INSPECTOR CHECKLIST TO COMPLETE PRIOR TO INSPECTION

There are several types of chromium electroplating and anodizing tanks. It is important for the Inspector to know which type of tank(s) he/she will be inspecting at the facility. Therefore, the following questions should be answered prior to the inspection of any chromium electroplating or anodizing tank(s). The answers to these questions will determine which type of tank(s) will be at the facility and which Chromium Electroplating and Anodizing Inspection Checklist(s) must be reviewed prior to the inspection and brought to use during the inspection. There may be more than one type of tank. This checklist can be used for multiple tanks.

1.0 Based on State records and the table below, determine the **number** of chromium electroplating and anodizing tanks operating at the facility which fit within the function(s) and parameters of each type of tank. If the necessary information is not available from State records, the Inspector should contact the owner or operator of the source prior to the inspection and request the necessary information to determine the function(s) and process parameters of each tank.

_____ Hard (or industrial) chromium electroplating
_____ Decorative chromium electroplating
_____ Chromium anodizing

Type of Operation	Functions	Process Parameters
Hard chromium electroplating	Provides a surface with functional properties such as: wear resistance, a low coefficient of friction, hardness, and corrosion resistance	Federal specifications: Plate thickness of 1.3 to 760 microns Current density of 150 to 600 A/ft^2 Plating time of 20 minutes to 36 hours Other parameters: Chromic acid concentration of 30 to 50 oz/gal Sulfuric acid concentration of 0.3 to 0.5 oz/gal Solution temperature of 120° F to 150° F
Decorative chromium electroplating	Provides a bright surface with wear and tarnish resistance	Federal specifications: Plate thickness of 0.003 to 2.5 microns (chromic acid bath) or 0.13 to 25 microns (trivalent chromium bath) Current density of 50 to 220 A/ft^2 Plating time of 0.5 to 5 minutes Other parameters: Chromic acid concentration of 30 to 50 oz/gal Sulfuric acid concentration of 0.3 to 0.5 oz/gal Solution temperature of 100° F to 115° F
Chromium anodizing	Provides corrosion resistance or electrical insulation	Federal specifications: Chromic acid concentrations of 6.67 to 13.3 oz/gal Other parameters: Film thickness of 0.02 to 0.05 microns Current density of 144 to 720 A/ft^2 Anodizing time of 30 to 60 minutes Solution temperature of 90° F to 95° F pH of 0.5 to 0.85 Voltage of 20 or 40 volts

2.0 If a facility's operations do not fall exactly within the function(s) and parameters of one of the types of chromium electroplating or anodizing sources, the Inspector must determine which type it will be considered. The operator is only required to contact the APCD or local regulatory agency and request that the APCD or local agency determine which source type applies. To make such a determination the Inspector can consider a number of factors including the: purpose for which the chrome is being applied, whether a hexavalent or trivalent solution is used, plate thickness, plating time, plate density, chromic acid concentrations, whether sulfuric acid is used, and temperature of the solution. The Inspector and APCD should determine together whether the facility is a hard chromium electroplating, decorative chromium electroplating, or chromium anodizing source.

3.0 If a tank fits within the function(s) and parameters of one of the types of chromium electroplating or anodizing sources, next determine whether it is an exempt source. Indicate that the source is **exempt** if it fits one of the following descriptions.

_____ Research or laboratory operation:
- ____ primary purpose of research and development of new processes and products
- ____ operations must be conducted under close supervision of technically trained personnel
- ____ operation cannot be involved in the manufacture of products for commercial sale, except in a de minimis or minor manner

_____ Process tanks in which neither chromium electroplating nor chromium anodizing is taking place (i.e., rinse tanks, etching tanks, cleaning tanks)

_____ Process tanks that contain a chromium solution, but in which no electrolytic process occurs (i.e., chrome conversion coating tank where no electrical current is applied)

Upon determining a tank is exempt, the Inspector need not inspect that tank pursuant to these Federal regulations.

After determining which type(s) of tank(s) will be at the facility, go to the binder entitled MACT Guidelines and select and copy Chapter 1.0 of the **INSPECTOR'S GUIDANCE MANUAL FOR INSPECTING: CHROMIUM ELECTROPLATING AND ANODIZING TANKS** and a copy of the **INSPECTOR ON-SITE CHECKLIST** for each type of tank represented at the facility. Make the necessary number of photocopies so there is one checklist for each tank at the facility.

Prior to visiting a site for an inspection, the Inspector **must** determine which type of chromium electroplating or anodizing facility will be inspected. See the Checklist for Inspector to Complete Prior to Facility Site Inspection. This checklist is only relevant for **Chromium Anodizing** facilities.

INSPECTOR ON-SITE CHECKLIST

Chromium Anodizing

The Inspector must complete one checklist for each "source" or tank inspected.
Tank Number: _____
Date Inspected: _____

1.0 Compliance Date: The date by which a source must comply with these regulations depends upon the type of chromium electroplating or anodizing source it is and if it is a new or reconstructed or existing source.

Compliance Dates for Chromium Anodizing

	Source must be in compliance
Existing (initial startup up before 12/16/93)	1/25/97
New or reconstructed with initial startup after 12/16/93, but before 1/25/95	1/25/95 (effective date)
New or reconstructed with initial startup after 1/25/95	immediately upon startup of the source

This source had an initial startup date of _____
This is a _____ source (existing, new, or reconstructed)

This source must be in compliance as of _____ (date) (40 CFR 63.343(a))

This chromium anodizing electroplating tank was in compliance on _____ (date) (ask operator)
OR this source is not in compliance because:
_____
_____

2.0 Facility is a Major or Area Source: The operator must have records which enable the Inspector to determine a source's potential to emit chromium.

_____ Major source if has the potential to emit ten (10) tons per year of any one hazardous air pollutant OR if it has the potential to emit twenty five (25) tons per year of any combination of hazardous air pollutants
_____ Area source if it is not a major source
_____ Major source if an area source increases the potential to emit chromium above 10 tons per year or increases the potential to emit all hazardous air pollutants above 25 tons per year, the source becomes a major source and must comply with existing major source requirements immediately

3.0 Type of Air Pollutant Control Device: (mark applicable devices) The operator should have documentation available on the control device(s) utilized and should demonstrate that the control device(s) is functioning properly.

Add-on air pollution control devices:
_____ Composite mesh pad (CMP) system
_____ Packed bed scrubber (PBS)
_____ PBS/CMP system
_____ Fiber-bed mist eliminator
_____ Other _____ (need U.S. EPA approved documentation)

Chemical fume suppressant air pollution control devices:
_____ Foam blanket
_____ Wetting agent
_____ Other _____ (need U.S. EPA approved documentation)

If use both an add-on control device and fume suppressant:
Type of add-on control device(s) _____
_____
Type of fume suppressant(s) _____
_____

4.0 Number of Tanks Attached to Same Air Pollution Control Device

_____ Single tank attached to control device (only one chromium anodizing tank attached to device)

_____ Multiple tanks attached to control device (more than one chromium anodizing tank or any combination of chromium electroplating or chromium anodizing tanks)

If multiple tanks: (yes/no)
_____ Same operation performed at each tank
_____ Same emission limit for each tank
_____ Air pollution control device controls sources that are not chromium electroplating or anodizing tanks

5.0 Emission Limits: Using the information from sections 1.0 and 4.0, answer the following questions.

The emission limit for this source as determined by Tables 1 or 2 (page 11 and 12) is _____

Describe whether the source met the required emission limits as determined by Table 1 (page 11) by the required compliance date: (40 CFR 63.342(c)(d)(e)) _____
_____

If the source failed to meet the required emission limits as determined by Table 1 (page 11) by the required compliance date, explain why: _____

6.0 Operation and Maintenance (O&M) Plan:

_____ O&M plan is kept on record and is available upon inspection for the life of the affected source or until the source is no longer subject to these regulations (40 CFR 62.342(f)(3)(v))
_____ The operator, upon revision of the O&M plan, has kept all previous versions of the O&M plan on record for inspection for a period of five (5) years after each revision (40 CFR 62.342(f)(3)(v))
_____ O&M plan is incorporated by reference into facility's Operating Permit (40 CFR 63.342(f)(3))

O&M plan for this facility: (yes/no)
_____ specifies the operation and maintenance criteria for the affected source (40 CFR 63.342(f)(3)(A))
_____ specifies the add-on air pollution control device (if used to comply with the emission requirements) (40 CFR 63.342(f)(3)(i)(A))
_____ specifies the process and control system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))
_____ includes a standardized checklist to document the operation and maintenance of air pollution control device(s) and process and control system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))
_____ specifies procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur (40 CFR 63.342(f)(3)(i)(D)) **and**
_____ includes a systematic procedure for identifying malfunctions of process equipment, add-on 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)(E))

If the facility utilizes any add-on air pollution control device:

_____ the O&M plan incorporates work practice standards for any add-on air pollution control device or monitoring equipment as identified in Table 3 (page 16) (40 CFR 63.342(f)(3)(i)(B))

List the applicable work practice standards for the add-on air pollution control devices used and whether operator has complied with them:

Add-on air pollution control device	Work Practice Standard	Complied (yes/no)
1.	a. b. c. d.	a. b. c. d.
2.	a. b. c. d.	a. b. c. d.
3.	a. b. c. d.	a. b. c. d.

