminator, or high efficiency particulate air (HEPA) filter.</p> <p><u>Mechanical fume suppressants</u> are devices that reduce fumes or mist at the surface of an electroplating or anodizing solution by direct contact with the surface. Polyballs are the most commonly used mechanical fume suppressants.</p>
EMISSION STANDARD	<p>With the use of a chemical fume suppressant containing a wetting agent, the surface tension of the plating solution must be maintained at or below 45 dynes per centimeter. [Specific requirements can be found below].</p> <p>If using add-on controls, a chemical fume suppressant without a wetting agent, or a mechanical fume suppressant, the hexavalent chromium emissions must be maintained at or below 0.01 milligrams per dry standards cubic meter of air. A performance test must be conducted. [Operators planning on using one of the control options specified in this paragraph may request District assistance to review the specific applicable requirements].</p>
HOW DOES THIS MODIFICATION DIFFER FROM CURRENT REQUIREMENTS?	<p>District Rule 1201 presently requires use of an "anti-mist additive" in decorative chrome plating tanks. Facilities should ensure that the anti-mist additive contains a wetting agent, to avoid the performance test requirements. If the owner or operator desires to change the anti-mist additive or wetting agent, they must first obtain District concurrence.</p> <p>Monitoring, reporting and recordkeeping requirements of the modified ATCM far exceed the requirements of District Rule 1201.</p>

Specific Requirements Related To The Use Of Chemical Fume Suppressants Containing A Wetting Agent

MONITORING All operations using a chemical fume suppressant containing a wetting agent must comply with the following requirements:

***Ampere-hour
Meter:***

Inspection and maintenance:

- Install and maintain, per manufacturer's specifications, a continuous recording, non resettable, ampere-hour meter. Each ampere-hour meter must be hard-wired for each rectifier and operate on the electrical power lines connected to the tank or group of tanks.

***Surface
Tension:***

Inspection and maintenance:

- Measure surface tension of the chrome plating or chromic acid anodizing tank with either a stalagmometer or tensiometer using EPA Method 306B.

- Calibrate and maintain stalagmometer or tensiometer per manufacturer's specifications.

Monitoring frequency:

- Measure surface tension daily for 20 consecutive operating days, and weekly thereafter as long as there is no violation of the surface tension limit. If a violation occurs, the measurement frequency shall return to daily for 20 consecutive operating days, and weekly thereafter.

RECORDKEEPING

***Fume
Suppressant
Additions:***

Maintain records of the date, time, approximate volume, and product identification of the fume suppressants added to the plating solution.

***Inspection
Records:***

Maintain inspection records to document that inspection and maintenance requirements have been met. Records can be in the form of a checklist.

***Surface Tension
Measurements:***

Maintain records to document the surface tension measurements.

ANNUAL REPORTING

Prepare ongoing compliance status reports annually and retain them on site.

RECORDS RETENTION

All records must be maintained for at least five years, and kept on site for at least two years.

SUMMARY OF REQUIREMENTS

HEXAVALENT CHROMIUM AIRBORNE TOXIC CONTROL MEASURE FOR CHROME PLATING AND CHROMIC ACID ANODIZING FACILITIES (Amended 1998)

PART B:

REQUIREMENTS FOR HARD CHROME PLATING AND CHROMIC ACID ANODIZING OPERATIONS

COMPLIANCE DATE

The modified ATCM requirements for hard chrome plating and chromic acid anodizing operations have been in effect since January 1999.

All facilities must comply with the additional operating, inspection, maintenance, monitoring, notification, reporting and recordkeeping requirements of the amended ATCM.

CONTROL METHODS

The ATCM provides various options for controlling hexavalent chromium emissions.

Chemical fume suppressants are also known as mist suppressants. Wetting agents are a type of mist suppressant that reduce the surface tension of the plating solution so gases escape at the surface of the solution with less of a "bursting" effect, therefore, forming less mist.

Add-on control includes composite mesh-pad system, packed-bed scrubber, fiber-bed mist eliminator, or high efficiency particulate air (HEPA) filter.

Mechanical fume suppressants are devices that reduce fumes or mist at the surface of an electroplating or anodizing solution by direct contact with the surface. Polyballs are the most commonly used mechanical fume suppressants.