_____ if the specific equipment used is not identified in Table 3 (page 16), the O&M plan shall incorporate proposed work practice standards which must be submitted to APCD and U.S. EPA (40 CFR 63.342(f)(3)(i)(C))

The operator operates and maintains all of the following in a manner consistent with "good air pollution control practices" (including quarterly inspections of each): (yes/no) (40 CFR 63.342(f)(1)(i))

_____ affected sources and ductwork of the source
_____ associated control devices **and**
_____ monitoring equipment

The following documentation was provided to establish whether an operator properly maintained the facility in a manner consistent with "good air pollution control practices": (yes/no)

_____ monitoring results
_____ review of the operation and maintenance plan, procedures, and records
_____ inspection of the source
_____ other _____

O&M plan does not meet the requirements and changes must be made to the plan if the plan: (40 CFR 63.342(f)(3)(ii))

_____ does not address a malfunction that has occurred **or**

_____ fails to provide for the operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with "good air pollution control practices" **or**

_____ does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable

Has an event occurred that meets the characteristics of a malfunction?_____
_____

Did the O&M plan fail to or inadequately address the malfunction? _____
If yes, explain _____

If the O&M plan failed to or inadequately addressed the malfunction, did the operator revise the O&M plan within forty five (45) days after the event? _____
If no, explain (40 CFR 63.342(f)(3)(ii)) _____
If yes, does the revised O&M plan include: (40 CFR 63.342(f)(3)(ii))

_____ procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events **and**

_____ a program for corrective action for such events

Did the operator during periods of malfunction take actions inconsistent with the procedures specified in the O&M plan? _____
If yes, did the operator: (40 CFR 63.342(f)(3)(iv))

_____ record the actions taken for the event and report by phone such actions within two (2) working days after commencing actions insistent with the plan

_____ send a letter within seven (7) working days after the end of the event **and**

_____ provide the Inspector with copies of such reports and records for this inspection

7.0 Initial Performance Test:

If the tank meets the following description it is exempt from the initial performance test:
_____ chromium anodizing tank with a wetting agent and a maximum surface tension of 45 dynes/cm

For any tank not exempt, the operator must have performed an initial performance test within the time requirement of one of the following: (40 CFR 63.7(2)(b) and 40 CFR 63.343(b)(1))

	New or Existing	Operation or Startup Date	Initial Performance Test Date
_____	Existing source	with initial startup date before or on 12/16/95	perform test by 7/24/97
_____	Existing source	with initial startup date after 12/16/95	perform test within 180 days after initial startup
_____	Existing, new, or reconstructed source	with an extension of compliance granted by APCD	perform test within 180 days after termination of extension
_____	New source	with initial startup date after 1/25/93 and before 1/25/95	perform test by 7/24/95
_____	New source	with initial startup date after 1/25/95	perform test within 180 days after initial startup

If no initial performance test performed, explain _____
_____

_____ Initial performance test was submitted to APCD
If no, explain _____
_____

_____ Initial performance test was reviewed by APCD on _____ date.
If no, explain _____
_____

_____ APCD gave final determination whether source in compliance (notified source and County).

Indicate the parameters obtained in the initial performance test. These parameters are necessary to determine whether the source is in ongoing compliance.

Add-on Air Pollution Control Device	Parameter Obtained in Initial Test
Composite mesh pad (CMP)	Pressure drop across system: _____ in. w.c. ± 1 in.
Packed bed scrubber (PBS)	Pressure drop across system: _____ in. w.c. ± 1 in. Velocity pressure at system inlet: _____ ± 10% avg. vel.
Fiber bed mist eliminator (FBME)	Pressure drop across the control device located upstream of the fiber bed that prevents plugging: _____in. w.c. ± 1 in.
Chemical Fume Suppressant	Parameter Obtained in Initial Test
Wetting agent	Surface tension at the bath: _____ dynes/cm
Foam blanket	Foam blanket thickness: _____ in. or cm.

8.0 Ongoing Compliance Monitoring: Inspector should determine type of air pollution control device and whether operator has met the applicable ongoing compliance monitoring requirement.

Operator uses an **add-on** air pollution control device and takes the following measurements: (yes/no)

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Composite mesh pad (CMP) system (40 CFR 63.343(c)(1)(ii))	_____ monitor pressure drop across system	Daily
Packed bed scrubber (PBS) (40 CFR 63.343(c)(2)(ii))	_____ monitor pressure drop across system _____ monitor velocity pressure at system inlet	Daily Daily
Packed bed scrubber (PBS) and composite mesh pad (CMP) system (40 CFR 63.343(c)(3))	_____ monitor pressure drop across the mesh pad system _____ measure the velocity pressure at system inlet	Daily Daily
Fiber bed mist eliminator (FBME) (40 CFR 63.343(c)(4)(ii))	_____ monitor pressure drop across the control device located upstream of the fiber bed that prevents plugging	Daily
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

Inspector has **personally seen** the operator properly take the following measurements if required:
_____ pressure drop across system
_____ pressure drop across the CMP system
_____ pressure drop across the FBME system
_____ velocity pressure at the system inlet

If pressure drop must be measured, did the monitored values for pressure drop: (yes/no)
_____ fall within the range of values established by the operator for pressure drop **or**
_____ fall within ± 1 inch about the average H_20 column measured during three compliant test runs
If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(1)(ii), (2)(ii), (3), or (4)(ii))

If velocity pressure must be measured, did the monitored values for velocity pressure: (yes/no)
_____ fall within the range of velocity pressures established by the operator for velocity pressure **or**
_____ fall within ± 10 percent about the average velocity pressure measured during three compliant test runs
If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(2(ii) and (3))

Operator uses a **chemical fume suppressant** air pollution control device and takes the following measurements: (yes/no)

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Wetting agent (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Foam blanket type fume suppressant (40 CFR 63.343(c)(6)(ii))	_____ monitor foam blanket thickness	Every 4 hours[a,b] or _____
Combination wetting agent and foam blanket type fume suppressants (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Chemical fume suppressant and add-on control device (40 CFR 63.343(c)(7)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B) _____ monitor foam blanket thickness	Daily or _____ Every hour[b,c] or _____
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

[a] If there are no exceedances of the maximum surface tension after forty (40) hours of operation, then the monitoring frequency can be decreased to once every eight (8) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every forty (40) hours. If an exceedance occurs at any time after that, then the initial monitoring schedule (every four (4) hours) must be resumed.
[b] The initial schedule must be resumed for every new tank solution.
[c] If there are no exceedances of the minimum foam blanket thickness after forty (40) hours of operation, then the monitoring frequency can be decreased to once every four (4) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every eight (8) hours. If an exceedance occurs after that, then the initial monitoring schedule (every hour) must be resumed.

Inspector has **personally seen** the operator properly take the following measurements if required:
_____ surface tension **and/or**
_____ foam blanket thickness

_____ Did the surface tension exceed the maximum surface tension established by the operator for pressure drop, if no, the source is in compliance. If yes, the source is not in compliance. (40 CFR 63.343(c)(5)(ii) and (7)(ii)
_____ Did the foam blanket thickness fall below the minimum foam blanket thickness **or** fall below 1 inch in thickness, if no, the source is in compliance. (40 CFR 63.343(c)(6)(ii) and (c)(7)(ii))

If the facility has multiple tanks **and** meets one of the following conditions go to Table 2 (page 12) to obtain equations used to verify compliance with the emission limits: (40 CFR 63.344(e))
_____ the multiple tanks include a chromium electroplating or chromium anodizing tank among other tanks not affected by the regulation **or**
_____ the multiple tanks include chromium tanks performing different operations subject to different emission limits (e.g., hard chromium electroplating and anodizing), which may or may not be controlled with nonaffected sources **or**
_____ the multiple tanks include chromium anodizing tanks subject to different emission limits (e.g., new tank and existing small tank), which may or may not be controlled with nonaffected sources

9.0 **Recordkeeping:** The operator keeps the following records to document compliance with the regulation for five years. (yes/no)

1) Inspection and maintenance records (40 CFR 63.346(b)(1) and (2))
   _____ work practices conducted on schedule (review operator's checklist)
   _____ maintenance performed on process, control system(s), and monitoring equipment

2) Malfunction records (40 CFR 63.346(b)(3) and (4))
   _____ correction of malfunction consistent with O&M plan no records required
   _____ correction of malfunction not consistent with O&M plan following records required: occurrence, duration, and cause of any malfunction of the process, air pollution control device, and monitoring equipment

3) _____ Performance test results including process and air pollution control parameter measurements used during testing and any additional measurements required if use common control system for multiple sources (40 CFR 63.346(b)(6))

4) Monitoring data records include at a minimum: (40 CFR 63.346(b)(8))
   _____ identify control system(s)
   _____ identify the monitored parameter(s)
   _____ identify the value of the monitored parameter(s)
   _____ identify the time and date when the parameter(s) was monitored

5) Excess emission records (40 CFR 63.346(b)(9) and (10))
_____ excess emission records must include at a minimum the start and end times and dates of each period of excess emissions
_____ excess caused by malfunction operator records: type of malfunction, duration of malfunction, cause of malfunction, corrective actions, and date and time of malfunction
_____ excess emission caused by something other than malfunction records

6) Process records must be kept, at a minimum: (40 CFR 63.346(b)(11))
_____ process operating time for each tank
_____ if use fume suppressant date and time of each addition of fume suppressants

7) _____ Miscellaneous records or other records required by permit or notice of violation
_____ If fume suppressant used, operator keeps the date and time of each addition of the fume suppressant (40 CFR 63.346(b)(13))
_____ If waiver is granted, operator keeps documentation supporting the requirements for that waiver (40 CFR 63.346(b)(15))

10.0 Reporting: If it is a chromium anodizing electroplating tank the operator must demonstrate the following reporting occurred.

1) An initial notification that the source is subject to the regulation as required by the following table: (40 CFR 63.347(c)(1))

Type of Source	Relevant Dates	Requirements
Existing	startup date **before** 1/25/95	_____ submit initial notification on or before 7/24/95
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **before** 1/25/95	_____ submit notification of date when construction/reconstruction commenced _____ submit notification of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **after** 1/25/95	_____ submit notification within 30 calendar days after commencement date of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days

2) _____ Notification of construction or reconstruction of the facility if begun after 1/25/95 (40 CFR 63.345(b)(1) and 63.347(c)(2))

3) _____ Notification of initial performance testing at least 60 calendar days prior to scheduled date of test (40 CFR 63.347(d))

4) A site specific test plan prior to initial performance test that includes: (yes/no) (40 CFR 63.344(a))

_____ description of the process to be tested
_____ conditions under which testing is to be conducted
_____ sampling location description
_____ test method to be used

5) _____ A performance test report after testing conducted (yes/no) (40 CFR 63.344(a))
If no, explain _____
_____

The performance test report included the following: (yes/no) (40 CFR 63.344(a))

_____ description of the process to be tested
_____ sampling location descriptions
_____ sampling and analysis procedures and any modifications to standard procedures
_____ test results
_____ description of the internal and external quality assurance ("QA") program and results
_____ records of operating conditions during testing, preparation of standards, and calibration procedures
_____ raw data sheets for: field sampling and field and laboratory analyses
_____ documentation of calculations **and**
_____ any additional information required by the test method
_____ internal quality assurance program includes: activities planned by routine operators and analysts to provide assessment of test data precision

6) A report of the following was sent within 90 days after the performance test and no later than 30 days after compliance date: (yes/no) (40 CFR 63.347(a))

_____ performance test results
_____ compliance status
_____ copy of performance test report **and**
_____ notification of compliance status to U.S. EPA if no Title V permit yet issued **or**
_____ notification of compliance status to APCD if Title V permit issued

7) A compliance status report that included: (yes/no) (40 CFR 63.347(e))

_____ applicable emission limitation and methods used to determine compliance
_____ if performance test is required, the test report documenting the results
_____ type and quantity of hazardous air pollutants emitted
_____ specific operating parameter value, or range of values, for each monitored parameter
_____ methods that will be used to determine continuous compliance
_____ description of the air pollution control technique for each emission point
_____ statement that the operator has the O&M plan completed and on file **and**
_____ statement by the operator as to whether the tank is in compliance with this regulation

8) An ongoing compliance status report for the facility based upon one of the following scenarios: (40 CFR 63.347(g) if major source or 40 CFR 63.347(h) if area source)

_____ if it is a major source it prepares and submits a report to APCD every 6 months unless APCD decides more frequent reports required **or**

_____ if it is a major source that experienced exceedances of emission limits it submits a report to APCD every quarter (3 months) (can be reduced if meet conditions, SEE Inspector's Guidance Manual Section 1.6.7.4) **or**

_____ if it is an area source it prepares and submits ongoing compliance reports annually, retain it on-site, and makes it available to APCD or Inspector upon request **or**

_____ if it is an area source with excess emissions $\geq$1% of total operating time for reporting period **and** total duration of malfunctions of add-on control equipment and monitoring equipment is $\geq$5% of the total operating time, it prepares and submits reports every 6 months or more often if APCD chooses (can be reduced if meet conditions)

TABLE 1
Emission Limits For Chromium Electroplating Tanks -- Single Source / Tank

Single Tank	Existing, New, or Reconstructed Source	Hexavalent or Trivalent Solution	Use Wetting Agent as Control	Use Trivalent Solution & Wetting Agent is Ingredient	Required Emission Limit
Hard Chromium					total chromium in gas stream not exceed:
Large	Existing, New, or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Small	Existing	n/a	n/a	n/a	0.03 mg/dscm
	New or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Decorative Chromium	Existing, New, or Reconstructed	Hexavalent	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
	Existing, New, or Reconstructed	Trivalent	No	No	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	No	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
			n/a	Yes	No Standard
Chromium Anodizing	Existing, New, or Reconstructed	n/a	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm

TABLE 2
Emission Limits For Chromium Electroplating Tanks -- Multiple Sources / Tanks

Group of Tanks with Any One Tank Operating	Common Add-on Air Pollution Control Device	Each Tank Performs Same Type of Operation	Each Tank is Subject to the Same Emission Limits	Control Device Controls Nonaffected Tanks	Required Emission Limits
TYPE I:					
Hard Chromium					
Large: Existing, New, & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Small:					
Existing	Yes	Yes	Yes	**No**	0.030 mg /dscm
New & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Decorative Chromium	Yes	Yes	Yes	**No**	See Table 1.3
Chromium Anodizing	Yes	Yes	Yes	**No**	See Table 1.3
TYPE II:					
Large or Small Hard Chromium	Yes	Yes	Yes	Yes	See Note A
Decorative Chromium	Yes	Yes	Yes	Yes	See Note A
Chromium Anodizing	Yes	Yes	Yes	Yes	See Note A
TYPE III:					
Large or Small Hard Chromium	Yes	**No**	Yes	Yes or No	See Note B
Decorative Chromium	Yes	**No**	Yes	Yes or No	See Note B
Chromium Anodizing	Yes	**No**	Yes	Yes or No	See Note B
TYPE IV:					
Large or Small Hard Chromium	Yes	Yes	**No**	Yes or No	See Note C
Decorative Chromium	Yes	Yes	**No**	Yes or No	See Note C
Chromium Anodizing	Yes	Yes	**No**	Yes or No	See Note C

Note A: Special compliance provisions for multiple sources, performing the same type of operation, controlled by a common add-on air pollution control device:

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by two (2) hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate from the affected sources by using equation 1:

$$(1)\ VR_{tot} \text{ X } IDA_i / (\text{sum})\ IA_{total} = VR_{inlet}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by mass of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all nonaffected sources; and $VR_{inlet,}$ is the total ventilation rate from all inlet ducts associated with affected sources.

(v) Establish the allowable mass emission rate of the system (AMR_{sys}) in milligrams of total chromium per hour (mg/hr) using equation 2:

$$(2)\ (\text{sum})VR_{inlet} \text{ X EL X } 60 \text{ minutes/hours} = AMR_{sys}$$

where $(\text{sum})VR_{inlet,}$ is the total ventilation rate in dscm/min from the affected sources, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. The allowable mass emission rate (AMR_{sys}) calculated from equation 2 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standard.

Note B: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device (that may or may not also be controlling emissions from sources not affected by these standards), and performing different types of operations (i.e., hard chromium electroplating, decorative chromium electroplating, or chromium anodizing):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3: (3) VR_{tot} X $IDA_{i,a}$ / (sum)IA_{total} = $VR_{inlet,a}$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

(4) VR_{hc1} X EL_{hcl} X 60 minutes / hour = AMR_{hc1}
(5) VR_{hc2} X EL_{hc2} X 60 minutes / hour = AMR_{hc2}
(6) VR_{dc} X EL_{dc} X 60 minutes / hour = AMR_{dc}
(7) VR_{ca} X EL_{ca} X 60 minutes / hour = AMR_{ca}

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

(8) AMR_{hc1} + AMR_{hc2} +AMR_{dc} +AMR_{ca}= AMR_{sys}

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

Note C: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device, and performing same type of operation (that may or may not also be controlling emissions from sources not affected by these standards), but are subject to different emission limitations (i.e., because one is a new hard chromium plating tank and one is an existing tank):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3:

$$(3)\ VR_{tot} \text{ X } IDA_{i,a} / (sum)IA_{total} = VR_{inlet,a}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

$$(4)\ VR_{hc1} \text{ X } EL_{hcl} \text{ X } 60 \text{ minutes / hour} = AMR_{hc1}$$
$$(5)\ VR_{hc2} \text{ X } EL_{hc2} \text{ X } 60 \text{ minutes / hour} = AMR_{hc2}$$
$$(6)\ VR_{dc} \text{ X } EL_{dc} \text{ X } 60 \text{ minutes / hour} = AMR_{dc}$$
$$(7)\ VR_{ca} \text{ X } EL_{ca} \text{ X } 60 \text{ minutes / hour} = AMR_{ca}$$

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

$$(8)\ AMR_{hc1} + AMR_{hc2} + AMR_{dc} + AMR_{ca} = AMR_{sys}$$

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

TABLE 3
Work Practice Standards for Add-On Control Device

Control Device	Work Practice Standards	Time Required
Composite Mesh Pad (CMP) System	1. Visually inspect device 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 device. 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist. 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks. 4. Perform washdown of the composite mesh pads in accordance with manufacturer's recommendations	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Packed Bed Scrubber (PBS) System	1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device. 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist. 3. Same as number 3 for CMP System. 4. Add fresh makeup water to the top of the packed bed.[a,b]	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Whenever makeup is added
PBS/CMP System	1. Same as for CMP System. 2. Same as for CMP System. 3. Same as for CMP System. 4. Same as for CMP System.	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Fiber-Bed Mist Eliminator[c]	1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices. 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks. 3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.	1. 1/quarter 2. 1/quarter 3. Per manufacturer
Air pollution control device not listed in rule	To be proposed by the source for approval by the Administrator of the U.S. EPA.	To be proposed by source for approval by Administrator
Monitoring Equipment		
Pilot Tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.	1/quarter
Stalagmometer[d]	Follow manufacturer's recommendations.	

[a] If greater than fifty (50) percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

[b] For horizontal flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow

through the packing. For vertical flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

[c] Work practice standards for the control device installed upstream of the fiber bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber bed unit are followed.

[d] Device used to measure the surface tension of the bath.

Prior to visiting a site for an inspection, the Inspector **must** determine which type of chromium electroplating or anodizing facility will be inspected. See the Checklist for Inspector to Complete Prior to Facility Site Inspection. This checklist is only relevant for **Decorative Chromium Electroplating** facilities.

INSPECTOR ON-SITE CHECKLIST

Decorative Chromium Electroplating

The Inspector must complete one checklist for each "source" or tank inspected.
Tank Number: _____
Date Inspected: _____

1.0 Compliance Date: The date by which a source must comply with these regulations depends upon the type of chromium electroplating or anodizing source it is and if it is a new or reconstructed or existing source.

Compliance Dates for Decorative Chromium Electroplating

	Source must be in compliance
Existing (initial startup before 12/16/93)	1/25/96
New or reconstructed with initial startup after 12/16/93, but before 1/25/95	1/25/95 (effective date)
New or reconstructed with initial startup after 1/25/95	immediately upon startup of the source

This source had an initial startup date of _____
This is a _____ source (existing, new, or reconstructed)

This source must be in compliance as of _____ (date) (40 CFR 63.343(a))
This decorative chromium electroplating tank was in compliance on _____ (date) (ask operator)
OR this source is not in compliance because _____
_____
_____

2.0 Facility is a Major or Area Source: The operator must have records which enable the Inspector to determine a source's potential to emit chromium.

_____ Major source if has the potential to emit ten (10) tons per year of any one hazardous air pollutant OR if it has the potential to emit

twenty five (25) tons per year of any combination of hazardous air pollutants

_____ Area source if it is not a major source

_____ Major source if an area source increases the potential to emit chromium above 10 tons per year or increases the potential to emit all hazardous air pollutants above 25 tons per year, the source becomes a major source and must comply with existing major source requirements immediately

3.0 Type of Bath Solution Used: If an operator uses a trivalent solution with a wetting agent many requirements can be avoided, as is indicated throughout this checklist.