HARD CHROME PLATING:

Add-on control devices are required for hard chrome plating operations. The control system consists of a collection system, such as a fume hood and ventilation equipment for capturing exhaust from the tank, and a device(s) in the air stream to retain the pollutants.

As a supplement to add-on controls, hard chrome plating facilities often use a chemical or mechanical fume suppressant to assist in reducing hexavalent chromium emissions. If a fume suppressant was used to demonstrate compliance during the performance test, owners or operators must comply with the requirements related to fume suppressant use.

CHROMIC ACID ANODIZING:

The ATCM provides various options for controlling hexavalent chromium emissions. Operators can either use a chemical fume suppressant containing a wetting agent, install add-on controls, or use a chemical or mechanical fume suppressant.

**EMISSION
STANDARDS**

***HARD CHROME
PLATING:***

Emission standards are based on the maximum cumulative potential rectifier capacity and total chrome emissions:

***Existing
Operations
(on or before
12/16/93):***

For a facility with a **MAXIMUM CUMULATIVE POTENTIAL RECTIFIER CAPACITY LESS THAN 60 MILLION AMPERE-HOURS**, hexavalent chromium emissions must not exceed:

- **0.03 MILLIGRAMS PER AMPERE-HOUR** if total chrome emissions are between two and 10 pounds per year, or
- **0.15 MILLIGRAMS PER AMPERE-HOUR** if total chrome emissions are less than or equal to two pounds per year.

***New and/or
Modified
Operations
(after
12/16/93):***

For a facility with a **MAXIMUM CUMULATIVE POTENTIAL RECTIFIER CAPACITY LESS THAN 60 MILLION AMPERE-HOURS**, hexavalent chromium emissions must not exceed **0.03 MILLIGRAMS PER AMPERE-HOUR** if total chrome emissions are less than 10 pounds per year.

***Very Small
Facilities:***

An operator of a facility using not more than to 500,000 ampere-hours per year, can alternatively comply with the surface tension standard of 45 dynes per centimeter. Use of this option requires EPA and District approval.

Other:

More stringent emission standards apply if the maximum cumulative potential rectifier capacity **EXCEEDS 60 MILLION AMPERE-HOURS** or if the total chrome emissions are equal to or greater than 10 pounds per year.

You may request District assistance to review the applicability of alternative standards.

***CHROMIC ACID
ANODIZING:***

All chromic acid anodizing facilities in San Diego County are using add-on control devices.

Chromic acid anodizing operations must maintain hexavalent chromium emissions at or below 0.01 milligrams per dry standard cubic meter of air.

**HOW DOES THE
AMENDED ATCM
DIFFER FROM
REQUIREMENTS
OF DISTRICT
RULE 1201?**

The emission standards described above currently apply to all hard chrome plating and chromic acid anodizing operations in the District. However, the modified ATCM also contains additional and very specific monitoring, inspection, and recordkeeping requirements which far exceed the requirements of District Rule 1201.

SPECIFIC REQUIREMENTS RELATED TO THE USE OF ADD-ON CONTROL DEVICES

All operations using add-on control devices must comply with the following requirements:

***Ampere-hour
Meter:***

Inspection and maintenance:

- Install and maintain, per manufacturer's specifications, a continuous recording, non resettable, ampere-hour meter. Each ampere-hour meter must be hard-wired for each rectifier and operate on the electrical power lines connected to the tank or group of tanks.

Pressure Drop:

Inspection and maintenance:

- Install a mechanical gauge in clear sight of operations or maintenance personnel to continuously monitor the pressure drop across an add-on control device.

Performance:

- Maintain pressure drop across the add-on control device consistent with the value(s) established during the performance test to demonstrate compliance with the emission limitation:
 - a) within ± 1 inch of water for composite mesh pad, packed-bed scrubber and fiber-bed mist eliminator, and
 - b) within $-1/2$ to $+2$ times the inches of water for HEPA filters.

Pitot Tube:

Operating requirements and schedule:

Once per quarter:

- Backflush pitot tube with water or remove from the duct and rinse with fresh water.
- Replace pitot tube in the duct and rotate 180 degrees to ensure that the same zero reading is obtained.
- Replace pitot tube if cracked or fatigued.