_____ Hexavalent (chromic acid)

_____ Trivalent without a wetting agent as an ingredient

_____ Trivalent with a wetting agent as an ingredient

4.0 Type of Air Pollutant Control Device: (mark applicable devices) The operator should have documentation available on the control device(s) utilized and should demonstrate that the control device(s) is functioning properly.

Add-on air pollution control devices:

_____ Composite mesh pad (CMP) system

_____ Packed bed scrubber (PBS)

_____ PBS/CMP system

_____ Fiber-bed mist eliminator

_____ Other _____ (need U.S. EPA approved documentation)

Chemical fume suppressant air pollution control devices:

_____ Foam blanket

_____ Wetting agent

_____ Other _____ (need U.S. EPA approved documentation)

If use both an add-on control device and fume suppressant:

Type of add-on control device(s) _____

_____

Type of fume suppressant(s) _____

_____

5.0 Number of Tanks Attached to Same Air Pollution Control Device

_____ Single tank attached to control device (only one decorative chromium tank attached to device)
_____ Mulitple tanks attached to control device (more than one decorative chromium tank or any combination of chromium electroplating or chromium anodizing tanks)

If mulitiple tanks attached to control device: (yes/no)
_____ Same operation performed at each tank
_____ Same emission limit for each tank
_____ Air pollution control device controls sources that are not chromium electroplating or anodizing tanks

6.0 Emission Limits: Using the information from sections 1.0, 2.0, and 5.0 answer the following questions.

The emission limit for this source as determined by Tables 1 or 2 (page 12 and 13) is _____

Describe whether the source met the required emission limits as determined by Table 1 (page 11) by the required compliance date: (40 CFR 63.342(c)(d)(e)) _____
_____

If the source failed to meet the required emission limits as determined by Table 1 (page 12) by the required compliance date, explain why:
_____
_____

7.0 Operation and Maintenance (O&M) Plan: If a decorative chromium tank uses a trivalent chromium solution that includes a **wetting agent** as an ingredient, the operator need not comply with the requirements in this section.

_____ O&M plan is kept on record and is available upon inspection for the life of the affected source or until the source is no longer subject to these regulations (40 CFR 62.342(f)(3)(v))
_____ The operator, upon revision of the O&M plan, has kept all previous versions of the O&M plan on record for inspection for a period of five (5) years after each revision (40 CFR 62.342(f)(3)(v))
_____ O&M plan is incorporated by reference into facility's Operating Permit (40 CFR 63.342(f)(3))

O&M plan for this facility:
_____ specifies the operation and maintenance criteria for the affected source (40 CFR 63.342(f)(3)(A))
_____ specifies the add-on air pollution control device (if used to comply with the emission requirements) (40 CFR 63.342(f)(3)(i)(A))
_____ specifies the process and control system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))
_____ includes a standardized checklist to document the operation and maintenance of air pollution control device(s) and process and control

system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))

_____ specifies procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur (40 CFR 63.342(f)(3)(i)(D)) **and**

_____ includes a systematic procedure for identifying malfunctions of process equipment, add-on 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)(E))

If the facility utilizes any add-on air pollution control device:

_____ the O&M plan incorporates work practice standards for any add-on air pollution control device or monitoring equipment as identified in Table 3 (page 17) (40 CFR 63.342(f)(3)(i)(B))

List the applicable work practice standards for the add-on air pollution control devices used and whether operator has complied with them:

Add-on air pollution control device	Work Practice Standard	Complied (yes/no)
1.	a. b. c. d.	a. b. c. d.
2.	a. b. c. d.	a. b. c. d.
3.	a. b. c. d.	a. b. c. d.

_____ if the specific equipment used is not identified in Table 3 (page 17), the O&M plan shall incorporate proposed work practice standards which must be submitted to APCD and U.S. EPA (40 CFR 63.342(f)(3)(i)(C))

The operator operates and maintains all of the following in a manner consistent with “good air pollution control practices” (including quarterly inspections of each): (yes/no) (40 CFR 63.342(f)(1)(i))

_____ affected sources and ductwork of the source

_____ associated control devices **and**

_____ monitoring equipment

The following documentation was provided to establish whether an operator properly maintained the facility in a manner consistent with "good air pollution control practices": (yes/no)

_____ monitoring results
_____ review of the operation and maintenance plan, procedures, and records
_____ inspection of the source
_____ other _____

O&M plan does not meet the requirements and changes must be made to the plan if the plan: (40 CFR 63.342(f)(3)(ii))

_____ does not address a malfunction that has occurred **or**
_____ fails to provide for the operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with "good air pollution control practices" **or**
_____ does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable

Has an event occurred that meets the characteristics of a malfunction?_____
_____
Did the O&M plan fail to or inadequately address the malfunction? _____
If yes, explain: _____

If the O&M plan failed to or inadequately addressed the malfunction, did the operator revise the O&M plan within forty five (45) days after the event? _____
If no, explain: (40 CFR 63.342(f)(3)(ii)) _____
If yes, does the revised O&M plan include: (40 CFR 63.342(f)(3)(ii))

_____ procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events **and**
_____ a program for corrective action for such events

Did the operator during periods of malfunction take actions inconsistent with the procedures specified in the O&M plan?
_____
If yes, did the operator: (40 CFR 63.342(f)(3)(iv))

_____ record the actions taken for the event and report by phone such actions within two (2) working days after commencing actions insistent with the plan
_____ send a letter within seven (7) working days after the end of the event **and**
_____ provide the Inspector with copies of such reports and records for this inspection

8.0 Initial Performance Test

If the tank meets one of the following descriptions it is exempt from the initial performance test:

_____ decorative chromium electroplating tank with a wetting agent and a maximum surface tension of 45 dynes/cm

_____ decorative chromium electroplating tank that includes a wetting agent as an ingredient of the solution

For any tank not exempt, the operator must have performed an initial performance test within the time requirement of one of the following: (40 CFR 63.7(2)(b) and 40 CFR 63.343(b)(1))

	New or Existing	Operation or Startup Date	Initial Performance Test Date
_____	Existing source	with initial startup before or on 12/16/95	perform test by 7/24/96
_____	Existing source	with initial startup after 12/16/95	perform test within 180 days after initial startup
_____	Existing, new, or reconstructed source	with an extension of compliance granted by APCD	perform test within 180 days after termination of extension
_____	New source	with initial startup date after 1/25/93 and before1/25/95	perform test by 7/24/95
_____	New source	with initial startup date after 1/25/95	perform test within 180 days after initial startup

If no initial performance test performed, explain _____
_____

_____ Initial performance test was submitted to APCD
If no, explain _____
_____

_____ Initial performance test was reviewed by APCD on _____ date.
If no, explain _____
_____

_____ APCD gave final determination whether source in compliance (notified source and County).

Indicate the parameters obtained in the initial performance test. These parameters are necessary to determine whether the source is in ongoing compliance.

Add-on Air Pollution Control Device	Parameter Obtained in Initial Test
Composite mesh pad (CMP)	Pressure drop across system: _____ in. w.c. ± 1 in.
Packed bed scrubber (PBS)	Pressure drop across system: _____ in. w.c. ± 1 in. Velocity pressure at system inlet: _____ ± 10% avg. vel.
Fiber bed mist eliminator (FBME)	Pressure drop across the control device located upstream of the fiber bed that prevents plugging: _____in. w.c. ± 1 in.
Chemical Fume Suppressant	Parameter Obtained in Initial Test
Wetting agent	Surface tension at the bath: _____ dynes/cm
Foam blanket	Foam blanket thickness: _____ in. or cm.

9.0 Ongoing Compliance Monitoring: Inspector should determine type of air pollution control device and whether operator has met the applicable ongoing compliance monitoring requirement. If a decorative chromium tank uses a trivalent chromium solution that includes a **wetting agent** as an ingredient, the operator need not comply with the requirements in this section.

Operator uses an **add-on** air pollution control device and takes the following measurements: (yes/no)

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Composite mesh pad (CMP) system (40 CFR 63.343(c)(1)(ii))	_____ monitor pressure drop across system	Daily
Packed bed scrubber (PBS) (40 CFR 63.343(c)(2)(ii))	_____ monitor pressure drop across system _____ monitor velocity pressure at system inlet	Daily Daily
Packed bed scrubber (PBS) and composite mesh pad (CMP) system (40 CFR 63.343(c)(3))	_____ monitor pressure drop across the mesh pad system _____ measure the velocity pressure at system inlet	Daily Daily
Fiber bed mist eliminator (FBME) (40 CFR 63.343(c)(4)(ii))	_____ monitor pressure drop across the control device located upstream of the fiber bed that prevents plugging	Daily
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

Inspector has **personally seen** the operator properly take the following measurements if required:

_____ Pressure drop across system
_____ Pressure drop across the CMP system
_____ Pressure drop across the FBME system
_____ Velocity pressure at the system inlet

If pressure drop must be measured, did the monitored values for pressure drop: (yes/no)

_____ fall within the range of values established by the operator for pressure drop **or**
_____ fall within ± 1 inch about the average H_20 column measured during three compliant test runs

If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(1)(ii), (2)(ii), (3), or (4)(ii))

If velocity pressure must be measured, did the monitored values for velocity pressure: (yes/no)

_____ fall within the range of velocity pressures established by the operator for velocity pressure **or**

_____ fall within ± 10 percent about the average velocity pressure measured during three compliant test runs

If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(2(ii) and (3))

Operator uses a **chemical fume suppressant** air pollution control device and takes the following measurements (yes/no):

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Wetting agent (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Foam blanket type fume suppressant (40 CFR 63.343(c)(6)(ii))	_____ monitor foam blanket thickness	Every 4 hours[a,b] or _____
Combination wetting agent and foam blanket type fume suppressants (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Chemical fume suppressant and add-on control device (40 CFR 63.343(c)(7)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B) _____ monitor foam blanket thickness	Daily or _____ Every hour[b,c] or _____
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

[a] If there are no exceedances of the maximum surface tension after forty (40) hours of operation, then the monitoring frequency can be decreased to once every eight (8) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every forty (40) hours. If an exceedance occurs at any time after that, then the initial monitoring schedule (every four (4) hours) must be resumed.

[b] The initial schedule must be resumed for every new tank solution.

[c] If there are no exceedances of the minimum foam blanket thickness after forty (40) hours of operation, then the monitoring frequency can be decreased to once every four (4) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every eight (8) hours. If an exceedance occurs after that, then the initial monitoring schedule (every hour) must be resumed.

Inspector has **personally seen** the operator properly take the following measurements if required:

_____ surface tension **and/or**

_____ foam blanket thickness

_____ Did the surface tension exceed the maximum surface tension established by the operator for pressure drop, if no, the source is in compliance. If yes, the source is not in compliance. (40 CFR 63.343(c)(5)(ii) and (7)(ii)

_____ Did the foam blanket thickness fall below the minimum foam blanket thickness **or** fall below 1 inch in thickness, if no, the source is in compliance. (40 CFR 63.343(c)(6)(ii) and (c)(7)(ii))

If the facility has multiple tanks **and** meets one of the following conditions go to Table 2 (page 12) to obtain equations used to verify compliance with the emission limits: (40 CFR 63.344(e))

_____ the multiple tanks include a chromium electroplating or chromium anodizing tank among other tanks not affected by the regulation **or**

_____ the multiple tanks include chromium tanks performing different operations subject to different emission limits (e.g., decorative chromium electroplating and anodizing), which may or may not be controlled with nonaffected sources **or**

_____ the multiple tanks include decorative chromium tanks subject to different emission limits (e.g., a new tank and an existing small tank), which may or may not be controlled with nonaffected sources.

10.0 Recordkeeping: The operator keeps the following records to document compliance with the regulation for five years. (yes/no)

1) Inspection and maintenance records (40 CFR 63.346(b)(1) and (2))
   _____ work practices conducted on schedule (review operator's checklist)
   _____ all maintenance performed on process, air pollution control system, and monitoring equipment

2) Malfunction records (40 CFR 63.346(b)(3) and (4))
   _____ correction of malfunction consistent with O&M plan no records required
   _____ correction of malfunction not consistent with O&M plan following records required: occurrence, duration, and cause of any malfunction of the process, air pollution control device, and monitoring equipment

3) _____ Performance test results including process and air pollution control parameter measurements used during testing and any additional measurements required if use common control system for multiple sources (40 CFR 63.346(b)(6))

4) Monitoring data records include at a minimum: (40 CFR 63.346(b)(8))
   _____ identify control system(s)
   _____ identify the monitored parameter(s)
   _____ identify the value of the monitored parameter(s)
   _____ identify the time and date when the parameter(s) was monitored

5) Excess emission records (40 CFR 63.346(b)(9) and (10))

_____ excess emission records must include at a minimum the start and end times and dates of each period of excess emissions

_____ excess caused by malfunction operator records: type of malfunction, duration of malfunction, suspected cause of malfunction, corrective actions, and date and time of malfunction

_____ excess emission caused by something other than malfunction records

6) Process records must be kept, at a minimum: (40 CFR 63.346(b)(11))

_____ process operating time for each tank

_____ if use fume suppressant date and time of each addition of fume suppressants

_____ if a trivalent solution with a wetting agent as an ingredient is used, operator keeps purchasing records of bath components that clearly identify the wetting agent as a bath ingredient

7) _____ Miscellaneous records or other records required by permit or notice of violation

_____ If fume suppressant used, operator keeps the date and time of each addition of the fume suppressant (40 CFR 63.346(b)(13))

_____ If waiver is granted, operator keeps documentation supporting the requirements for that waiver (40 CFR 63.346(b)(15))

11.0 Reporting: If it is a decorative chromium electroplating tank **not** using a **trivalent chromium bath** the operator must demonstrate the following reporting occurred:

1) An initial notification that the source is subject to the regulation as required by the following table: (40 CFR 63.347(c)(1))

Type of Source	Relevant Dates	Requirements
Existing	startup date **before** 1/25/95	_____ submit initial notification on or before 7/24/95
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **before**1/25/95	_____ submit notification of date when construction/reconstruction commenced _____ submit notification of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **after** 1/25/95	_____ submit notification within 30 calendar days after commencement date of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days

2) _____ Notification of construction or reconstruction of the facility if begun after 1/25/95

3) _____ Notification of initial performance testing at least 60 calendar days prior to scheduled date of test

4) A site specific test plan prior to initial performance test that includes: (yes/no) (40 CFR 63.344(a))
_____ description of the process to be tested
_____ conditions under which testing is to be conducted
_____ sampling location description
_____ test method to be used

5) _____ A performance test report after testing conducted (yes/no) (40 CFR 63.344(a))
If not, explain _____
_____
The performance test report included the following: (yes/no) (40 CFR 63.344(a))
_____ description of the process to be tested
_____ sampling location descriptions

_____ sampling and analysis procedures and any modifications to standard procedures
_____ test results
_____ description of the internal and external quality assurance ("QA") program and results
_____ records of: operating conditions during testing, preparation of standards, and calibration procedures
_____ raw data sheets for: field sampling and field and laboratory analyses
_____ documentation of calculations **and**
_____ any additional information required by the test method
_____ The internal quality assurance program includes: activities planned by routine operators and analysts to provide assessment of test data precision

6) A report of the following was sent within 90 days after the performance test and no later than 30 days after compliance date: (yes/no) (40 CFR 63.347(a))
_____ performance test results
_____ compliance status
_____ copy of test report **and**
_____ notification of compliance status to U.S. EPA if no Title V permit yet issued **or**
_____ notification of compliance status to APCD if Title V permit issued **and**

7) A compliance status report that included: (yes/no) (40 CFR 63.347(e))
_____ applicable emission limitation and methods used to determine compliance
_____ if performance test is required, the test report documenting the results
_____ type and quantity of hazardous air pollutants emitted
_____ specific operating parameter value, or range of values, for each monitored parameter
_____ methods that will be used to determine continuous compliance
_____ description of the air pollution control technique for each emission point
_____ statement that the operator has the O&M plan completed and on file **and**
_____ statement by the operator as to whether the tank is in compliance with this regulation

8) An ongoing compliance status report for the facility based upon one of the following scenarios: (40 CFR 63.347(g) if major source or 40 CFR 63.347(h) if area source)

_____ if it is a major source it prepares and submits a report to APCD every 6 months unless APCD decides more frequent reports required **or**

_____ if it is a major source that experienced exceedances of emission limits it submits a report to APCD every quarter (3 months) (can be reduced if meet conditions, SEE Inspector's Guidance Manual Section 1.6.7.4) **or**

_____ if it is an area source it prepares and submits ongoing compliance reports annually, retain it on-site, and makes it available to APCD or Inspector upon request **or**

_____ if it is an area source with excess emissions ≥1% of total operating time for reporting period **and** total duration of malfunctions of add-on control equipment and monitoring equipment is ≥5% of the total operating time, it prepares and submits reports every 6 months or more often if APCD chooses (can be reduced if meet conditions)

9) If it is a decorative chromium electroplating tank using a **trivalent chromium bath** the operator must demonstrate the following reporting occurred: (40 CFR 63.347(i)(1))

_____ an initial notification by 7/24/95 that the source is subject to the regulation, including: a statement that a trivalent chromium process incorporating a wetting agent will be used and a list of bath components that comprise the trivalent chromium bath with the wetting agent clearly identified **and**

_____ a report of the performance test results and compliance status after the test or by 2/24/96

_____ If the operator has decided to change the process from trivalent chromium bath to another process (hexavalent chromium process), the operator must submit a report within 30 calendar days after the change that contains: description of how the process was changed, emission limitation that now applies, and the notification, reporting, and recordkeeping requirements in Sections 10.0 and 11.0. (40 CFR 63.347(i)(3))

TABLE 1
Emission Limits For Chromium Electroplating Tanks -- Single Source / Tank

Single Tank	Existing, New, or Reconstructed Source	Hexavalent or Trivalent Solution	Use Wetting Agent as Control	Use Trivalent Solution & Wetting Agent is Ingredient	Required Emission Limit
Hard Chromium					total chromium in gas stream not exceed:
Large	Existing, New, or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Small	Existing	n/a	n/a	n/a	0.03 mg/dscm
	New or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Decorative Chromium	Existing, New, or Reconstructed	Hexavalent	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
	Existing, New, or Reconstructed	Trivalent	No	No	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	No	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
			n/a	Yes	No Standard
Chromium Anodizing	Existing, New, or Reconstructed	n/a	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm

TABLE 2
Emission Limits For Chromium Electroplating Tanks -- Multiple Sources / Tanks

Group of Tanks with Any One Tank Operating	Common Add-on Air Pollution Control Device	Each Tank Performs Same Type of Operation	Each Tank is Subject to the Same Emission Limits	Control Device Controls Nonaffected Tanks	Required Emission Limits
TYPE I:					
Hard Chromium					
Large: Existing, New, & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Small:					
Existing	Yes	Yes	Yes	**No**	0.030 mg /dscm
New & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Decorative Chromium	Yes	Yes	Yes	**No**	See Table 1.3
Chromium Anodizing	Yes	Yes	Yes	**No**	See Table 1.3
TYPE II:					
Large or Small Hard Chromium	Yes	Yes	Yes	Yes	See Note A
Decorative Chromium	Yes	Yes	Yes	Yes	See Note A
Chromium Anodizing	Yes	Yes	Yes	Yes	See Note A
TYPE III:					
Large or Small Hard Chromium	Yes	**No**	Yes	Yes or No	See Note B
Decorative Chromium	Yes	**No**	Yes	Yes or No	See Note B
Chromium Anodizing	Yes	**No**	Yes	Yes or No	See Note B
TYPE IV:					
Large or Small Hard Chromium	Yes	Yes	**No**	Yes or No	See Note C
Decorative Chromium	Yes	Yes	**No**	Yes or No	See Note C
Chromium Anodizing	Yes	Yes	**No**	Yes or No	See Note C

Note A: Special compliance provisions for multiple sources, performing the same type of operation, controlled by a common add-on air pollution control device:

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by two (2) hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate from the affected sources by using equation 1:

$$(1)\ VR_{tot} \text{ X } IDA_i / (\text{sum})\ IA_{total} = VR_{inlet}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by mass of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all nonaffected sources; and $VR_{inlet,}$ is the total ventilation rate from all inlet ducts associated with affected sources.