Inspection requirements and schedule:

Once per quarter:

- Check pitot tube ends for damage.

***Composite
Mesh-pad
System:***

Operating requirements and schedule:

Per manufacturer's schedule:

- Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations.

Inspection requirements and schedule:

Once per quarter:

- Visually inspect the device to ensure there is proper drainage, no unusual chromic acid buildup on the pads, and no evidence of chemical attack that affects the structural integrity of the device.

- Visually inspect the back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.
- Visually inspect ductwork from the tank(s) to the control device(s) to ensure there are no leaks.

***Fiber-bed Mist
Eliminator:***

Operating requirements and schedule:

Per manufacturer's schedule:

- Perform washdown of fiber elements.

Inspection requirements and schedule:

Once per quarter:

- Visually inspect the fiber-bed unit and prefiltering device to ensure there is proper drainage, no unusual chromic acid buildup in the units, and no evidence of chemical attack that affects the structural integrity of the devices.

- Visually inspect the ductwork from tank(s) to the control device(s) to ensure there are no leaks.

***High Efficiency
Particulate Air
(HEPA) filter:***

Operating requirements and schedule:

Per manufacturer's schedule or District permit requirements:

- Replace HEPA filter.

Inspection requirements and schedule:

Once per week:

- Look for changes in the pressure drop.

***Chrome Tank
Covers:***

Operating requirements and schedule:

Once per day:

- Drain the air-inlet (purge air) valves at the end of each day the tank is in operation.

Once per week:

- Drain the evacuation unit directly into the plating tank or into the rinse tanks (for recycling into the plating tank).

Once per month:

- Clean or replace filters on evacuation unit.

Per manufacturer's schedule:

- Replace access door seals and membrane evacuation unit filter, and purge air inlet check valves.

Inspection requirements and schedule:

Once per week:

- Visually inspect access door seals and membranes for integrity.

Once per month:

- Visually inspect the membranes for perforations using a light source that adequately illuminates the membrane.

- Visually inspect all clamps for proper operation; replace as needed.

Once per quarter:

- Visually inspect piping to, piping from, and the body of the evacuation unit to ensure there are no leaks and no evidence of chemical attack.

***Packed Bed
Scrubber:***

Operating requirements and schedule:

- Install a mechanical gauge in clear sight of operations or maintenance personnel to continuously monitor the inlet velocity pressure of a packed-bed scrubber.
- Add fresh makeup water to the packed-bed whenever makeup water is needed.

Performance

- Maintain inlet velocity pressure within $\pm 10\%$ of the value established during the performance test to demonstrate compliance with the emission limitation.

Inspection requirements and schedule:

Once per quarter:

- Visually inspect the device to ensure there is proper drainage, no unusual chromic acid buildup on the packed-beds, and no evidence of chemical attack that affects the structural integrity of the device.
- Visually inspect the back portion of the chevron blade mist eliminator to ensure it is dry and there is no breakthrough of chromic acid mist.
- Visually inspect ductwork from the tank(s) to the control device(s) to ensure there are no leaks.

**OPERATION AND
MAINTENANCE
PLAN FOR ADD-
ON CONTROL
DEVICES**

Prepare and maintain an operation and maintenance plan incorporating the inspection and maintenance requirements for all add-on control devices and monitoring equipment. The operation and maintenance plan must include:

- a) A standardized checklist to document the operation and maintenance of the source, the add-on air pollution control device, and the process and control system monitoring equipment; and
- b) Procedures to be followed to ensure that equipment is properly maintained.
- c) Document any changes made in an addendum to the plan. Keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, during normal working hours, for a period of at least five years after each revision to the plan.
- d) Revise the operation and maintenance plan as necessary to minimize breakdowns.

**PERFORMANCE
TEST
REQUIREMENT**

The owner or operator of a hard chrome plating operation which has not been subject to a District-reviewed performance test, must notify the District of the intent to conduct a performance test at least 60 calendar days before the performance test is scheduled.

Facilities which have previously conducted performance tests are not required to conduct additional testing. EPA has reviewed all previously conducted performance tests and determined each test has met the requirements of the modified ATCM.