(v) Establish the allowable mass emission rate of the system (AMR_{sys}) in milligrams of total chromium per hour (mg/hr) using equation 2:

$$(2)\ (\text{sum})VR_{inlet} \text{ X EL X } 60 \text{ minutes/hours} = AMR_{sys}$$

where $(\text{sum})VR_{inlet,}$ is the total ventilation rate in dscm/min from the affected sources, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. The allowable mass emission rate (AMR_{sys}) calculated from equation 2 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standard.

Note B: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device (that may or may not also be controlling emissions from sources not affected by these standards), and performing different types of operations (i.e., hard chromium electroplating, decorative chromium electroplating, or chromium anodizing):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3: (3) VR_{tot} X $IDA_{i,a}$ / (sum)IA_{total} = $VR_{inlet,a}$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

(4) VR_{hc1} X EL_{hcl} X 60 minutes / hour = AMR_{hc1}
(5) VR_{hc2} X EL_{hc2} X 60 minutes / hour = AMR_{hc2}
(6) VR_{dc} X EL_{dc} X 60 minutes / hour = AMR_{dc}
(7) VR_{ca} X EL_{ca} X 60 minutes / hour = AMR_{ca}

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

(8) AMR_{hc1} + AMR_{hc2} +AMR_{dc} +AMR_{ca}= AMR_{sys}

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

Note C: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device, and performing same type of operation (that may or may not also be controlling emissions from sources not affected by these standards), but are subject to different emission limitations (i.e., because one is a new hard chromium plating tank and one is an existing tank):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3:

$$(3)\ VR_{tot} \text{ X } IDA_{i,a} / (sum)IA_{total} = VR_{inlet,a}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

$$(4)\ VR_{hc1} \text{ X } EL_{hcl} \text{ X } 60 \text{ minutes / hour} = AMR_{hc1}$$
$$(5)\ VR_{hc2} \text{ X } EL_{hc2} \text{ X } 60 \text{ minutes / hour} = AMR_{hc2}$$
$$(6)\ VR_{dc} \text{ X } EL_{dc} \text{ X } 60 \text{ minutes / hour} = AMR_{dc}$$
$$(7)\ VR_{ca} \text{ X } EL_{ca} \text{ X } 60 \text{ minutes / hour} = AMR_{ca}$$

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

$$(8)\ AMR_{hc1} + AMR_{hc2} + AMR_{dc} + AMR_{ca} = AMR_{sys}$$

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

TABLE 3
Work Practice Standards for Add-On Control Device

Control Device	Work Practice Standards	Time Required
Composite Mesh Pad (CMP) System	1. Visually inspect device 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 device. 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist. 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks. 4. Perform washdown of the composite mesh pads in accordance with manufacturer's recommendations	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Packed Bed Scrubber (PBS) System	1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device. 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist. 3. Same as number 3 for CMP System. 4. Add fresh makeup water to the top of the packed bed.[a,b]	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Whenever makeup is added
PBS/CMP System	1. Same as for CMP System. 2. Same as for CMP System. 3. Same as for CMP System. 4. Same as for CMP System.	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Fiber-Bed Mist Eliminator[c]	1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices. 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks. 3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.	1. 1/quarter 2. 1/quarter 3. Per manufacturer
Air pollution control device not listed in rule	To be proposed by the source for approval by the Administrator of the U.S. EPA.	To be proposed by source for approval by Administrator
Monitoring Equipment		
Pilot Tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.	1/quarter
Stalagmometer[d]	Follow manufacturer's recommendations.	

[a] If greater than fifty (50) percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

[b] For horizontal flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow

through the packing. For vertical flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

[c] Work practice standards for the control device installed upstream of the fiber bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber bed unit are followed.

[d] Device used to measure the surface tension of the bath.

Prior to visiting a site for an inspection, the Inspector **must** determine which type of chromium electroplating or anodizing facility will be inspected. See the Checklist for Inspector to Complete Prior to Facility Site Inspection. This checklist is only relevant for **Hard Chromium Electroplating** facilities.

INSPECTOR ON-SITE CHECKLIST

Hard Chromium Electroplating

The Inspector must complete one checklist for each "source" or tank inspected.
Tank Number: _____
Date Inspected: _____

1.0 Compliance Date: The date by which a source must comply with these regulations depends upon the type of chromium electroplating or anodizing source it is and if it is a new or reconstructed or existing source.

Compliance Dates for Hard Chromium Electroplating

	Source must be in compliance
Existing (initial startup before 12/16/93)	1/25/97
New or reconstructed with initial startup after 12/16/93, but before 1/25/95	1/25/95 (effective date)
New or reconstructed with initial startup after 1/25/95	immediately upon startup of the source

This source had an initial startup date of _____
This is a _____ source (existing, new, or reconstructed)

This source must be in compliance as of _____ (date)
This hard chromium electroplating tank was in compliance on _____ (date) (ask operator)
OR this source is not in compliance because _____
_____
_____

2.0 Size of Facility: The operator must demonstrate whether it is a large or small facility using one of the following methods. The Inspector may request any records necessary to verify the size of the facility such as: tank manufacturer's descriptive documentation, calculation sheets, operating records.

Capacity of facility _____ million amp-hr/yr

(Total rectifier capacity of all tanks) x 8400 x 0.7 = ampere hours / year

_____ Large: **maximum** cumulative rectifier capacity of all the hard chromium electroplating tanks within the facility is greater than or equal to sixty (60) million amp-hr/yr

_____ Small: **maximum** cumulative rectifier capacity of all hard chromium electroplating tanks within the facility is less than sixty (60) million amp-hr/yr

_____ Size determined by **actual** cumulative rectifier capacity for the previous twelve (12) month rolling period; (SEE Inspector's Guidance Manual Section 1.3.2.3 for process of determining size based on **actual** cumulative rectifier capacity)

3.0 Facility is a Major or Area Source: The operator must have records which enable the Inspector to determine a source's potential to emit chromium.

_____ Major source if has the potential to emit ten (10) tons per year of any one hazardous air pollutant OR if it has the potential to emit twenty five (25) tons per year of any combination of hazardous air pollutants

_____ Area source if it is not a major source

_____ Major source if an area source increases the potential to emit chromium above 10 tons per year or increases the potential to emit all hazardous air pollutants above 25 tons per year, the source becomes a major source and must comply with existing major source requirements immediately

4.0 Type of Air Pollutant Control Device: (mark applicable devices) The operator should have documentation available on the control device(s) utilized and should demonstrate that the control device(s) is functioning properly.

Add-on air pollution control devices:

_____ Composite mesh pad (CMP) system

_____ Packed bed scrubber (PBS)

_____ PBS/CMP system

_____ Fiber-bed mist eliminator

_____ Other _____ (need U.S. EPA approved documentation)

Chemical fume suppressant air pollution control devices:

_____ Foam blanket

_____ Wetting agent
_____ Other _____ (need U.S. EPA approved documentation)

If use both an add-on control device and fume suppressant:
Type of add-on control device(s) _____
_____

Type of fume suppressant(s) _____
_____

5.0 Number of Tanks Attached to Same Air Pollution Control Device

_____ Single tank attached to control device (only one hard chromium tank attached to device)

_____ Multiple tanks attached to control device (more than one hard chromium tank or any combination of chromium electroplating or chromium anodizing tanks)

If multiple tanks: (yes/no)
_____ Same operation performed at each tank
_____ Same emission limit for each tank
_____ Air pollution control device controls sources that are not chromium electroplating or anodizing tanks

6.0 Emission Limits: Using the information from sections 1.0, 2.0, and 5.0, answer the following questions.

The emission limit for this source as determined by Tables 1 or 2 (page 12 and 13) is _____

Describe whether the source met the required emission limits as determined by Table 1 (page 12) by the required compliance date: (40 CFR 63.342(c)(d)(e)) _____
_____

If the source failed to meet the required emission limits as determined by Table 1 (page 12) by the required compliance date, explain why:
_____
_____

7.0 Operation and Maintenance (O&M) Plan:

_____ O&M plan is kept on record and is available upon inspection for the life of the affected source or until the source is no longer subject to these regulations (40 CFR 62.342(f)(3)(v))

_____ The operator, upon revision of the O&M plan, has kept all previous versions of the O&M plan on record for inspection for a period of five (5) years after each revision (40 CFR 62.342(f)(3)(v))

_____ O&M plan is incorporated by reference into facility's Operating Permit (40 CFR 63.342(f)(3))

O&M plan for this facility: (yes/no)

_____ specifies the operation and maintenance criteria for the affected source (40 CFR 63.342(f)(3)(A))

_____ specifies the add-on air pollution control device (if used to comply with the emission requirements) (40 CFR 63.342(f)(3)(i)(A))

_____ specifies the process and control system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))

_____ includes a standardized checklist to document the operation and maintenance of air pollution control device(s) and process and control system monitoring equipment (40 CFR 63.342(f)(3)(i)(A))

_____ specifies procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur (40 CFR 63.342(f)(3)(i)(D)) **and**

_____ includes a systematic procedure for identifying malfunctions of process equipment, add-on 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)(E))

If the facility utilizes any add-on air pollution control device:

_____ the O&M plan incorporates work practice standards for any add-on air pollution control device or monitoring equipment as identified in Table 3 (page 17) (40 CFR 63.342(f)(3)(i)(B))

List the applicable work practice standards for the add-on air pollution control devices used and whether operator has complied with them:

Add-on air pollution control device	Work Practice Standard	Complied (yes/no)
1.	a. b. c. d.	a. b. c. d.
2.	a. b. c. d.	a. b. c. d.
3.	a. b. c. d.	a. b. c. d.

_____ if the specific equipment used is not identified in Table 3 (page 17), the O&M plan shall incorporate proposed work practice standards which must be submitted to APCD and U.S. EPA (40 CFR 63.342(f)(3)(i)(C))

The operator operates and maintains all of the following in a manner consistent with "good air pollution control practices" (including quarterly inspections of each): (yes/no) (40 CFR 63.342(f)(1)(i))

_____ affected sources and ductwork of the source
_____ associated control devices **and**
_____ monitoring equipment

The following documentation was provided to establish whether an operator properly maintained the facility: (yes/no)

_____ monitoring results
_____ review of the operation and maintenance plan, procedures, and records
_____ inspection of the source
_____ other _____

O&M plan does not meet the requirements and changes must be made to the plan if the plan: (40 CFR 63.342(f)(3)(ii))

_____ does not address a malfunction that has occurred **or**

_____ fails to provide for the operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with "good air pollution control practices" **or**

_____ does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable

Has an event occurred that meets the characteristics of a malfunction?_____

_____

Did the O&M plan fail to or inadequately address the malfunction? _____

If yes, explain _____

If the O&M plan failed to or inadequately addressed the malfunction, did the operator revise the O&M plan within forty five (45) days after the event? _____

If no, explain (40 CFR 63.342(f)(3)(ii)) _____

If yes, does the revised O&M plan include: (40 CFR 63.342(f)(3)(ii))

_____ procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events **and**

_____ a program for corrective action for such events

Did the operator during periods of malfunction take actions inconsistent with the procedures specified in the O&M plan?

_____

If yes, did the operator: (40 CFR 63.342(f)(3)(iv))

_____ record the actions taken for the event and report by phone such actions within two (2) working days after commencing actions insistent with the plan

_____ send a letter within seven (7) working days after the end of the event **and**

_____ provide the Inspector with copies of such reports and records for this inspection

8.0 Initial Performance Test:

The operator performed the initial performance test within the time requirement of one of the following: (40 CFR 63.7(2)(b) and 40 CFR 63.343(b)(1))

	New or Existing	Operation or Startup Date	Initial Performance Test Date
_____	Existing source	with initial startup before or on 12/16/95	perform test by 7/24/97
_____	Existing source	with initial startup after 12/16/95	perform test within 180 days after initial startup
_____	Existing, new, or reconstructed source	with an extension of compliance granted by APCD	perform test within 180 days after termination of extension
_____	New source	with initial startup date after 1/25/93 and before 1/25/95	perform test by 7/24/95
_____	New source	with initial startup date after 1/25/95	perform test within 180 days after initial startup

If no initial performance test performed, explain _____
_____

_____ Initial performance test was submitted to APCD
If no, explain _____
_____

_____ Initial performance test was reviewed by APCD on _____ date.
If no, explain _____
_____

_____ APCD gave final determination whether source in compliance (notified source and County).

Indicate the parameters obtained in the initial performance test. These parameters are necessary to determine whether the source is in ongoing compliance.

Add-on Air Pollution Control Device	Parameter Obtained in Initial Test
Composite mesh pad (CMP)	Pressure drop across system: _____ in. w.c. ± 1 in.
Packed bed scrubber (PBS)	Pressure drop across system: _____ in. w.c. ± 1 in. Velocity pressure at system inlet: _____ ± 10% avg. vel.
Fiber bed mist eliminator (FBME)	Pressure drop across the control device located upstream of the fiber bed that prevents plugging: _____in. w.c. ± 1 in.
Chemical Fume Suppressant	Parameter Obtained in Initial Test
Wetting agent	Surface tension at the bath: _____ dynes/cm
Foam blanket	Foam blanket thickness: _____ in. or cm.

9.0 Ongoing Compliance Monitoring: Inspector should determine type of air pollution control device and whether operator has met the applicable ongoing compliance monitoring requirement.

Operator uses an **add-on** air pollution control device and takes the following measurements: (yes/no)

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Composite mesh pad (CMP) system (40 CFR 63.343(c)(1)(ii))	_____ monitor pressure drop across system	Daily
Packed bed scrubber (PBS) (40 CFR 63.343(c)(2)(ii))	_____ monitor pressure drop across system _____ monitor velocity pressure at system inlet	Daily Daily
Packed bed scrubber (PBS) and composite mesh pad (CMP) system (40 CFR 63.343(c)(3))	_____ monitor pressure drop across the mesh pad system _____ measure the velocity pressure at system inlet	Daily Daily
Fiber bed mist eliminator (FBME) (40 CFR 63.343(c)(4)(ii))	_____ monitor pressure drop across the control device located upstream of the fiber bed that prevents plugging	Daily
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

Inspector has **personally seen** the operator properly take the following measurements if required:

_____ Pressure drop across system
_____ Pressure drop across the CMP system
_____ Pressure drop across the FBME system
_____ Velocity pressure at the system inlet

If pressure drop must be measured, did the monitored values for pressure drop: (yes/no)

_____ fall within the range of values established by the operator for pressure drop **or**
_____ fall within ± 1 inch about the average H_20 column measured during three compliant test runs

If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(1)(ii), (2)(ii), (3), or (4)(ii))

If velocity pressure must be measured, did the monitored values for velocity pressure: (yes/no)

_____ fall within the range of velocity pressures established by the operator for velocity pressure **or**

_____ fall within ± 10 percent about the average velocity pressure measured during three compliant test runs

If yes to either, the source is in compliance. If no to either, the source is not in compliance. (40 CFR 63.343(c)(2(ii) and (3))

Operator uses a **chemical fume suppressant** air pollution control device and takes the following measurements: (yes/no)

Air Pollution Control System	Monitored Parameter	Monitoring Frequency
Wetting agent (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Foam blanket type fume suppressant (40 CFR 63.343(c)(6)(ii))	_____ monitor foam blanket thickness	Every 4 hours[a,b] or _____
Combination wetting agent and foam blanket type fume suppressants (40 CFR 63.343(c)(5)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B)	Daily or _____
Chemical fume suppressant and add-on control device (40 CFR 63.343(c)(7)(ii))	_____ measure the surface tension at the bath (U.S. EPA Reference Method 306B) _____ monitor foam blanket thickness	Daily or _____ Every hour[b,c] or _____
Other: (40 CFR 63.343(c)(8)) _____	_____ operator has determined appropriate parameter which is: _____ _____ _____ U.S. EPA or APCD has approved appropriate parameter _____ operator has measured appropriate parameter	Appropriate monitoring frequency _____

[a] If there are no exceedances of the maximum surface tension after forty (40) hours of operation, then the monitoring frequency can be decreased to once every eight (8) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every forty (40) hours. If an exceedance occurs at any time after that, then the initial monitoring schedule (every four (4) hours) must be resumed.

[b] The initial schedule must be resumed for every new tank solution.

[c] If there are no exceedances of the minimum foam blanket thickness after forty (40) hours of operation, then the monitoring frequency can be decreased to once every four (4) hours. If there are no exceedances for the next forty (40) hours, then the frequency can be decreased to once every eight (8) hours. If an exceedance occurs after that, then the initial monitoring schedule (every hour) must be resumed.

Inspector has seen the operator properly take the following measurements if required:

_____ surface tension **and/or**

_____ foam blanket thickness

_____ Did the surface tension exceed the maximum surface tension established by the operator for pressure drop, if no, the source is in compliance. If yes, the source is not in compliance. (40 CFR 63.343(c)(5)(ii) and (7)(ii)

_____ Did the foam blanket thickness fall below the minimum foam blanket thickness **or** fall below 1 inch in thickness, if no, the source is in compliance. (40 CFR 63.343(c)(6)(ii) and (c)(7)(ii))

If the facility has multiple tanks **and** meets one of the following conditions go to Table 2 (page 13) to obtain equations used to verify compliance with the emission limits: (40 CFR 63.344(e))

_____ the multiple tanks include a chromium electroplating or chromium anodizing tank among other tanks not affected by the regulation **or**

_____ the multiple tanks include chromium tanks performing different operations subject to different emission limits (e.g., hard chromium electroplating and anodizing), which may or may not be controlled with nonaffected sources **or**

_____ the multiple tanks include hard chromium tanks subject to different emission limits (e.g., a new tank and an existing small tank), which may or may not be controlled with nonaffected sources.

10.0 Recordkeeping: The operator keeps the following records to document compliance with the regulation for five years: (yes/no)

1) Inspection and maintenance records (40 CFR 63.346(b)(1) and (2))
   _____ work practices conducted on schedule (review operator's checklist)
   _____ all maintenance performed on process, air pollution control system, and monitoring equipment

2) Malfunction records (40 CFR 63.346(b)(3) and (4))
   _____ correction of malfunction consistent with O&M plan no records required
   _____ correction of malfunction not consistent with O&M plan following records required: occurrence, duration, and cause of any malfunction of the process, air pollution control device, and monitoring equipment

3) _____ Performance test results including process and air pollution control parameter measurements used during testing and any additional measurements required if use common control system for multiple sources (40 CFR 63.346(b)(6))

4) Monitoring data records include at a minimum: (40 CFR 63.346(b)(8))
   _____ identify control system(s)
   _____ identify the monitored parameter(s)
   _____ identify the value of the monitored parameter(s)
   _____ identify the time and date when the parameter(s) was monitored

5) Excess emission records (40 CFR 63.346(b)(9) and (10))
   _____ excess emission records must include at a minimum the start and end times and dates of each period of excess emissions

_____ excess caused by malfunction operator records: type of malfunction, duration of malfunction, suspected cause of malfunction, corrective actions, and date and time of malfunction
_____ excess emission caused by something other than malfunction records: date and time the excess began and ended and the corrective action taken

6) Process records must be kept, at a minimum: (40 CFR 63.346(b)(11))
_____ process operating time for each tank
_____ if use fume suppressant date and time of each addition of fume suppressants
_____ if operator uses actual rectifier capacity to demonstrate it is small, hard chromium tank then must record actual rectifier capacity expended by month and total capacity expended for reporting period

7) _____ Miscellaneous records or other records required by permit or notice of violation
_____ If fume suppressant used, operator keeps the date and time of each addition of the fume suppressant (40 CFR 63.346(b)(13))
_____ If waiver is granted, operator keeps documentation supporting the requirements for that waiver (40 CFR 63.346(b)(15))

11.0 Reporting:

If it is a hard chromium electroplating tank the operator must demonstrate the following reporting occurred:

1) An initial notification that the source is subject to the regulation as required by the following table: (40 CFR 63.347(c)(1))

Type of Source	Relevant Dates	Requirements
Existing	startup date **before** 1/25/95	_____ submit initial notification on or before 7/24/95
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **before** 1/25/95	_____ submit notification of date when construction/reconstruction commenced _____ submit notification of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days
New or Reconstructed	startup date after 1/25/95 and construction or reconstruction commenced **after** 1/25/95	_____ submit notification within 30 calendar days after commencement date of construction or reconstruction _____ notification of actual startup date of source submit within 30 calendar days