SPECIFIC REQUIREMENTS RELATED TO THE USE OF CHEMICAL FUME SUPPRESSANTS

MONITORING

All operations using a chemical fume suppressant must comply with the following requirements:

Ampere-hour Meter:

Inspection and maintenance:

- Install and maintain a continuous recording, non resettable, ampere-hour meter per manufacturer's specifications. Each ampere-hour meter must be hard-wired for each rectifier and operate on the electrical power lines connected to the tank or group of tanks.

Surface Tension:

Inspection and maintenance:

- Measure surface tension of the chrome plating or chromic acid anodizing tank with either a stalagmometer or tensiometer using EPA Method 306B.
- Calibrate and maintain stalagmometer or tensiometer per manufacturer's specifications.

Monitoring frequency:

- Measure surface tension daily for 20 consecutive operating days, and weekly thereafter as long as there is no violation of the surface tension limit. If a violation occurs, the measurement frequency shall return to daily for 20 consecutive operating days, and weekly thereafter.

Foam Blanket Thickness:

Inspection and measurement:

- Visually inspect and measure the foam blanket thickness across the surface of the chrome plating or chromic acid anodizing tank.

Inspection and measurement frequency:

- Measure the foam blanket thickness hourly for 15 consecutive operating days, and daily thereafter as long as there is no violation of the foam thickness requirement. If a violation occurs, the measurement frequency shall return to hourly for 15 consecutive operating days, and daily thereafter.

Performance:

- Maintain foam blanket thickness and coverage comparable to those used during the performance test or established by the District to demonstrate compliance with the emission limitation.

SPECIFIC REQUIREMENTS RELATED TO THE USE OF MECHANICAL FUME SUPPRESSANTS

All operations using mechanical fume suppressants must comply with the following requirements:

***Ampere-hour
Meter:***

Inspection and maintenance:

- Install and maintain a continuous recording, non resettable, ampere-hour meter per manufacturer's specifications. Each ampere-hour meter must be hard-wired for each rectifier and operate on the electrical power lines connected to the tank or group of tanks.

***Polyballs or
Similar
Mechanical
Fume
Suppressants:***

Inspection:

- Visually inspect polyballs (or other mechanical fume suppressant) for coverage comparable to the coverage during the performance test.

Inspection frequency:

- Inspect daily.

RECORDKEEPING

Facility Size:

Maintain records of:

- Maximum cumulative potential rectifier capacity.
- Facility total chrome emission rate.

***Inspection
Records:***

Maintain inspection records to document that inspection and maintenance requirements and the provisions of the operation and maintenance plan have been met. The records can take the form of a checklist and must identify:

- the device inspected,
- the date and time of inspection,
- a brief description of the working condition of the device during the inspection,
- maintenance activities performed on the components of the air pollution control system (i.e., duct work replacement, filter pad replacement, fan replacement, etc.), and
- actions taken to correct deficiencies found during the inspection.

***Monitoring
Data Records:***

Monitoring records. Maintain records of monitoring and inspection data used to demonstrate compliance with the standard including the date and time the data are collected.

Cumulative rectifier usage records. Record the actual cumulative rectifier usage expended during each month of the reporting period and the total usage expended to date. Record the actual cumulative rectifier capacity for the previous 12-month rolling period and tabulate it monthly by adding the capacity for the current month to the capacities for the previous 11 months.

Pressure drop. Record the pressure drop once a week.

***Fume
Suppressant
Additions:***

Maintain records of the date, time, approximate volume, and product identification of the fume suppressants added to the plating solution.

REPORTING

***Initial
Compliance
Status Report:***

Requirement and schedule:

- Unless previously submitted, submit an initial compliance status report to the District no later than June 10, 1999, for existing sources or at startup for new sources.
- For sources required to conduct a performance test, submit the initial compliance status report no later than 90 calendar days following completion of the compliance demonstration.

Content:

- The content of the initial compliance status report is identified in the amended ATCM.
- The initial compliance status report must be signed by the responsible official who must certify its accuracy, attesting to whether the source has complied with this rule.

***Ongoing
Compliance
Status Reports:***

Requirements:

Prepare an annual summary report to document the ongoing compliance status to be made available to the District upon request. The required content of ongoing compliance status reports is identified in the amended ATCM.

**RECORDS
RETENTION**

All records must be maintained for at least five years, at least two years on site.