2) _____ Notification of construction or reconstruction of the facility if begun after 1/25/95 (40 CFR 63.345(b)(1) and 63.347(c)(2))

3) _____ Notification of initial performance testing at least 60 calendar days prior to scheduled date of test (40 CFR 63.347(d))

4) A site specific test plan prior to initial performance test that includes: (yes/no) (40 CFR 63.344(a))
_____ description of the process to be tested
_____ conditions under which testing is to be conducted
_____ sampling location description
_____ test method to be used

5) _____ A performance test report after testing conducted (yes/no) (40 CFR 63.344(a))
If no, explain _____
_____
The performance test report included the following: (yes/no) (40 CFR 63.344(a))
_____ description of the process to be tested
_____ sampling location descriptions
_____ sampling and analysis procedures and any modifications to standard procedures
_____ test results
_____ description of the internal and external quality assurance ("QA") program and results
_____ records of: operating conditions during testing, preparation of standards, and calibration procedures
_____ raw data sheets for: field sampling and field and laboratory analyses
_____ documentation of calculations **and**
_____ any additional information required by the test method
_____ internal quality assurance program includes: activities planned by routine operators and analysts to provide assessment of test data precision

6) A report of the following was sent within 90 days after the performance test and no later than 30 days after compliance date: (yes/no) (40 CFR 63.347(a))
_____ performance test results
_____ compliance status
_____ copy of test report **and**
_____ notification of compliance status to U.S. EPA if no Title V permit yet issued **or**
_____ notification of compliance status to APCD if Title V permit issued **and**

7) A compliance status report that included: (yes/no) (40 CFR 63.347(e))

_____ applicable emission limitation and methods used to determine compliance
_____ if performance test is required, the test report documenting the results
_____ type and quantity of hazardous air pollutants emitted
_____ specific operating parameter value, or range of values, for each monitored parameter
_____ methods that will be used to determine continuous compliance
_____ description of the air pollution control technique for each emission point
_____ statement that the operator has the O&M plan completed and on file
_____ records supporting that the hard chromium facility is small if it is based on actual cumulative rectifier capacity **and**
_____ statement by the operator as to whether the tank is in compliance with this regulation

8) An ongoing compliance status report for the facility based upon one of the following scenarios: (40 CFR 63.347(g) if major source or 40 CFR 63.347(h) if area source)
_____ if it is a major source it prepares and submits a report to APCD every 6 months unless APCD decides more frequent reports required **or**
_____ if it is a major source that experienced exceedances of emission limits it submits a report to APCD every quarter (3 months) (can be reduced if meet conditions, SEE Inspector's Guidance Manual Section 1.6.7.4) **or**
_____ if it is an area source it prepares and submits ongoing compliance reports annually, retain it on-site, and makes it available to APCD or Inspector upon request **or**
_____ if it is an area source with excess emissions ≥1% of total operating time for reporting period **and** total duration of malfunctions of add-on control equipment and monitoring equipment is ≥5% of the total operating time, it prepares and submits reports every 6 months or more often if APCD chooses (can be reduced if meet conditions)

TABLE 1
Emission Limits For Chromium Electroplating Tanks -- Single Source / Tank

Single Tank	Existing, New, or Reconstructed Source	Hexavalent or Trivalent Solution	Use Wetting Agent as Control	Use Trivalent Solution & Wetting Agent is Ingredient	Required Emission Limit
Hard Chromium					total chromium in gas stream not exceed:
Large	Existing, New, or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Small	Existing	n/a	n/a	n/a	0.03 mg/dscm
	New or Reconstructed	n/a	n/a	n/a	0.015 mg/dscm
Decorative Chromium	Existing, New, or Reconstructed	Hexavalent	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
	Existing, New, or Reconstructed	Trivalent	No	No	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	No	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm
			n/a	Yes	No Standard
Chromium Anodizing	Existing, New, or Reconstructed	n/a	No	n/a	total chromium in gas stream not exceed: 0.01 mg/dscm
			Yes	n/a	not allow the surface tension of the electroplating bath to exceed 45 dynes/cm

TABLE 2
Emission Limits For Chromium Electroplating Tanks -- Multiple Sources / Tanks

Group of Tanks with Any One Tank Operating	Common Add-on Air Pollution Control Device	Each Tank Performs Same Type of Operation	Each Tank is Subject to the Same Emission Limits	Control Device Controls Nonaffected Tanks	Required Emission Limits
TYPE I:					
Hard Chromium					
Large: Existing, New, & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Small:					
Existing	Yes	Yes	Yes	**No**	0.030 mg /dscm
New & Reconstructed	Yes	Yes	Yes	**No**	0.015 mg/dscm
Decorative Chromium	Yes	Yes	Yes	**No**	See Table 1.3
Chromium Anodizing	Yes	Yes	Yes	**No**	See Table 1.3
TYPE II:					
Large or Small Hard Chromium	Yes	Yes	Yes	Yes	See Note A
Decorative Chromium	Yes	Yes	Yes	Yes	See Note A
Chromium Anodizing	Yes	Yes	Yes	Yes	See Note A
TYPE III:					
Large or Small Hard Chromium	Yes	**No**	Yes	Yes or No	See Note B
Decorative Chromium	Yes	**No**	Yes	Yes or No	See Note B
Chromium Anodizing	Yes	**No**	Yes	Yes or No	See Note B
TYPE IV:					
Large or Small Hard Chromium	Yes	Yes	**No**	Yes or No	See Note C
Decorative Chromium	Yes	Yes	**No**	Yes or No	See Note C
Chromium Anodizing	Yes	Yes	**No**	Yes or No	See Note C

Note A: Special compliance provisions for multiple sources, performing the same type of operation, controlled by a common add-on air pollution control device:

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by two (2) hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate from the affected sources by using equation 1:

$$(1)\ VR_{tot} \text{ X } IDA_i / (\text{sum})\ IA_{total} = VR_{inlet}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by mass of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all nonaffected sources; and $VR_{inlet,}$ is the total ventilation rate from all inlet ducts associated with affected sources.

(v) Establish the allowable mass emission rate of the system (AMR_{sys}) in milligrams of total chromium per hour (mg/hr) using equation 2:

$$(2)\ (\text{sum})VR_{inlet} \text{ X EL X } 60 \text{ minutes/hours} = AMR_{sys}$$

where $(\text{sum})VR_{inlet,}$ is the total ventilation rate in dscm/min from the affected sources, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. The allowable mass emission rate (AMR_{sys}) calculated from equation 2 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standard.

Note B: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device (that may or may not also be controlling emissions from sources not affected by these standards), and performing different types of operations (i.e., hard chromium electroplating, decorative chromium electroplating, or chromium anodizing):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3: (3) VR_{tot} X $IDA_{i,a}$ / (sum)IA_{total} = $VR_{inlet,a}$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

(4) VR_{hc1} X EL_{hcl} X 60 minutes / hour = AMR_{hc1}
(5) VR_{hc2} X EL_{hc2} X 60 minutes / hour = AMR_{hc2}
(6) VR_{dc} X EL_{dc} X 60 minutes / hour = AMR_{dc}
(7) VR_{ca} X EL_{ca} X 60 minutes / hour = AMR_{ca}

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

(8) AMR_{hc1} + AMR_{hc2} +AMR_{dc} +AMR_{ca}= AMR_{sys}

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

Note C: Special compliance provisions for multiple sources controlled by a common add-on air pollution control device, and performing same type of operation (that may or may not also be controlling emissions from sources not affected by these standards), but are subject to different emission limitations (i.e., because one is a new hard chromium plating tank and one is an existing tank):

(i) Calculate the cross-sectional area of each inlet duct, including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected source, then multiply this number by 2 hours; this calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate for each type of affected source using equation 3:

$$(3)\ VR_{tot} \text{ X } IDA_{i,a} / (sum)IA_{total} = VR_{inlet,a}$$

where VR_{tot} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a,}$ is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(v) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

$$(4)\ VR_{hc1} \text{ X } EL_{hcl} \text{ X } 60 \text{ minutes / hour} = AMR_{hc1}$$
$$(5)\ VR_{hc2} \text{ X } EL_{hc2} \text{ X } 60 \text{ minutes / hour} = AMR_{hc2}$$
$$(6)\ VR_{dc} \text{ X } EL_{dc} \text{ X } 60 \text{ minutes / hour} = AMR_{dc}$$
$$(7)\ VR_{ca} \text{ X } EL_{ca} \text{ X } 60 \text{ minutes / hour} = AMR_{ca}$$

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from 40 CFR 63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(vi) Establish the allowable mass emission rate (AMR) in mg/hr for the system using the equation 8, including each type of affected source as appropriate:

$$(8)\ AMR_{hc1} + AMR_{hc2} + AMR_{dc} + AMR_{ca} = AMR_{sys}$$

The allowable mass emission rate calculated from equation 8 should be equal to or less than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

TABLE 3
Work Practice Standards for Add-On Control Device

Control Device	Work Practice Standards	Time Required
Composite Mesh Pad (CMP) System	1. Visually inspect device 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 device. 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist. 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks. 4. Perform washdown of the composite mesh pads in accordance with manufacturer's recommendations	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Packed Bed Scrubber (PBS) System	1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device. 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist. 3. Same as number 3 for CMP System. 4. Add fresh makeup water to the top of the packed bed.[a,b]	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Whenever makeup is added
PBS/CMP System	1. Same as for CMP System. 2. Same as for CMP System. 3. Same as for CMP System. 4. Same as for CMP System.	1. 1/quarter 2. 1/quarter 3. 1/quarter 4. Per manufacturer
Fiber-Bed Mist Eliminator[c]	1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices. 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks. 3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.	1. 1/quarter 2. 1/quarter 3. Per manufacturer
Air pollution control device not listed in rule	To be proposed by the source for approval by the Administrator of the U.S. EPA.	To be proposed by source for approval by Administrator
Monitoring Equipment		
Pilot Tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.	1/quarter
Stalagmometer[d]	Follow manufacturer's recommendations.	

[a] If greater than fifty (50) percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

[b] For horizontal flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow

through the packing. For vertical flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

[c] Work practice standards for the control device installed upstream of the fiber bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber bed unit are followed.

[d] Device used to measure the surface tension of the bath.